



**Universalizing Basic Education in Papua New Guinea:
Experiences, Lessons Learnt, and Interventions for Achieving
the Goal of Universal Basic Education**

Edited by

Arnold Kukari

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FOREWORD

Thomas Webster

The goal of Universal Basic Education (UBE) has been an important development priority of the PNG Government since the colonial era. Because of its perceived importance, particularly in the development of human capital, a variety of strategies have been designed and implemented over the decades to enable access to, and participation in, education for all school aged children. However, the implementation of these strategies has been ineffective resulting in poor access, retention, and quality of learning indicators. The poor state of progress towards the goal of UBE means that Papua New Guinea (PNG) will not achieve it by the target date of 2015; the date it committed itself to achieving UBE.

The inaugural national conference on UBE was convened not only to allow for PNG's poor efforts of implementation and achievement of UBE to be critically analysed, but also to articulate and agree on innovative and sustainable strategies for achieving it. The conference called for collective actions and increased commitment from all stakeholders towards the goal of UBE. The conference enabled participants to: Critically analyse UBE strategies pursued from the colonial era to the present time; identify the lessons learnt; and based on these experiences, craft strategies for fast-tracking the goal of UBE. This theme is embedded in the papers presented in this book.

The papers presented at the conference were of a high quality and epitomized the presenters' reflections. This included those of past experiences of universalising basic education in PNG and thinking about what needs to be done to ensure access to, and participation in, basic education for all children regardless of their circumstances. I wish to encourage planners, policy-makers, decision-makers, practitioners, and all who have a concern for the education of our children to read this book to guide them in making informed decisions.

PNG's development performance hinges on whether the country can achieve Quality Universal Basic Education for All. If no drastic action is taken to change current trends, PNG risks not achieving UBE in the next ten years. This is already becoming a reality and, as a result, the country will continue to have about half of its population illiterate for another two decades. PNG will also not achieve better health outcomes for the people as there are clear correlations between basic education and the health status of the population. The nation's productivity will also be affected.

It is therefore imperative that we need to challenge ourselves, and think outside the box for a major paradigm shift in our efforts towards achieving UBE.

AN OVERVIEW

Arnold Kukari

Introduction

In 2000, the United Nations adopted the eight Millennium Development Goals (MDGs) as the minimum development priorities that governments should adopt and work towards achieving by 2015. Goal 2 explicitly states that all countries should ensure that all children have access to free and compulsory primary education of good quality by 2015. This Universal Primary Education (UPE) goal has been on the development agenda of successive Papua New Guinean governments since the colonial era, yet the target dates for its achievement have been shifted over the years (Avalos, 1993; Kukari, 1992; Webster, 1993). Papua New Guinea (PNG) and many other countries accepted and committed themselves to achieving the MDGs, including UPE, by 2015. It has since been embraced by PNG as a development priority and included in subsequent development policy frameworks, including the Medium Term Development Strategy 2005–2010, the National Education Plan 2005–2014, and — more recently — Vision 2050, the Development Strategic Plan 2030 and the Medium Term Development Plan 2011–2015. A Universal Basic Education Plan 2010–2019 has also been developed to enable PNG to fast track the goal of UBE. This plan redefined UPE, which saw the adoption of the concept of Universal Basic Education (UBE) to suit the aspirations and context of PNG.

Definition of Basic Education

The definition of basic education tends to reflect the perceptions of different stakeholders on which age groups should be included or excluded from receiving an education in a particular education cycle or a type of education. For example, basic education is defined as including only the primary school cycle by those formulating the MDGs and the EFA goals. Recently, this definition has been extended to include secondary education and early childhood education.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defines basic education as the first nine years of schooling; the first five or six years are often identified as primary education and the rest as lower secondary education. It also includes basic education for youth and adults who did not have the opportunity to complete a full cycle of primary education. Other organisations, such as the Organisation for Economic Co-operation and Development (OECD), define basic education as including early childhood education, primary education, and formal and non-formal education for basic life skills; and literacy and numeracy training (Steer & Wathne, 2009).

In PNG, UBE is defined as including elementary and primary education. To complete a full cycle of basic education, children must complete a full nine years of schooling, which comprises three years of elementary and six years of primary education. However, this will eventually include the secondary education sub-sector.

Universal Basic Education Conceptual Framework

The Universal Basic Education (UBE) Conceptual Framework provides the basis for understanding the UBE dialogue and practice by showing and describing the mutually constitutive relationship between its core constituent elements. These elements are the context, the goal of UBE, the core domains of UBE and their key indicators, and the country-specific strategies for achieving the agreed UBE outcomes. An understanding of the relationship between these elements and the goal to universalize basic education is important. Without this critical understanding, efforts towards UBE will not achieve the desired outcomes.

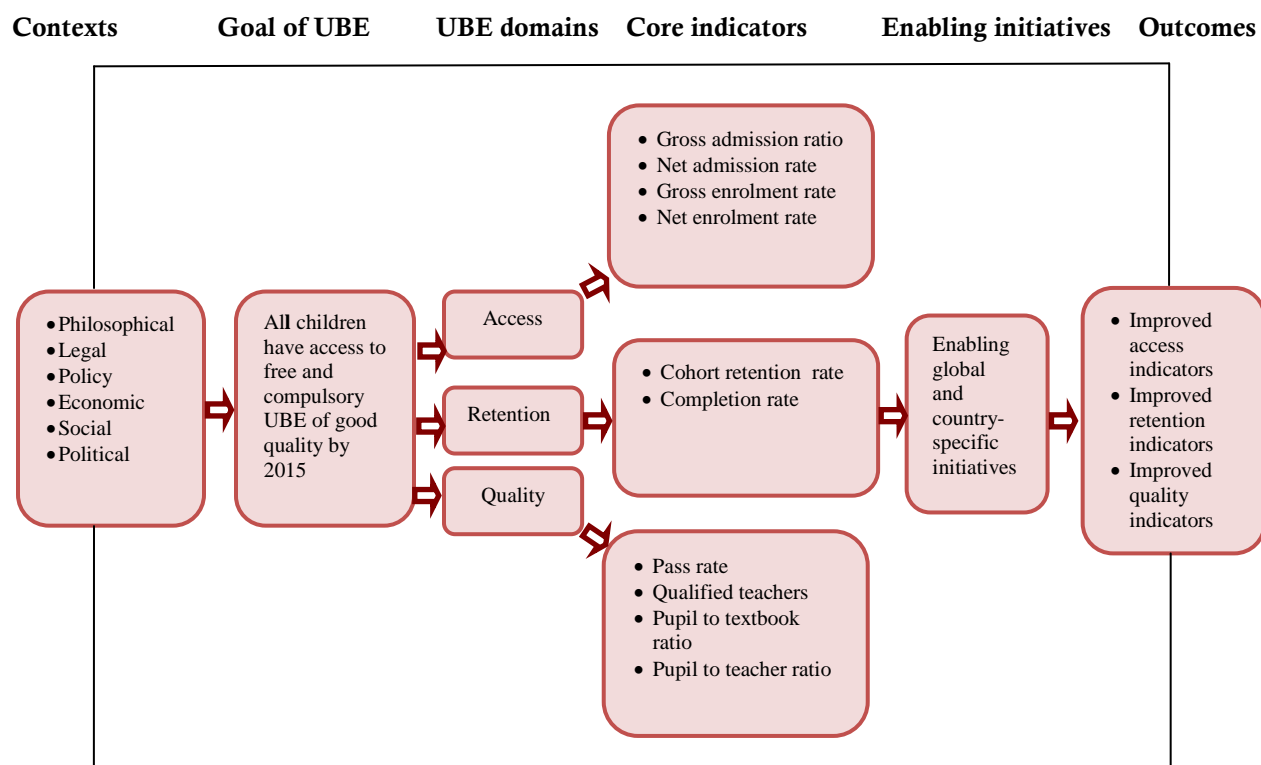
Firstly, the goal of UBE and efforts towards its achievement shape and are shaped by contexts. These may include philosophical, social, political, policy, and legal contexts. These contexts tend to justify or provide a rationale for legitimatizing the goal of UBE and the appropriation of financial and other resources to pursue it. There is a strong connection between the context and the strategies aimed at providing basic education to all children.

Secondly, UBE is attainable only when one hundred percent is achievement in each of the three core domains of access, retention, and quality. Anything less is not UBE, but only a measure of it. Thirdly, process towards the full attainment of the goal of UBE is measured using a core set of access, retention and quality indicators. These indicators help us to calculate the number of school aged children having access to basic education, the number of children retained to complete the full cycle of basic education, and how much children have learnt in their nine years of basic education. Fourthly, country specific strategies are developed and implemented to permit all children to have access to basic education, to be retained to complete the full cycle of basic education, and to receive an education of good quality. When this happens, it is said that a country has achieved full UBE.

However, not all countries have achieved the goal of UBE, simply because it is impossible to achieve one hundred percent in access, retention and the quality of learning. What is realistically possible is that countries can experience an improvement in the number of children accessing basic education and retained to complete the full cycle of basic education, and in the academic achievement of children.

Papua New Guinea's Strategies for Universalising Basic Education

A number of country-specific strategies have been developed and implemented by the Government of PNG (GoPNG) since 2000 to enable it to make positive and meaningful progress towards the goal of UBE. These actions include prioritising the goal of UBE as a development focus, reviewing and restructuring the education system, restructuring inter-government relationships, rearranging inter-government financing, reforming service delivery mechanisms, developing national education policies and plans, and reforming the curriculum.

Figure 1: Universal Basic Education Conceptual Framework

Universal Basic Education as a Development Priority

UBE was a focal point of GoPNG's development strategy before and after independence in 1975. In 2009 UBE was redefined as UBE and included in subsequent policy and planning frameworks. This is due to its importance in the overall development of people capacity and the positive impact it will have on citizens' quality of life. Thus, it has been given prominence as a development goal and included in all development policies and plans to date. The most notable of these policies and plans are the Medium Term Development Strategy 2005–2010, Papua New Guinea Vision 2050 and the Papua New Guinea Development Strategic Plan 2010–2030. These plans provide the strategic frameworks for national action towards achieving the desired UBE outcomes.

Medium Term Development Strategy 2005–2010

The Medium Term Development Strategy 2005–2010 (MTDS), which is the overarching development strategy for PNG, includes attaining universal basic education as a development priority. It states:

A key focus of the MTDS will be to support the continued implementation of reforms aimed at achieving the international goal of Universal Primary Education (UPE). In Papua New Guinea, this goal is reflected in the Government's objective of Universal Basic Education (UBE) to be achieved by 2015. (p. 38).

The MTDS sets three UBE targets to be achieved by 2015; namely, a gross enrolment rate of 85%, a cohort retention rate of 70% and a youth literacy rate of 70%. The impetus for the MTDS's focus on achieving the goal of UBE, and setting revised access, retention and quality targets is the *Education Sector Review* (DoE, 1991).

Papua New Guinea Vision 2050

The Papua New Guinea Vision 2050 is a strategy that maps out the desired direction that PNG, as a nation, wishes to take in the next 40 years. It is underpinned by seven pillars, one of which is entitled 'Human Capital Development, Gender, Youth and People Empowerment', which is essentially about empowering people by enabling them access to quality education. The plan aims to achieve UBE by 2050 by increasing citizens' access to education from elementary prep to grade 12. Moreover, the plan aims to improve the quality of student learning outcomes by improving the quality of teacher education, establishing an independent National Curriculum Assessment and Monitoring Authority, improving teachers' terms and conditions, and establishing an Education Endowment Fund.

Papua New Guinea National Strategic Plan 2010–2030

In a way, the National Strategic Plan 2010–2030 translates the seven pillars of Papua New Guinea Vision 2050 into achievable and measurable outcomes, and proposes strategies for achieving these by 2050. The plan aims to achieve certain outcomes in the core UBE indicators, as detailed in Table 1.

Table 1: National Strategic Plan 2010–2030 Universal Basic Education Targets

Indicator	Target
<i>Access</i>	
Net admission rate (%)	70
Net enrolment rate (%)	100
<i>Retention</i>	
Retention rate (%)	70
Completion rate (%)	100
<i>Quality</i>	
Number of teachers and support staff	111 000
Teacher: pupil ratio	1:40

To achieve these targets, the plan is proposing another education reform aimed at building the absorptive capacity of the system to admit and enroll all school-age children; reforming the curriculum to align it more closely with the modern development trends and future development needs of PNG; reforming teacher education to ensure the education of quality teachers; providing an increased level of funding to the education sector; abolishing school fees; and ensuring that appropriate infrastructure and resources are provided to improve the quality of student learning.

Review of the PNG Education System

A comprehensive review of the education system was carried out in 1991 in a response to serious concerns about the lack of access to education for most school-age children, poor student retention rates, and poor student learning outcomes. The *Education Sector Review* (DoE, 1991) noted that up to 90% of children who were of school-related age did not have access to education, the attrition rate between grades one and six was 45%, and the school curriculum was irrelevant to most Papua New Guinean children. The aim of the review was to examine the causal factors underlying the poor state of education in PNG, and look at ways of improving the system.

The review recommended both structural and curriculum reforms to the education system to address its underlying problems, particularly poor access and retention of children in school, and poor student learning outcomes. The structural reform aims to increase access and retention by increasing education coverage and the absorptive capacity of the education system by relocating grades seven and eight from high schools to community schools, and introducing elementary schools. The curriculum reform aims to make the curriculum more relevant — that is, to provide a curriculum that is more closely linked to children’s cultures, and that will prepare them to go back to their communities, as well as preparing them for further education and employment.

Development of Education Policies and Plans

A number of education policies and plans have been developed and implemented, with the goal of UBE reflected in each. The most notable are the National Education Plan 1995–2004, National Education Plan 2005–2014 and Universal Basic Education Plan 2010–2019.

National Education Plan 1995–2004

The Department of Education (DoE) was tasked to develop and implement strategies to enable the critical issues affecting children’s access, retention and the quality of education highlighted in the *Education Sector Review* (DoE, 1991) to be addressed effectively. DoE was also tasked to ensure that progress was made towards attaining UBE targets set out in the MTDS by 2015. DoE then developed education plans and policies to provide the frameworks necessary for achieving the intended UBE outcomes. It developed its first National Education Plan (NEP) in 1995. The plan reflected the recommendations of the *Education Sector Review*. To improve basic education, the plan aimed to:

- develop an education system that meets the needs of PNG and its people, which will provide appropriately for the return of children to village communities, formal employment, or continuation to further education and training; and
- provide basic schooling for all children as it becomes financially feasible.

The key NEP 1995–2004 targets were as follows:

- increase enrolments in elementary education to approximately 430 000 with equal gender access;
- train approximately 16 000 elementary school teachers;
- enable all children to have the opportunity to complete nine years of basic education;
- improve the retention rate for grades one to six;

- improve the participation and completion rates for females;
- rationalise staff development; and
- rehabilitate existing, and construct new, infrastructure.

Two related programs were developed to help achieve the above aims and NEP 1995–2004 targets. The first program was *The Education Access and Expansion Program*, which was aimed at providing basic education for all children. The second program, *The Relevant Education for All Program*, aimed to develop an education system that would meet the needs of PNG and its people, and provide appropriately for the return of children to their communities, for formal employment, or for further education and training. Apart from these projects, there were also donor-funded activities that were closely aligned to the GoPNG's education priorities and the objectives of the NEP 1995–2004. These included the *Primary and Secondary Teacher Education Project*, the *Curriculum Reform and Implementation Project*, *PNG School Journal Project*, *Basic Education Infrastructure and Curriculum Materials Project*, and the *Institutional Strengthening Project*. In addition, a number of enabling plans and policies were developed and put in place during 1995–2004. These include the *Special Education Plan*, *Language Policy*, *Provincial Education Plans*, *Literacy Policy* and *Women's Policy*. These frameworks were meant to help increase access, retention and the quality of education for all children.

However, the development and the implementation of the NEP 1995–2004, and its related education policies and programs made very minimal impact on the achievement of UBE outcomes. For example, by 1998, only 92 000 children were enrolled in elementary school — yet the total enrolment was projected to reach a revised target of 410 836 by 2004. The majority of school-age children would have been denied access to education in 1998. In primary education, it was projected that about 546 000 would have been in school by 1999. Again, most children would not have been enrolled in primary school in 1999.

National Education Plan 2005–2014

The second NEP, *Achieving a Better Future: A National Plan for Education, 2005–2014*, was developed in 2004. The prime objective of this plan is to provide a basic education for all. In addition the plan aims for:

- every six-year-old to be admitted to elementary prep by 2012 and complete three years of basic relevant education;
- the retention rate to be increased to 70% by 2015; and
- a relevant curriculum to be developed, implemented and monitored.

A number of supporting plans and policies have also been developed and implemented to ensure that the NEP 2005–2014 aims are effectively pursued and attained. These include *Provincial Education Plans*, *School Learning Improvement Plans*, *Student Behaviour Management Policy*, and the *Gender Equity in Education Policy*. Donor-funded programs have been also developed and implemented in collaboration with the GoPNG to support the education priorities and UBE outcomes reflected in the NEP 2005–2014. These include the *Basic Education Capacity Building Project*, and *Textbook Procurement and Distribution Programs*.

Universal Basic Education Plan 2010–2019

The development of the Universal Basic Education Plan 2010–2019 is a serious attempt by the GoPNG to fast track the achievement of the goal of UBE in the light of poor progress being made towards its full attainment thus far. The plan aims to achieve the targets set out in Table 2 by 2019.

Table 2: Universal Basic Education Plan 2010–2019 UBE Targets

Indicator	Target
<i>Access</i>	
Net admission rate (%)	100
Gross admission rate (%)	100
Gross enrolment rate (%)	96
Net enrolment rate (%)	100
<i>Retention</i>	
Retention rate (%)	77.5
Completion rate (%)	100
<i>Quality</i>	
Qualified teachers	100
Teacher: pupil ratio	1:35

The plan proposes to abolish school fees, increase advocacy and awareness, and provide water and sanitation facilities in all schools to increase access for children. Increasing teacher education, providing education materials and school libraries, and maintaining school facilities and the minimum number of learning hours are all strategies recommended for improving the quality of student learning. Furthermore, the plan aims to improve school management to make it easier to achieve the access, retention and quality targets.

Yet, reforming the education system and including UBE as a development priority in government documents and policies are insufficient to enable PNG to make measured and sustained progress towards its full attainment by 2015. It requires corresponding reforms in governance structures, provision of critical resources — including finance and infrastructure — and effective delivery of basic education services.

Governance and Service Delivery Reforms

The introduction of the revised *Organic Law on Provincial Governments and Local-Level Governments* in 1995 was targeted at addressing the weakness of the decentralised system of government since 1975. It is seen as a catalyst for improving relations between the national and sub-national governments, improving the implementation and fiscal capacity of the decentralised levels of government, and hence improving the overall delivery of services. A number of education responsibilities are devolved to provinces while ensuring that there is clarity and a clear demarcation between national and sub-national governments' education roles and responsibilities. Changes were made in the area of resource allocation, with provincial and local-level governments being the principal funding recipients for providing education services.

Changes were also made in the education functions of national, provincial and local-level governments, enabling the lower levels of government to play a greater role in providing and managing education. This was further strengthened through reforms in the mechanisms for delivering basic services such as the Determination on Service Delivery (2009) and the Minimum Priority Areas.

Reforms were also made to the way basic services, including education, were funded by the GoPNG from block grants, internal revenues, goods and services tax transfers by the GoPNG, special support grants from mineral resources, and functional grants. The reforms allowed for a more equitable distribution of funds based on the development and fiscal needs of provinces, and are aimed at improving basic service delivery, including basic education in provinces, districts and local-level government areas.

These reforms are also aimed at enabling the government to, amongst other development priority areas, set realistic and achievable UBE targets; develop and implement effective strategies for achieving these targets; and provide the required resources to support efforts at the national and decentralised levels towards the universalisation of basic education. Moreover, the reforms aim to create an environment conducive to working towards and achieving the goal of UBE, and improving the implementation and fiscal capacity at the sub-national levels by strengthening intergovernmental relationships, intergovernmental financing and service delivery mechanisms.

Although the aforementioned country-specific strategies have enabled PNG to make some progress towards achieving the goal of UBE, this is insufficient to achieve full UBE by the target date of 2015 (EFAG Global Monitoring Report, 2006). Increased commitment and effort are thus required from all stakeholders to fast track the goal of UBE. Essentially, it requires a rethink and critical evaluation of efforts to date, and the development and implementation of more effective and innovative evidence-based policy, planning, legislative, financial, curriculum, and teaching and learning frameworks, providing for both significant resource inputs and an enabling environment to facilitate for basic education to be universalized in PNG.

This book discusses some of the critical issues impacting on children's access to, and participation in, basic education. It analyzes efforts made to date towards the goal of UBE and presents a number of strategies for fast tracking its full attainment by the target date of 2015. In the first part, progress made so far in universalizing basic education is discussed to lay the foundation for further discussions of innovative and sustainable strategies for fast tracking the goal of UBE. Thomas Webster discusses the changing conceptions of basic education to bring some clarity and enhance understanding of basic education. This is crucial for understanding the concept of UBE and approaches towards its achievement not only in PNG, but in other countries around the world as well. He then looks at the major UBE initiatives implemented since independence and analyses the effectiveness of these. He argues that PNG's performance against the key UBE indicators is poor compared to many countries with similar socio-economic backgrounds and, especially against the performance of neighbouring Pacific Island countries. He then draws from this analysis a number of lessons that can be learnt and concludes by urging the GoPNG to provide increased opportunities for all children to have access to, and attain a good quality of, education.

James Aiwa and Paul Pagliano specifically discuss the findings of their research into the circumstances that hinder children with Visual Impairment (VI) from accessing and receiving an education in PNG, an important issue that has been given lip service over the years. PNG is a signatory to a number of international conventions that promote and enforce the rights of all children, including their right to receive an education. It also has in place national legal and policy frameworks that guaranteed the rights of all children to an education, including basic education. DoE (2004) for example, 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” (p.6). The authors found, *inter alia*, that there was a negative perception and attitude amongst the community, parents, teachers and school administrators of VI children. These negative perceptions and attitudes strongly influence expectations regarding student achievement. This may have been one of the reasons for lack of commitment towards providing educational opportunities for VI children over the years and must be addressed to enable them to receive an education.

The second part of the book discusses some innovative and sustainable approaches to universalizing basic education. This is in response to the need to rethink the strategies employed in the past and a look at the development and implementation of innovative strategies that would assist PNG fast track the goal of UBE. Richard Jones’ article provides a very good example of how Non-Governmental Organizations can work in partnership with the government, the community, the schools and the teachers to deliver a quality basic education to children. The ‘*Strongim Tisa, Strongim Sumatin Program*’ is based on the premise that if teachers are well educated and trained, and supported with adequate resources and ongoing professional development, their teaching effectiveness and management skills will be improved and so will the academic achievement of their students. This fundamental principle of effective teaching and learning is well documented in the literature on effective teaching and yet it has been neglected over the years. It must now be a focal point of teacher education and practice across all levels of the education system.

Using the notion of caring, Arnold Parapi elaborates on how the coffee curriculum was developed and implemented to make student learning more relevant and practical. From this pragmatic underpinning, he argues that when students are taught and inculcated with the ethic of care, they will care for their coffee trees and in turn the coffee trees will care for them by providing them with an income. This rather simple but radical principle underpins the development and the implementation of the coffee curriculum. Moreover, it provides the rationale and philosophical basis for justifying and implementing a very pragmatic approach to curriculum development and implementation. This is a shift away from a wholly academic curriculum pursued over the years that did not equip the majority of children with relevant knowledge and skills to contribute towards their own livelihoods as well as that of their parents and communities.

Medi Reta, Eileen Honan, Terry Evans, Sandy Muspratt and Patricia Paraide report on the use of action research for remote primary school teachers’ professional learning in two districts in PNG. Action research is a school-based and teacher-centered professional development model that empowers teachers to identify their teaching and learning problems, understand the problems by collecting and analyzing data, develop effective strategies for dealing with the problems,

mobilize resources, implement the strategies, and evaluate the outcomes to see if progress has been made in solving the problems. The authors discuss the rationale for using action research in the context of remote schools in PNG and provide a critique of the issues associated with the methodology and how these issues were resolved through the action research process. The authors conclude with suggestions as to how action research can be appropriated in other countries' context.

Dinah Dovona-Ope examines the important but poorly articulated and neglected issue of early childhood education. She notes that research evidence strongly supports the position that children actively learn during the first three years of their lives. Consequently, Early Childhood Education (ECE) taps into the most critical period of children's development. She goes on to say that if children can be reached when they are at the most critical period of their development with quality education, PNG would be investing in the foundation for quality basic education. She also shares a brief account of what the University of Goroka is doing in preparing pre-service students to become ECE teachers.

The third part of the book focuses on relevant and quality basic education and comprises five papers. The papers' main focus is on the provision of relevant and quality education targeted at improving the quality of teaching and learning, the literacy levels of learners and ensuring that children's learning is measured without being compromised by cheating or other corrupt practices. The issues discussed in these papers are at the heart of quality education and any efforts to improve learning outcomes and literacy levels of learners must take these into account. The first paper by Patricia Paraide, Terry Evans, Eileen Honan, Sandy Muspratt and Medi Reta discusses the use of action research with teachers in remote primary schools in PNG in order to provide sustainable learning to improve the quality of schooling. The paper describes the project's research design and implementation to investigate the introduction, implementation and feasibility of teachers using action research to solve their own teaching problems. The authors' preliminary findings show that teachers can use action research to improve the quality of their teaching and hence the quality of student learning. However, the capacity of teachers, schools and local communities to sustain this approach to teacher professional development is a major challenge.

Rachel Aisoli-Orake's article reports on a study she carried out with English teachers relating to the teaching of Language and Literature in PNG secondary schools. She found from her data analysis that teachers whom she observed were struggling to implement the syllabus and, as a consequence, many students remained disinterested in learning how to write using the English language. Teachers indicated that the syllabus made unrealistic demands on them. They were not provided with appropriate pedagogical strategies that might help them to achieve the syllabus outcomes. This lack of pedagogical support was particularly acute for teachers who had little or no training in teaching English writing. Based on these findings she proposes a pedagogical framework to help teachers implement the upper secondary Language and Literacy syllabus in writing in English classes.

Priscilla Kare and Raphael Semel centre their discussion on the literacy level, especially of adults, and its impact on decisions they make about the education of their children. They argue for a more holistic rather than a fragmented approach to basic education. A holistic approach is

critical to the attainment of the goal of UBE because it encompasses all enabling factors such as the education and literacy levels of adults, especially parents. They draw from the Global Monitoring Report finding that providing opportunities to increase the levels of adults, particularly mothers, is one of the most effective ways of increasing school enrolment (demand-side), including the participation of marginalized and disadvantage groups. Furthermore, learning achievement is also improved for those children who come from families that are literate. The finding by the Global Monitoring Report supports the finding by Kukari, Paraide and Kippel (2009). The authors found in their review of the education system in the Nimamar Local Level Government area of the Namatanai District in the New Ireland Province that educated and literate parents were aware of the rights of their children to receive an education and hence were obliged to educate all their children regardless of their gender. Those parents who were illiterate said they would give preference to their boy child to go to school. Kare and Semel conclude by emphasizing that adult literacy programs should also be given priority and be part of the strategy for universalizing basic education in PNG.

Sangion Tiu and Emmie Betabete's article is focused on a similar perspective as that of Priscilla Kare and Raphael Semel but from the sustainable environment point of view. The authors highlight the efforts of the Research Conservation Foundation (RCF), a Non-Governmental Organization, in promoting and contributing towards the goal of UBE. In its line of work, RCF provides both formal and non formal environmental and sustainable education for both the rural and urban populace in its program impacted areas.

Through this approach, RCF attempts to ensure people's cultures and livelihoods are safeguarded and the long term benefits of a clean environment are realized by the people. The connection between RCF's approach to basic education may not be apparent. Notwithstanding this lack of clarity in the connection between what it does and the goal of UBE, its impact is likely to be the same as the one outlined by Priscilla Kare and Raphael Semel. Increased educational opportunities and literacy levels for adults can translate into informed decisions about the education of their children. When this situation prevails, parents will see the need to educate all their children rather than having to make a decision on which ones to educate and which ones to hold back.

The last article in this section spotlights the issue of cheating in national examinations, which is one of the major concerns relating to the validity of national examinations in measuring students' learning. Dr. Musawe Sinebare argues that when cheating is perpetuated in the examination system, the examination process that helps to ascertain students' quality of learning is brought into disrepute, and the assessment made as a measure of student learning is rendered suspect. Eventually, the integrity of the examination and the subsequent certificate that is awarded is at stake when concerns that have been raised by stakeholders over cheating in examinations are ignored by DoE. He concludes by proposing a national effort to stamp out cheating in national examinations.

The fourth part of the book turns its attention to the important issue of equity and access to school. It promotes the idea of inclusive basic education to enable all marginalized and disadvantage children, such as those living with disability, to receive an education. Thousands of children in PNG have yet to have access to, and participate in, education. These children are

denied their right to education simply because they live with disabilities, come from extremely poor family backgrounds, live in very remote and isolated locations, live with or are affected by HIV/AIDS, are female, are engaged in child labour or live in places affected by tribal conflict and natural disasters. The provision of an inclusive basic education will provide opportunities for these children to go to school. James Knox's article tries to address this issue but from a standard monitoring perspective. He believes that teachers are obligated by the *Education Act* to include and provide a supportive environment for children living with disability to learn. Therefore, they should be monitored and, in some respects, held accountable for the teaching and learning of these children. He proposes that the standard monitoring instrument be revised to include standards on teaching and learning of children with disabilities.

Finally, the fifth part of the book addresses the important subject of costs of education, including parental capacity to pay school fees. Research by Kukari, Paraide and Kippel (2009) has shown that capacity to pay school fees is dependent on parental levels of income. If parents are earning a higher level of income they are more likely to pay school fees for all their children and ensure that they remain in school and complete the full cycle of basic education. Conversely, if parents do not have the capacity to pay school fees, they are often forced to make a choice between their boy child and girl child. Owing to cultural barriers and other idiosyncrasies, parents tend to prefer educating the boy child while denying the girl child's right to receive an education. The only paper in this part discusses an innovative concept of financially supporting children infected or affected by HIV/AIDS, and their families, to go to school. Rod Mitchell discusses the history and the background to the Serendipity Fund managed by NASFUND and used to support children living with or affected by HIV/AIDS to receive an education. This is an innovative concept that should be used as an example to develop and put in place other schemes to support the education of disadvantage and vulnerable children. This will ensure that these children do not miss out on education simply because they can't afford to go to school.

Conclusion

Notwithstanding all efforts and initiatives discussed here, and others devised and pursued by successive governments and development partners since 2000 to universalise basic education, it is increasingly unlikely that UBE will be achieved by the target date of 2015. In 2010, an estimated 500 000 school-age children were yet to have access to education.

Many of these children were:

- girls;
- living with disabilities;
- living with or affected by HIV or AIDS;
- living in poverty;
- involved in child labour;
- affected by tribal conflict and natural disasters; and
- living in underserved areas of the country.

The 2007 student enrolment data shows the existence of a gender parity gap. Girls still lag behind boys in all core indicators of basic education. This can be attributed to, among other factors:

- a lack of implementation and fiscal capacity;
- shifting education policy and priorities;
- poor governance;
- ineffective policy development and planning;
- poor implementation practices; and
- a lack of systematic and meaningful integration of research, monitoring and evaluation with policy development, planning and practice at all levels.

Some of these issues are discussed in this book while others require a more targeted and strategic response by the government and all key stakeholders.

To ensure that all school-age children have access to education, stay in school to complete the full cycle of basic education and attain the desired learning outcomes, the whole approach to UBE must be critically examined. Some approaches are proposed in this book, including the need to simultaneously focus on improving the literacy levels of parents, providing an effective early childhood education program, using action research to support teachers' professional learning, and devising and implementing innovative financial schemes to help pay for children's costs of education.

Effective interventions are urgently needed to secure the right of all children to basic education regardless of their backgrounds, to close the gap in male and female enrolments, and to ensure that all children complete the full cycle of basic education and receive an education of good quality. Unless this is done, the goal of UBE will remain elusive.

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PART ONE

AN EXAMINATION OF PAST UNIVERSAL BASIC EDUCATION STRATEGIES AND INITIATIVES, AND LESSONS LEARNT

CHAPTER 1: UNIVERSALIZING BASIC EDUCATION IN PAPUA NEW GUINEA: A REVIEW OF THE PAST AND LESSONS FOR THE FUTURE

Thomas Webster

Introduction

In this paper, I would like to use the opportunity to do several things. First, I want to discuss the changing concepts as there are varying definitions and understanding that underpin the choice of strategies and interventions. These concepts and definitions are adopted and vary between countries as well as between different interest groups. Secondly, I want to review developments within a historical time frame looking at major initiatives in the area of Universalizing Basic Education from independence up to the present time. The definitions and concepts of Universal Basic Education (UBE) as well as the strategies to achieve it have changed over time, so it is important to track these changes. I will discuss these and comment on the effectiveness of these initiatives where I can. I will conclude by drawing on some of these experiences and recommend lessons learnt to develop future strategies for UBE.

The Changing Concepts of Universal Basic Education

Every country that has pursued the goal of having all her citizens with some form of education has seen this as basic to meeting the need for each and every citizen. This is seen as critical for the citizen to develop as a person and to contribute to productive capacities for the family, the needs of community and the nation state. Basic education is seen as a human right to create awareness and to assert people's rights by participating in democratic processes. What constitutes a basic education has been debated, discussed and then left to each country to determine.

Universal Primary Education

In the earlier reports around the 1960's and 1970's by United Nations Educational Scientific and Cultural Organisation (UNESCO), the United Nations (UN) organization with the mandate to monitor global progress in education, the education of the masses was reported through the use of enrolment figures at the primary school level. Comparative reports used enrolment rates, which is the percentage of the official school age population enrolled. Problems related to increasing enrolments such as access, compulsory education policies, student progression rates etc, began to emerge as issues to be dealt with during this period. Universal Primary Education (UPE) or having a 100% of school aged population enrolled in school was a target.

A focus on economic growth led development thinking in the 1960s leading to greater focus on expansion of secondary and technical education, with less emphasis on mass education objectives, resulting in primary enrolment growth stagnating. A growing concern by both the humanitarian international development agencies and the developing countries led to the staging of the Jomtien Conference in 1990 resulting in a general commitment by the International Community to work towards achieving UPE for All. Following Jomtien, varying concepts of Education for All, and UBE, began to emerge.

Obviously, from the many presentations and papers looked at, it became evident that UPE could not be approached in a universal manner. The length of the primary school cycle varies from country to country with some having four years, others six years and others eight years. Many countries could not afford the formal school structures for the masses and for those who were not able to go to school but required informal or non-formal systems.

Many other developing countries had already achieved UPE or were nearly there and wanted to build on these and include the next level of education, secondary, as part of the basic education cycle. Given these competing and varying status and concepts, each country was left to define what constitutes UBE within the parameters of Education for All programs. Jomtien also resulted in recognizing the changing definitions of UPE. King (1991:220) described the changing concepts in this way: “Old Style UPE was mostly concerned with access-getting, enough places for the children to enter. New-style UPE might fittingly be renamed UPAA, universal primary access and achievement, since the new emphasis is not on entry but completion, not on mere numbers of children in the class but on their achievements.”

Papua New Guinea’s report to the Jomtien Conference was concise and focused on contributing to the emerging new and encompassing definitions of UPE. From a quantitative perspective, Papua New Guinea (PNG) understands progress towards UPE as increases in:

- a) access to schooling of the 7–12 aged population (equal for boys and girls);
- b) retention within the system for six years; and
- c) attainment at least of the Basic Skills as measured by a national examination at the end of grade 6.

The UBE Plan 2010–2019 (Department of Education, 2009:9) continues to maintain those parameters but refine them further by defining UBE as:

- Access — All children should enter school at a specific age — they should enter elementary prep at the age of 6 years;
- Retention — All children should complete the elementary and primary cycles of education that constitute a basic education — this is nine years of basic education; and
- Quality — All children should reach a required standard of literacy and numeracy at the end of these years of education.

So the obvious question would be: Where is PNG at the moment with regards to the three UBE parameters specified above?

Table 1: Status of Progress towards the Goal of UBE

	<u>Current</u>	<u>Target</u>	
Percentage of Age 6 Enrolled (2007)	12%	100%	
Cohort Retention Rate	62%	100%	
(Grade 1, 2002 to Grade 6, 2007)			
Net Enrolment Rate Age 7–12 (2007)	45%	100%	
Population Aged 6-14, In School (2007)	784,539	100%	
Population Aged 6-14, Out of School (2007)	674,169	0	
Grade 8 Exam Results 2006	Numeracy	19	50
	Literacy	20	50
	General Subject	20	50
	Written Expression	14	20

Note: 1. Grade 8 Exam Results are national averages for each of the four subjects.

2. Data used extrapolated from UBE Plan 2010–2019 (DOE, 2009).

Papua New Guinea's Progress towards Universal Basic Education

PNG's progress towards UBE in this paper will be looked at within three specific periods within which major significant events relating to UBE can be located. These periods are:

- Pre Independence, 1950s to 1975.
- Post Independence, 1976 to 1990.
- 1990 to present time.

Pre Independence, 1950s to 1975.

The concept of UPE was initially a colonial Australian government policy objective as contained in papers dated 1955 cited by Weeks (1982). Implementation, however, was slow and hindered by field officers. The government actually operated very few schools, whilst the churches operated the bulk of the schools in the country, focusing on religious education, providing training for teachers and training church workers (Kukari, 1992; Smith, 1987).

A highly critical report by a United Nations Mission in 1962 on the slow progress being made to prepare PNG for independence, supported by a separate World Bank study team emphasizing the need to create a workforce for economic development, pressured the colonial government to expand secondary, technical and university level education. PNG officials rejected the World Bank team's recommendations and wanted to adopt a more equitable approach, focusing on providing access to primary education to children in areas that had just come into contact with

the external world. This did not prevail and so PNG saw more secondary and technical schools opened along with the establishment of two universities following that mission.

In 1970, a Unified National Education System was created with all the Churches, except for the SDA Church, agreeing to work under a unified education system guided by an Education Act providing a uniform curriculum and teacher qualifications with teachers being paid by the Government. Many of the church schools who had established small schools terminating after two or three years were now brought under a unified system where they had to offer a full six years of primary education. Thus began a partnership arrangement where the Government was able to provide expanded opportunities for its citizens by bringing in the churches.

Post Independence, 1976 to 1990

At independence, the importance of, and commitment to, universalizing primary education as a means to empower every citizen to take part in the country's development was enshrined in the Constitution of PNG and captured in the first National Education Plan 1976–1980. The decentralized system of government had been adopted with provincial governments taking on responsibility for opening up new schools and expanding existing schools. The main strategy to UPE was to build new schools as well as to expand existing schools, with regional inequities addressed. This initiative was however dependent on the national government providing adequate funds for additional teachers' salaries. An automatic progression policy was adopted in 1976, directing all children in a class to move onto the next grade in the following year.

Towards the end of the 1970s, the World Bank engaged with the Government of Papua New Guinea (GoPNG), this time with a changed position, focusing specifically on the development of primary education. This engagement led to what was called the World Bank Primary Education Project, commencing in 1981 and concluding in 1988. The Bank provided a loan and credit totaling \$US 16 million, but this provided the leverage to push the GoPNG to allocate substantial amounts to the program. The project had the objectives of increasing enrolments, of improving the retention of students through improvements in quality of learning and improving the planning and management capacity. Some of the interventions to improve planning and management capacity included the establishments of a research and evaluation unit, the measurement services unit and expansion and improvements in the planning sections and the curriculum development division. Most of these innovations which were functioning and operating quite effectively in the 1980s seemed to have dissipated since the late 1990s'.

Substantial investments were made in textbook writing and production with the establishment of the Education Print shop in order to supply student and teachers learning materials, something in short supply and much needed, leading to what many assessed as contributing to students dropping out of school. Whilst this project resulted in substantial production of materials, the distribution of these to schools remained a problem then and seems to continue.

Through the project under what was called the Provincial Primary Education Fund (PPEF), the National Government provided substantial funds to provinces to pay teachers' salaries and a small pool of fund to carry out activities designed to improve student retention. One of the weaknesses of the project was that many provinces were unable to use the funds allocated for teachers' salaries and the administrative mechanisms did not allow provinces to spend on other

UPE initiatives. The PPEF continued, funded wholly by the national Government, until 1996 when under the Provincial Government reforms introduced in 1995, responsibility was transferred to the provinces. Since then, it is unclear what mechanism provinces are using to recruit additional teachers at both elementary and primary levels to meet expansion needs. Whilst there were significant increases in enrolments and in management systems, retention levels remained at the same levels. Discussions and questions on the relevance of education began to emerge, suggesting that students were leaving school because the curriculum was not relevant to local community needs. The Measurement Services Unit began to set national examinations at different levels and reported on performances by provinces and locality of schools, by gender and also on variances across types of questions in examination papers. These reports provided useful information for appropriate remedial measures to be considered.

1990s to 2010

The PNG Education Sector Study and Major Reforms of Basic Education Sector

In 1991 an Education Sector Study was carried out. PNG had only 70% of primary school aged children enrolled in grades one to six. It was estimated that more than 90% of school aged children did enter grade one but poor retention mainly contributed to more than thirty percent of school aged children being out of school. A major reform of the education sector was undertaken commencing in 1993 with the introduction of three grades of elementary school education and six years of middle and upper primary school education. Reforms also commenced in the elementary and primary school curriculum geared towards the PNG context and the use of local vernacular languages at the elementary level. These were intended to achieve UPE by generating motivation to enroll, making school interesting hence retaining students, and thirdly, improving the quality of education as well as making it more relevant for PNG.

Whilst there was great enthusiasm in the initial phase in the late 1990s, there have been mixed results in the implementation of the education reforms, with the restructure not fully implemented across the country. In 2008, more than 30% of schools were still having grade one classes taking in children aged seven, rather than enrolling those children aged six at elementary schools (Department of Education, 2009:7). More disturbingly, the more densely populated provinces were behind in the percentage of schools still enrolling grade one classes; namely, Eastern Highlands (56%), East Sepik (50%), Morobe (38%) and West New Britain — one of the pioneers of the Education reforms — (39%) (UBE Plan, 2010–2019). At the same time, the same figures indicated that 64% of the schools had a grade seven class. So it could be assumed that 36% of schools had not blocked up fully to offer grades seven and eight at primary level.

Access to elementary schools is very limited and in great demand. In 2007 only 12% of the children enrolled in elementary prep were aged six years. About 85% of the enrolments in elementary prep were not aged six, but aged 7–11 and above. Whilst total enrolment figures have increased significantly, the gross enrolment rate for age 7–12 children in 2007 as per the UBE Plan was 74% compared to 75% for the same age group in 1995 (National Education Plan 1995–2004). Retention rates have also not improved. The cohort retention rate for the 1990 intake in grade 6 of 1995 was 62 percent. The retention rate of the grade one enrolments in 2002 completing grade 6 in 2007, was also 62 percent. The UBE Plan 2010–2019 estimates that whilst there was a total enrolment of 784,539 in elementary prep to grade 8 in 2007; it was also

estimated that 674,169 children aged six to fourteen were out of school. The magnitude of numbers provides an indication of the challenge ahead in terms of providing opportunities for all children to enroll and participate in a basic education system.

There has been a growing discontent with the quality of learning with the public and, more increasingly, teachers and academics at universities raising concerns about the quality of learning in schools. Some have pointed to the effects of changes to curriculum design, particularly the Outcome-Based Education policy, on quality of learning. It is most probably one of the factors, but there is definitely a perceived decline in the quality of learning. The Measurement Services Unit has been unable to coordinate and report on examination results on a regular basis as done in the past.

The stagnation in progress towards UBE during this period needs to be seen in the context of developments outside of the Education System. PNG went through a major financial crisis in the middle of 1990s and never recovered until the mid 2000s. During that period further reforms to the Provincial Government systems were introduced resulting in confusion of responsibilities, including financial responsibilities. This has resulted in weakened governance systems and deteriorating roads and infrastructure, compounded by an attempt to implement education reforms that required increased financial resources. It is clear from a study of PNG's development performance for the period 1975–2008 that financial allocation to the education sector as a whole has declined dramatically since 2000 (Webster & Duncan, 2010).

What Lessons Can we Learn and What Direction for the Future?

I have had a long involvement in the planning for UPE programs since 1983 and have researched and written about UBE policy issues, including my doctoral dissertation. I was a member of the UBE Taskforce and chaired the working committee responsible for the drafting of the UBE Plan 2010–2019. My comments take into account these experiences as well as being based on the synopsis carried out as part of this paper.

Lesson One

We need to realize the inappropriateness of universal strategies at the national level in a “One Size Fit All Approach”. We need to recognize the wide diversity that exists in PNG.

The physical geography, the demography, the economic and governance systems, and the different starting points for UBE among provinces and even among districts within a province, are very different. Each locality is unique and different in terms of the challenges to address the constraints to working towards UBE. Often times the universal strategies developed at the national level are inappropriate for all and therefore, future strategies must allow each school and district to develop more appropriate localized interventions.

In terms of increasing access, some provinces and districts might need schools to be located closer to populations requiring access. Others might need to expand existing schools with new teachers where numbers of school aged children are increasing and the schools are unable to cope. Others might need to work on generating interest or where access is no longer a problem, consider introducing compulsory education. Others might not have an access problem but may

want to address retention issues. Activities with the most impact on retention can be instituted at the school level. Schools know which students have dropped out or are likely to drop out. They can address specific issues at the school level, having greater impact on overall retention than any nationally designed policy. The UBE Plan actually calls for schools to be the focal point for implementing UBE strategies, building on the strengths of the School Learning Improvement Project (SLIP). Implementation plans have yet to be formulated to give effect to this strategy.

Lesson 2

There is a need to select and use quality and best fit projects that are likely to have maximum impact to make real progress working towards UBE. We need to develop appropriate tools to examine policy options and critically appraise the appropriateness of proposed strategies. Past strategies have not been given adequate scrutiny on the likely effectiveness, often succumbing to particular interest groups for particular interventions. There is ample research from PNG and elsewhere to suggest that some strategies might have better outcomes. Ongoing research and evaluation studies are critical to inform implementation, leading to more effective outcomes.

The UBE Plan recommends the UBE Tree as a useful guide and I would recommend this to be used especially at school and district level to identify possible constraints leading to identifying effective strategies to address the constraints in the areas of increasing access, improving retention and improving quality of learning.

Lesson 3

A compulsory education policy is recommended to address the problem of enrolment and retention. It would obligate the government to provide a place and opportunity for every child — girl, boy, able or disabled. It would also obligate parents to ensure their children enrolled and stayed on to complete the full cycle of basic education. Communities through village courts could be empowered to charge parents who did not support the education of their children.

Lesson 4

Finally, and most importantly, PNG has not been really serious about achieving UBE. It's been all rhetoric. We have had plan after plan stating the importance of UBE, but there have been very few specific strategies on the ground, except for the period when the World Bank-sponsored Primary Education Project was implemented. What is needed is a proper management system within the GoPNG and the NDOE, taking specific responsibility for ensuring that PNG achieves UBE, seeking and negotiating funding, developing specific strategies, having adequate monitoring and evaluation systems to monitor progress and providing advice on the way forward.

There is a need for more increased and focused efforts combined with increased allocation of financial resources. When the HIV and AIDS epidemic hit PNG in the 1990's, the government quickly established a separate office to combat this epidemic. Millions of kina have been secured and are being spent on this one disease. Why have we left this long lasting epidemic, an epidemic that continues to deprive more than half the population of Papua New Guinea of a basic education?

Why have we not addressed this disease in the same way that we have addressed and prioritized HIV/AIDS?

Conclusion

The GoPNG needs to give serious attention to providing opportunities for the citizens of PNG to obtain a good quality basic education. This is fundamental for the future development of Papua New Guinea. It will provide a foundation for every individual to improve their quality of life, to identify and use opportunities for increasing income levels and to contribute to the development of the country. Most if not all the Millennium Development Goals, including health objectives, poverty reduction etc. can be achieved through universalizing basic education. It is the foundation on which PNG's future development will be built. If we do not achieve UBE, all other development aspirations as asserted in Vision 2050 and other plans of government will never be achieved.

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CHAPTER 2: EQUITY AND ACCESS FOR CHILDREN WITH VISION IMPAIRMENT: WHERE IS PAPUA NEW GUINEA NOW AND WHERE SHOULD IT BE IN 2015

James Aiwa and Paul Pagliano

Introduction

This research investigates circumstances that inhibit children with Visual Impairment (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.

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, in press).

The UNESCO (1988) *Review of the present situation of special education* estimated that: “less than 2%” of children with disabilities in developing countries receive special services of any kind (p.3). This has been the case 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” (PNG National Department of Education, 2002, p.105). PNG NDOE Special Education Office (2009) data indicate that 366 students with VI currently attend school, a figure considerably lower than the estimated eligible number (Aiwa & Pagliano, in press).

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 0.7% for low vision and 0.15% for legally blind if all children attended school the numbers could be as high as 1,120 for low vision and 240 for blind in each school year cohort. Aiwa and Pagliano (in press) argue that this discrepancy is largely because only students who are blind receive services, with children with low vision and children with multiple disabilities are not identified as requiring assistance in the area of vision. They further believe their estimate would be substantially reduced if extensive preventive measures, such as basic health care and the

prescription of spectacles became more widely available. This is because assessment of VI is of visual acuity after correction.

Method

A mixed method approach was used with a survey questionnaire consisting of sixteen questions and a section for qualitative comments. The questionnaire was developed from information obtained from a review of the literature (Aiwa & Pagliano, in press) and the principal investigator's 26 years of experience working in special education in PNG. Ethics approval for the research was obtained from the James Cook University Human Research Ethics Committee and the PNG National Department of Education.

The questionnaire was sent by post to all 124 teachers employed in 21 PNG Special Education Resource Centers (SERCs) (see Table 1 for full questionnaire). Participants were invited to rate each statement using a five point Likert scale. Responses were coded 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 (Hanson & Arnetz, 2005). The head teacher at each SERC collected the completed questionnaires and returned them to the principal investigator for analysis.

Results

Of the 124 teachers who were sent the questionnaire, 83% (n=103) responded. Simple descriptive analyses, 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).

Questions (Q) 1 to 5 focused on what teachers identified as reasons children with VI do not attend school. The two strongest reasons for children not attending school were that parents and people in the community did not believe the children were capable of academic learning (Q1), and negative cultural attitudes and beliefs about VI (Q2), both at 67% agree or strongly agree. The third reason identified, Q5 at 62% agree or strongly agree, was the distance children had to travel to attend school and the fourth reason, Q4 at 55% agreement, was lack of appropriate policies and funding. For Q3, 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.

For students to be able to progress to higher levels in education they must pass national examinations at grades 8, 10 and 12. Questions 6 to 9 were included to determine whether teachers considered adequate arrangements were being made for students with VI. The strongest response was for Q8 with 61% disagreeing or strongly disagreeing that the NDOE provided specific guidelines on how examinations were to be conducted for students with VI. The second strongest response was for Q6 with 59% of respondents agreeing that the national examinations did inhibit student with VI progressing to higher levels in education.

For Q7; only 34% of teachers agreed or strongly agreed that examination papers were provided in appropriate formats such as Braille, large print or audio and for Q9 only 33% of teachers

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

Questions 10 to 16 focused on what happened while students with VI were at school. In this section the teachers gave their five strongest responses for any of the 16 questions. For Q14 the majority of teachers (75% agree or strongly agree, the strongest response), believed negative attitudes of teachers and administrators inhibited student progress to tertiary education. The second strongest response at 73% disagree or strongly disagree was to Q12 regarding whether primary and secondary teachers were trained in the education of students with special needs. The third strongest response was to Q10 with 71% agreeing or strongly agreeing that teachers emphasised the disability rather than student ability. The fourth strongest response was to Q13, that school administrators were familiar with NDOE policy on inclusive education, with 70% disagreeing or strongly disagreeing. The fifth strongest response at 68% disagree or strongly disagree was to Q15, that student needs were adequately addressed by regular and SERC teachers. The two remaining questions were Q11, about mainstream schools receiving SERC support for students with VI with 60% agreeing or strongly agreeing and Q16, whether students with VI should attend SERCs rather than mainstream schools, with only 33% agreeing or strongly agreeing and 56% disagreeing or strongly disagreeing (see Table 1).

Discussion

This research investigated SERC teachers' understandings of the circumstances that inhibit children with VI from participation in education in PNG. There appears to be a substantial mismatch between the estimated number of children with VI and the actual number of children who attend school and receive specialist support. This is because only those children who are functionally blind are identified and receive support. 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".

The 16 questions in the survey questionnaire covered possible reasons children do not get to school, do not stay at school and/or do not make progress while at school. The most prominent result relates to the prevalence of perceived negative attitudes in the community, among parents, among teachers and among 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. More awareness programs need to be conducted so more children with VI can attend school like other children."

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: "Teachers at all levels ... should be trained to teach

[children with] special needs”. “SERC staff cannot support effectively students with VI at [higher levels] ... because SERC staff are all primary ... trained.” “Inclusive education policy is there but teachers are not implementing purposively due to lack of knowledge and skills”.

Table 1: Summary of Results

Statements	Strongly Disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
1. Children with VI do not attend school because parents and community members think the children are not capable of academic learning.	<i>Disagree</i> 20% (n=21)		<i>Undecided</i> 13% (n=13)	<i>Agree</i> 67% (n=69)	
2. Cultural attitudes and beliefs about VI negatively affect student progress at school.	<i>Disagree</i> 24% (n=25)		<i>Undecided</i> 9% (n=9)	<i>Agree</i> 67% (n=69)	
3. Parents of students with VI cannot afford to send their child to school.	<i>Disagree</i> 51% (n=53)		<i>Undecided</i> 19% (n=19)	<i>Agree</i> 30% (n=31)	
4. Children with VI do not attend school because of lack of appropriate policies and funding.	<i>Disagree</i> 38% (n=39)		<i>Undecided</i> 7% (n=7)	<i>Agree</i> 55% (n=57)	
5. Most schools are located in cities and towns but the majority of children with VI live in rural communities.	<i>Disagree</i> 26% (n=27)		<i>Undecided</i> 12% (n=12)	<i>Agree</i> 62% (n=64)	
6. Students with VI do not progress to further education because of the examination process at grades 8, 10 and 12.	<i>Disagree</i> 25% (n=26)		<i>Undecided</i> 16% (n=16)	<i>Agree</i> 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.	<i>Disagree</i> 56% (n=58)		<i>Undecided</i> 10% (n=10)	<i>Agree</i> 34% (n=35)	
8. The NDOE provides specific guidelines on how examinations are to be conducted for students with VI.	<i>Disagree</i> 61% (n=63)		<i>Undecided</i> 6% (n=6)	<i>Agree</i> 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.	<i>Disagree</i> 52% (n=54)		<i>Undecided</i> 15% (n=15)	<i>Agree</i> 33% (n=34)	
10. Teachers emphasise the disability rather than the student with VI's ability.	<i>Disagree</i> 18% (n=22)		<i>Undecided</i> 11% (n=11)	<i>Agree</i> 71% (n=70)	

Table 1 (cont'd)

Statements	Strongly Disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
11. Mainstream schools receive SERC support for students with VI.	<i>Disagree</i> 22% (n=22)		<i>Undecided</i> 18% (n=19)	<i>Agree</i> 60% (n=62)	
12. All teachers in primary and secondary schools are trained in the education of students with special needs.	<i>Disagree</i> 73% (n=75)		<i>Undecided</i> 8% (n=8)	<i>Agree</i> 19% (n=20)	
13. All school administrators are familiar with NDOE policy on inclusive education.	<i>Disagree</i> 70% (n=72)		<i>Undecided</i> 10% (n=10)	<i>Agree</i> 20% (n=21)	
14. Students with VI make little progress to tertiary institutions because of negative attitudes displayed by teachers and school administrators.	<i>Disagree</i> 14% (n=14)		<i>Undecided</i> 11% (n=11)	<i>Agree</i> 75% (n=78)	
15. All needs of students with VI are adequately addressed by regular and SERC teachers.	<i>Disagree</i> 68% (n=70)		<i>Undecided</i> 4% (n=4)	<i>Agree</i> 28% (n=29)	
16. Students with VI should attend a Special Education Resource Centre rather than a mainstream school.	<i>Disagree</i> 56% (n=58)		<i>Undecided</i> 11% (n=11)	<i>Agree</i> 33% (n=34)	

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). "All SERCs should be equipped with appropriate specialised equipment to produce materials to assist children with VI in their learning." "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 Centers to promote a wider inclusion in mainstream schools."

Conclusion

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 by 2015. (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.

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PART TWO

INNOVATIVE AND SUSTAINABLE APPROACHES TO DELIVERING BASIC EDUCATION IN PAPUA NEW GUINEA

CHAPTER 3: STRONGIM TISA, STRONGIM SUMATIN: HOW VSO SUPPORTS UNIVERSAL BASIC EDUCATION

Richard Jones

Introduction

Voluntary Service Overseas (VSO) is one of the oldest Non-Governmental Organization (NGO) partners of the education system in Papua New Guinea (PNG). VSO has been placing international volunteers into schools and divisions of education to help improve the quality of education since 1961. We work in partnership with schools, with teachers, with standards officers, with teacher educators, and with the National Department of Education.

What is VSO?

VSO is an international development organization which works in over 40 countries around the world. Our volunteers come from many countries: UK, Canada, Philippines, Holland, USA, Australia, Kenya and more. We have 10 experienced education volunteers in PNG at the moment, with many more working in HIV and health. Our volunteers live and work in the communities they serve. To support our volunteers we have a national office in Madang with an experienced team of international and national staff. We are currently responsible for delivering capacity building projects worth over K10m.

What is Strongim Tisa, Strongim Sumatin?

Strongim Tisa, Strongim Sumatin (STSS) is a two year project funded by a partnership of the National Department of Education (NDoE), New Zealand Aid (NZ Aid), University of Goroka (UoG) and VSO. This K3m project supports elementary, primary and secondary education in Simbu, Madang and at the University of Goroka. Uniquely among NGOs, a modest volunteer allowance is paid for by the Government of PNG: it is equivalent to TS05.

We no longer place volunteers into individual schools. Instead we aim for a more sustainable approach by working with clusters of partner schools and with standards and divisional officers. We only work with schools who want to change.

The project has a detailed monitoring and evaluation framework written in consultation with our schools and divisions of education, and we collect data about the program impact using a range of standardized forms. The project includes a dedicated education researcher and our research will always be made available to schools, NDoE and the National Research Institute (NRI).

Our Work in Elementary Schools

For the first time in our history in PNG VSO is supporting elementary education. We have worked with national officers on the Read PNG Project and Early Grade Reading Assessment, and with several clusters of elementary schools in Madang. Our focus has been language and school leadership, and management for teachers-in-charge.

Table 1: Number of Partner Schools and Teachers Trained since 2010

Number of Partner Schools	Number of Teachers Trained
29	261

We have developed and delivered six in-service modules on phonics and School Learning Improvement Plan (SLIP) and collated the first leveled collection of Big Book stories.

Our Work in Primary Schools

We work with primary schools in both provinces on professional development, behavior management and SLIP. We also support new graduate teachers in their first year. Our professional development works on a cycle of needs-analysis, training, observation and feedback, and more training. Our in-service support has been focused on English language teaching. We do not do one-off training.

Table 2: Number of Partner Schools and Teachers In-serviced since 2010

Number of Partner Schools	Number of teachers In-serviced
33	528

We are also building a pool of teacher-facilitators who can deliver our 12 in-service modules. As part of our work on English, we worked with teachers to write a Genre guide. Additionally, we support the implementation of SLIP. We have also recently published an In-service Coordinator's Handbook written by teachers for teachers. All our resources are written in a participatory way.

Our Work in Secondary Education

Traditionally, VSO worked in secondary and high schools. This work continues but is now working across all the schools in the province. We support the implementation of SLIPs, carry out professional development, work with school leaders and future leaders and support professional networks and subject groups.

Table 3: Number of Partner Schools and Teachers In-serviced since 2010

Number of Partner Schools	Number of Teachers In-serviced
27	944

In expectation of completing our work in secondary education in these two provinces in 2012, we have prepared 27 teacher-facilitators and established 20 subject specialist groups. One of our original subject groups, the Simbu English Teachers Association, recently published a Grade 9 English textbook which was bought by AusAID for all the schools in PNG.

Our Work with Teacher Education

We have volunteers placed at the University of Goroka supporting the re-development of the secondary teacher training courses and practicum. This is essential for the syllabus implementation. We are also supporting Madang Teachers College in its first tracer study on its graduate teachers.

What are Our Plans for the Future?

VSO has recently developed a new five-year plan based on the Universal Basic Education Plan 2010–2019.

Box 1: Five Year Plan Activities

1. Strengthen elementary, primary and secondary schools through sustainable professional development, professional networks, and improved school leadership and management;
2. Improve the quality of literacy and mathematics teaching in elementary and primary schools by strengthening teacher training partners;
3. Strengthen relationships and collaborations to improve and influence curriculum and policy development;
4. Increase access to educational opportunities for children and young people living with disabilities and;
5. Increase access to quality literacy, numeracy and vocational training for young people who have not completed a basic education.

As a small organization, it is important that we maximize the skills and experience of our international volunteers. We will do that by increasingly working with teacher education institutions and supporting work at the national level.

Our Planned Partnership Projects to Support Universal Basic Education

We have several major projects in development:

1. Teacher Education Language Support Project.
2. Strongim Tisa, Strongim Sumatin Phase 2.
3. Support for other NGOs (e.g. Buk Bilong Pikinini).
4. Special Education Support.
5. Early Grade Reading Assessment, Madang.

Supporting the Teaching of Language in Schools

It is clear from our work that additional support is needed for language in elementary and primary schools. In our many lesson observations we see little active teaching of reading or writing and a very limited range of teaching and learning strategies. For example, in one year of observation we are yet to see paired reading or a teacher hearing an individual child read. Most elementary language lessons are in English or *Tok Pisin* and none of our partner elementary or

primary schools use local languages. We see just a few Big Books (in English) being used week after week. Most elementary teachers cannot read, cannot understand, and do not use the Elementary Language syllabus and teacher guide. This is an important lesson in the development of the new Elementary English Syllabus.

Primary school student achievement in reading has not shown any improvement between 2003 and 2008¹. Less than 20% of Grade 7 students could critically analyse texts and only half of Grade 7 students could achieve Grade 6 learning outcomes. VSO will be managing the Early Grade Reading Assessment study in Madang Province on behalf of NDoE in late 2011 which will clarify which reading skills and knowledge our students are not grasping. This study should be supported by all who care about the state of education in PNG.

Recently, we carried out visits to five teachers colleges where we found that only 10% of time was allocated to language training for student teachers. Language lecturers in PNG have not come together professionally since 2002 and their courses are at least ten years old. There is no training for student teachers on modern structured phonics or teaching early reading or writing. Sadly, several of the newly qualified primary teachers we worked with this year were functionally illiterate.

In addition, there has been no upgrading of the elementary in-service course, few useful resources have been sent to schools, and most elementary trainers lack skills in training teachers in early writing and reading.

Conclusion

To conclude I would like to recommend six practical ways we could improve the quality of reading and writing in elementary and primary schools in PNG.

1. Increase the credit point allocation for Language training in all teachers colleges and support the lecturers to update their courses with an emphasis on practical teaching strategies. Increase the English entry grade level into teacher training.
2. Develop a day-to-day 40 week English lesson teacher guide for elementary and lower primary including structured phonics and key word progression and distribute to all teachers. This will need to be very simply written for elementary teachers. EGRA will help us to develop these.
3. Redesign School Journals to include comprehension questions for all texts, and level them. Expand School Journals to elementary G1 and G2 and print a lot more of them.
4. Publish a guide for elementary and primary teachers which shows real examples of what good writing looks like at each grade. Teachers find it very difficult to interpret the learning outcomes in the language syllabuses.
5. Urgently retrain elementary trainers and language lecturers in early reading and writing with an emphasis on a structured phonics program and increased time in schools for learning how to read and write.

¹ Curriculum Standards Monitoring Test, Analysis of Data, December 2009, PNG National Department of Education.

6. Set a minimum SLIP percentage that all schools must spend on new text books and readers each year. The worst performing schools we visit spend almost nothing on books for their students — they rely on books from donors.

I hope this is some food for thought from the front-line. We work with many wonderful and committed teachers. Fifty percent of the elementary teachers we work with do not have a file number and do not get paid. VSO is committed to working with schools and teachers and the Government of PNG to improve the quality of basic education. We look forward to the next fifty years in partnership.

CHAPTER 4: INSTITUTING AND PROMOTING THE NOTION OF CARING THROUGH NURTURING COFFEE IN SCHOOLS

Arnold Parapi

Introduction

Schools evolved around the notion of caring and were conceived as a result of parents needing ‘care’ providers and babysitters to take care of their children while they worked in the factories and other specialist jobs during the industrial revolution. When children reached the age of adolescence, the need to prepare them for specialist jobs and to live as productive members of their communities became important, so the care centers began to evolve into what we now know as schools and colleges to serve this purpose.

When we think of caring, it almost certainly means looking after people and things and, for people, it is the teaching and moulding of children with socially acceptable behaviour and instilling in them acceptable attitudes, including the virtues of care and responsibility. If we inculcate good behaviour from an early age, children will be instilled with the virtue of caring and appropriate ethical conduct. This concept of “caring” underpins the drive by the Coffee Industry Corporation (CIC) to educate Papua New Guineans about the relationship between people and coffee. There is a simple but very powerful message that seeks to amplify this relationship: *“Look After Coffee and Coffee will Look After You!”* In other words, if people care for coffee, coffee will care for them, a mutually constitutive relationship between people and coffee. This concept of caring underpins the development of the Coffee Curriculum and its teaching in schools in Papua New Guinea (PNG).

Focus on Coffee Research and Development

In the past CIC was involved in research and development, including conducting extension work with the non-formal (or informal) community. As well, the focus has been on the mature and adult population whose career focus was on areas other than coffee farming.

This approach to addressing the need of adult farmers was proving to be unreliable and yielding very little impact. This was exacerbated by very poor adoption of technology and acquisition of new or improved knowledge and skills. There are many factors to poor adoption of coffee related technologies and knowledge by farmers. For example, the targeting of the adult population to motivate them to go into coffee farming did not always yield the desired results because they always had competing interests and motivation. The phrase ‘you cannot teach an old dog new tricks’ was also a significant impediment to agriculture extension approaches.

A Shift towards Coffee Curriculum Development and Teaching in Schools

The curriculum reform which began in the early 1990s shifted from academic oriented (single track) education to a multi-track education emphasizing both academic and vocational skills development of various orientations. Curriculum is now viewed as a vehicle for promoting and fostering the notion of community oriented skills development.

Realizing the need to educate and train Papua New Guineans, particularly the children, to farm and care for coffee as a major source of income, the CIC Ltd initiated the *School Coffee Curriculum Program* in partnership with the National Department of Education (NDoE). The school coffee curriculum has been developed, launched and is being trialed in several pilot schools in the country. After the trials, the school coffee curriculum will be edited for expansion to all schools in the coffee growing provinces. Teachers will be trained to competently teach the new innovative school coffee curriculum and sustain it in schools.

The Notion of Caring in the Context of Coffee Farming

Caring of coffee trees is an intra-curricula activity and using the principle of caring we can cultivate and harness an environment of a better appreciation of caring for coffee as a meaningful, yet purposeful and entrepreneurial, activity in the rural communities, thereby supporting the rural cash economy.

Care

According to Noddings (1984) caring is to look after the self and others, looking after animals, caring for plants and looking after many things with empathy, sympathy, passion, intent which constitute care. It also concerns looking after the context or the environment around individuals, groups and communities. Caring is giving, sharing and building good rapport with those to be cared for and care givers. People who are carers give and to get is caring, and that is fundamental to early childhood education that will give rise to good citizenry.

Ethics

Directly linked to caring is the issue of ethics. Ethics concerns what kinds of actions (or behaviour) are considered right or wrong. It concerns what kinds of life is a good life or what kind of person is a good person and is of good standing in the community and the country (Stirke & Solits, 1992). The PNG Teaching Services Commission (TSC) has a set of rights and wrongs (collectively known as Teachers Code of Ethics) that defines the public good and acceptable norms of teachers in society. Teachers are required to demonstrate and actively show the qualities of acceptable behaviour that typifies the profession and society.

Good Behaviour

Behaviour becomes habitual as a part of the acculturation process. Behaviour is habitual and is developed over a very long period of time and if we want an exhibition of good behaviour by our citizens, we have to begin developing those good characteristics early (Oesterman & Kottkamp, 1993). Conversely, if we fail to establish positive behaviour early, we have failed to create a society of good citizenry. "...through this lengthy and relatively consistent experience, complex sets of knowledge, assumptions, beliefs, and behaviours are ingrained in us that we are longer aware of them, yet they guide even minute details of our daily work behaviours" (Oesterman & Kottkamp, 1993, p. 50). If we promote a culture of caring in our education process, we can create a culture of good behaviour.

Citizenry

A good citizen looks after himself and herself while respecting that other persons have as much rights as his/hers and accepting coexistence over individual rights which, at times have been pursued without concern for others. The rights of each individual must have a limit and when one's own right interferes with or impinges on others' rights, or is contrary to the public good, that right is of no value and is driven by greed, selfishness and egocentrism. The public good is respected and so the community or public good is paramount and must override one person's own rights that exceed the public good.

Who is Responsible for Caring?

It is the government that is responsible for the overall public good and the education system is charged with the responsibility for building the qualities of a public good through education. The parents are equally responsible as the foundation care givers. When the government through the education system cares, the community cares, and in turn, we build good character and establish good citizenry habits at an early age. The parents and schools are important agents for change and can influence a child's behaviour at an early age through their actions and impacting those around them. Therefore, the parents and teachers have the most important responsibility to provide good positive role modelship that shapes the society's public expectations. It is imperative that in order to experience sustained positive development of children at the early age, the notion of caring in broad terms, and narrowly, caring for coffee at an early age is being advocated. If caring is central to learning, we can promote a society of care givers and recipients.

Growing Coffee at an Early Age

Coffee is a major cash crop for many rural and remote communities where no other cash income opportunities exist. It is an important part of the rural livelihood and as such, the development of the coffee industry is seen as a focal point of rural development interventions. It is therefore our hope that caring of coffee becomes the vehicle to build a good attitude and good behaviour so that the child grows up appreciating positive work ethics and is rural-minded so that when schooling ends and there is no hope within the formal sector of employment, the youth can make life in the communities purposeful by caring for the coffee trees as a vital lifeline for the communities.

Caring as an Intra-curriculum Activity at an Early Age

Caring should be a part of the formal school curriculum and it should not just be written, taught and assessed theoretically, but should be firmly embedded in such practice that children appreciate what caring is through active interactions with individuals, people, community, plants, animals and the environment.

The question is 'How can caring be an active or practical part of the curriculum?' Well, there can be many approaches but from the agricultural, coffee industry and commodity crops sub-sector perspective, the concept of caring can be promoted through an industry-driven curriculum in schools.

For example, the coffee curriculum has been designed to educate students about coffee from as early as grades 6–8 in primary schools and at grades 9–12 in secondary schools. The intention is that the students are taught coffee production skills at an early age so that when these skills are learned, valued and appreciated through experiences or by caring using field based laboratories, they can lean on it (cash from coffee) when all other options for higher education and formal white-collar jobs are closed.

At home, the parents could promote and nurture an environment of caring by encouraging the child to have a pet to care for, get the child to look after plants and care for the house and clean the environment as approaches of instilling caring among the children. Good positive attitudes and skills can be learnt from looking after or caring for plants and animals at an early age, and in doing so, they provide care as care givers, in their support and maintenance of the plants, animals, household and the community.

In child care centers or early childhood learning facilities, the child can also be encouraged to care for plants, flowers, classrooms and the like to promote and foster an environment of caring. When children care for the plants, animals and those around them, the notion of caring is not just talked about but is demonstrated and seen in reality so the child sees how valuable it is to care for others as well as themselves and their loved ones. In so doing, they build good positive attitudes and citizenry at an early age.

The notion of caring is cultivated at an early age in which the child learns to care for the coffee tree from the seed, to seedling, and the maintenance and care of the mature coffee tree. The child actually (if this is done properly) learns to care for the coffee trees' needs or growth requirements, such as the provision of water, shelter (provision of shade) and nutrition for the coffee crop. The very act of looking after coffee trees is caring so that the tree does not die from water stress, is not deprived of essential nutrition, is free from infestation & competition from weeds and can withstand the attack from pests and diseases. When the child nurtures the coffee tree and helps harvest a bumper crop, she/he has cared for the tree's physical and physiological requirements and so the notion of caring is given to the tree. It is our hope that the school coffee curriculum can help promote and foster a caring attitude, behaviour and ethics such that when the tree matures and produces to its genetic potential, the yields are high, and it in turn will provide a good source of cash income to the individual, family, community and the country.

Conclusion

The education of the child must be provided using the concept of notion of caring. The notion of caring must be an important part of the formal curriculum. It has to be said again that education begins at home. While schools have been largely built to provide care for the young, education of the children should begin at home and the school should work to reinforce the ideals of a society.

If the education system is structured around the notion of caring for the individual, others, the environment and the public good, then we can create a community of carers or care givers and care recipients. When we promote caring, for the self, the family, group or community, we provide a sound basis for a high moral and ethical society.

Educators must accept and commit themselves to the highest ethical and professional qualities of caring and if these qualities can be cultivated in caring for coffee as a source of income in the formative years of learning and shaping the person, we can foster the great potential to develop and create a community with the highest ethical and moral standards.

Teachers must be of good character and they should care for others as much as they care for themselves and those around them. They (the teachers) must be good role model citizens and must demonstrate good public qualities that when transferred to others should contribute strongly to a better society.

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CHAPTER 5: WHY USE ACTION RESEARCH FOR TEACHER PROFESSIONAL LEARNING IN PAPUA NEW GUINEA

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Sandy Muspratt, and Patricia Paraide*

Introduction

In the effort to achieve the Millennium Development Goal of Universal Primary Education, many countries including Papua New Guinea are turning their attention to issues related to teacher quality (Barrett, 2009; Bruns, *et al.*, 2003; UNDP, 2010). Papua New Guinea is one country where, even though school attendance rates are still relatively low (Department of National Planning and Monitoring, 2009), policy makers are turning their attention to issues related to retention including the quality of the teaching and learning experiences for all students.

This paper reports on a study that investigates the possibilities of developing a professional learning model based on Action Research that could lead to sustained improvements in pedagogy in schools in remote areas of Papua New Guinea. We begin by providing a brief definition of action research together with a rationale for using action research in the context of remote schools in PNG. A critique of the issues related to Action Research Methodology follows with a discussion of how these issues were resolved throughout the process. Finally, the paper concludes with some suggestions on how this model can be appropriated in other countries and in other contexts.

What is Action Research?

Action research has been variously described as participatory research, providing a bridge between academic research and day to day practice, and research undertaken by the educational practitioner with the aim of improving practice (Nolen & Putten, 2007). In the study reported in this paper, we introduced Action Research to teachers by providing this definition, drawing on a number of significant works in the field (Kemmis & McTaggart, 2005; McNiff, Lomax, & Whitehead, 1996; Noffke & Somekh, 2005).

Action research is:

- one kind of research;
- research completed by practising professionals;
- represented by a cycle of operation;
- a way to link new knowledge with existing knowledge;
- a process that teachers can use to solve their own school problems without relying on experts;
- a method that teachers can use to research their own professional practice; and
- always associated with reflective practice — or thinking about what you have done and why you have done it in that way.

In the earliest accounts of Action Research, Corey (1954) argued that Action Research engaged the practitioner in identifying an education problem and finding ways of resolving the educational issue through their own inquiry. This was quite different to traditional models of

research where an educational research specialist was engaged to carry out the inquiry process for the practitioner and make recommendations as to what should be improved and how it could be improved. Corey (1954) makes distinctions between these two alternatives, arguing that, whilst using the latter may yield good results which are objective, the limitations can be that the investigator is removed from the problem, from the teachers experiencing the problem, and from the context in which the problem is occurring. He also refers to the great difficulty in implementing recommendations made by others, whereas ‘an integral part of action research is our actual practice of the procedures that give a priori promise which will enable the investigator to cope more effectively with their professional problems’ (Corey, 1954, p.376).

In more recent years, Action Research processes have been introduced in educational contexts because of their close connections to the characteristics of quality professional learning opportunities. There has been a shift in recent years from professional learning models that implied a deficit in teacher skills and knowledge, to more recent models that see “teachers as active learners shaping their professional growth through reflective participation in professional development programs and practice” (Clarke and Hollingsworth, 2002, p.948). Evidence from the literature on sustainable professional learning supports the use of Action Research as a model that builds individual teachers’ competencies (King & Newman, 2001); is an evidence-based enquiry model (Timperley, *et al.*, 2003; Timperley & Wiseman, 2003); and is based on teachers’ use of critical reflection or reflective practice (Willis, 2002).

Rationale for Action Research in Papua New Guinea

In designing the study, *Identifying strategies to sustain professional learning communities for teachers in remote primary schools in Papua New Guinea* (funded by the Australian Development Research Awards), the research team decided that the model of professional learning to be trialed in PNG should be based on Action Research and encompass some of the other principles of effective professional learning. In particular we were interested in investigating strategies that could be implemented in remote parts of PNG that did not have regular communication with the National Department of Education (NDOE).

We decided that an approach to sustained life-long learning required professional learning that was characterised by factors that produced sustainable outcomes such as a “process of improvements in teacher practices and pedagogical content knowledge” (Pritchard and McDiarmid, 2006, p.432). This required a whole school approach that would develop the school’s “capacity to manage and internalise change without external support” (Knight, 2005, p.470).

We also decided that it was necessary in this context to engage teachers as emerging researchers. The project recognises teachers as professionals who can make judgments on their own situations based on their daily classroom practices. These daily experiences are outside the external investigator’s field of experiences and professional practice and, therefore, the classroom practitioner understands these problems better. We also thought it was important that research became embedded within teachers’ professional practice. This approach reflected the work done in NDoE through the School Learning Improvement Plan (SLIP), which recognises teachers as change agents, and acknowledges that any changes to teaching and learning must begin with teachers’ recognition and ownership of their problems.

Using Action Research Methods in Papua New Guinea

Our study then, beginning in 2009, had some ambitious aims for the implementation of Action Research methods into schools in Ambunti-Drekikir District of East Sepik and Middle Fly District of Western Province. While the project does not conclude until 2012, and our analysis of data is not complete, there are some issues that have already arisen that point to problems in using this process. This does not necessarily mean that our study has not produced real change in schools, and that the process has not been successful. The discussion here points to some of the challenges in using these methods in Papua New Guinea (PNG), but also describes ways that our research team have overcome or addressed these challenges. In particular three issues are addressed here: the involvement of the research team; primary school teachers' capabilities; and the issue of remoteness and associated lack of infrastructure and communication capacities.

Involvement of the Research Team

As discussed earlier, Action Research is often described in opposition to traditional research carried out by an external investigator. Action Research also draws on principles of social justice and began as an emancipatory method to achieve equitable and democratic practices (Tan, McDonald and Rossi, 2009). There is unavoidable tension then, in planning a study such as ours, between these emancipatory ideals where teachers begin the process of solving their own problems because of some individual or school-based impetus, and the use of researchers who act as external investigators. However, in our study we have attempted to resolve these tensions through particular activities. First, members of the research team from NRI are acting as external colleagues who are collaboratively working with teachers in the selected schools to learn *through* the process and at the same time deal with the teaching and learning issues that confront teachers daily. Teachers become the 'chief investigators' of particular learning and teaching problems they encounter daily with their learners. The problem identified in each school is specific to that particular school and, according to the teachers' own assessment, is a pressing learning or teaching issue for the majority of the teachers in that school. Second, in order for teachers to have some knowledge of the process of arriving at the problem and working through the process before arriving at a plan of action to solve the problem, the external investigator becomes a mentor and colleague for the teacher. They are not there to recommend to the teacher what they think should be done, but to guide the teachers along as they learn the action research process and gradually embrace it within their professional school operations.

Primary School Teachers' Capabilities

The ongoing visits by the Research Team seem to contradict arguments for action research as insider researcher oriented. These visits place responsibility on the external research team to provide some guidance so that the teacher researcher as an insider can utilise the action research process. This contradicts arguments for action research that is emancipatory in nature and allows for some autonomy on the part of teachers. It can be argued though that such autonomy can only be guaranteed if teachers have had the initial training and knowledge in action research.

There are different views operating within PNG about the adequacy of teacher preparation programs and this paper is not the appropriate venue for engaging with these arguments. However there is generally, as in other contemporary approaches to teacher education across the

world, a view of a successful teacher as a “competent craftsman” (Moore, 2004, p.75). This view results in programs that are content specific and are aimed at equipping graduates with discrete sets of skills and content knowledge, and do not include any focus on research training. Action Research and other research methods view teachers as “reflective practitioners” who have the skills “needed to reflect constructively upon continuing experience as a way of improving the quality and effectiveness of one’s work” (Moore, 2004, p.100). This disjuncture results in teachers in PNG (and elsewhere) being encouraged to engage with reflective and inquiry-based research processes in their ongoing professional learning without the background or prerequisite knowledge and skills. In this context then there is no guarantee that teachers can initiate and undertake research on their own.

In our study we view the emancipatory aims of action research as a gradual outcome on the part of the teachers as they eventually gain the knowledge and confidence over time as they go through the research cycle. One way of monitoring this gradual capacity building is through the school visits by the Research Team. This places responsibility and commitment on the part of the external researcher to keep to the visit times as teachers in the research sites look forward to these visits. The visits are significant as a check and balance on what is happening throughout the research project in maintaining the research momentum and progress on the research issues that the selected schools are working on. Failure to keep to these visits can kill the interest of the teachers and result in the project being prematurely terminated.

Isolation and Remoteness

The current study’s design, based on regular visits to the schools to provide support, has been affected by natural and social difficulties. In particular, problems encountered in Ambunti-Drekirkir and/or Middle Fly Districts included: tribal fighting and land disputes; the cholera outbreak in 2010; floods and drought (both districts are accessed by river transport) and communication difficulties, despite the recent introduction of mobile phone coverage in both districts. However, many of the issues associated with these problems have been solved through the National Research Institute (NRI) members’ creative and innovative solutions. These solutions included making use of local knowledge and local authorities; engaging with local key contacts including those outside regular channels (for example, the local Member of Parliament and the Elementary School Advisers); and the successful cooperation with the Provincial Education Advisers and relevant Standards Officers. Importantly, these problems have not proved insurmountable because of the enthusiasm of all involved, the schools and teachers’ eagerness and receptiveness to the study, and the sense that the projects have produced real change requiring only a small effort.

A more important issue arising from the contexts of the schools is that teachers may become too overwhelmed by their isolation, so that they lack any real motivation to take the initiative to improve students’ learning outcome or to develop their own professional practice. In some ways the Teachers’ Booklet developed for this study is an attempt to address this issue. In the booklet, teachers are led, step-by-step, through the action research process to identify the problem and then finally share the outcome with colleagues. While our early data indicate that this is deemed a useful resource book for teachers, the initial acceptance and recognition of the need to use action research must be clearly articulated from the beginning. A rationale for using action research that is convincing enough for the teacher in an isolated school to pick up the book and

work with it on their own is required. The draft booklet is still being improved, as teachers use it and there have been comments about refinements to the book which are being taken on board by the research team as they refine this booklet.

Additionally, the isolated contexts in which these groups of teachers work are such that they feel shut out from any information about professional development courses they may wish to undertake in teachers' colleges or universities. This sentiment was echoed by a teacher in one of the participating schools who said that:

I want to go and upgrade my teaching qualification but notice about my application has only reached me lately. Mail here comes in very late. I sent my letter of inquiry last year and have only heard now from the university I wanted to apply for this year. It is now late. (Field note, May 2011).

The physical presence of the NRI research team during the field visits to the schools confirms this teacher's sentiment about the difficulty of accessing information external to the school as there is an absence of direct communication links to the schools. This situation is difficult for teachers because they are left to their own devices. They use whatever resources they have available to provide basic education to their children. However, the whole school approach to the Action Research model used in our study aims to build a professional community of learners in each school. We hope that a supportive network of professionals at the school level is developed that embraces continuous professional development. Slowly, this is being created as teachers become familiar with the different steps in the action research process. At the moment there is evidence that the schools have developed their own time allocations to work on the action research project and each teacher is assigned a particular task during each step. However, this team learning must be fully embraced within the school program so that continuity is maintained well after this project is over. There is need for a post-project follow-up well after the project is over to find out if this is being maintained or not. Such information from this follow-up will be crucial in assessing the sustainability and viability of such an initiative in other contexts.

Suggestions for Appropriations in Other Contexts

One of the research questions for the current study is: What models and policy directions are potentially worthwhile in other developing nations to build and sustain professional learning communities for teachers in remote schools? This question relates to the investigation of the viability of our model for professional learning in other contexts, not only in PNG, but in other countries who are also aiming to improve the quality of their teaching and learning outcomes within restrained contexts. This investigation must however begin with an exploration of the possibility of extending the study within PNG itself, given that the current project involves only a few schools in two districts in two provinces. In one of the two provinces, there is already, at the provincial and district level, a growing interest in Action Research being embraced at the school level in all districts.

The progress so far of the implementation in these two districts is encouraging with one area yet to complete the cycle while schools in the Middle Fly district have been involved in sharing the process with other schools and teachers in their area. The success relies heavily on the research visits by the external researchers who are important in monitoring and guiding the learning

process of the current teachers involved in the project. Without these visits, teachers are left to their own devices to seek and develop resources where the learning and teaching needs arise. Without any background knowledge on action research, they cannot carry out research. However the Teachers' Booklet could be used as a resource that can enable teachers to carry out their own school-based inquiry. There is still need for refinement to the booklet and the team is working on this. The booklet is not a bible to be strictly followed but it sets out the basic steps on what teachers can do about any learning or teaching issues.

Our initial findings support our claim that models of professional learning that are based on teacher researchers as insiders can be used in contexts such as remote areas of PNG. However we are aware of accounts that support using Action Research in low income countries including a series of studies completed in the 1980s and 1990s in PNG (for example, Burke, 1996; Guy, 1994). Yet there is little evidence of sustainability of changes to teacher quality as a result of these studies. Maxwell (2009, p.2) has considered the use of Action Research within "the community/school-based and the transformative models" of reform described by Cummings and Williams (2005) to argue that this approach can be used to improve "individual human capacity building" (Maxwell, 2009, p.11) at the local level.

Conclusion

It could be argued that this idea of improvement in individual teachers can lead to an overall improvement of teacher quality without relying on the large scale 'one size fits all' approaches that characterise many government initiatives. Our study seems to indicate that taking a 'bottom-up' approach to professional learning where teachers and schools are introduced to approaches that build individual teachers' competencies using evidence-based enquiry model that support teachers' use of critical reflection or reflective practice may be one way to improve student outcomes.

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CHAPTER 6 EARLY CHILDHOOD EDUCATION IN PAPUA NEW GUINEA: AN INNOVATIVE AND SUSTAINABLE APPROACH TO UNIVERSAL BASIC EDUCATION

Dinah R. Dovona-Ope

Introduction

Papua New Guinea (PNG) is a signatory to the United Nations Millennium Development Goals, which include the goal of Universal Basic Education (UBE). UBE is perceived as a strategic catalyst for human development and a key to poverty alleviation. Therefore, all nations are encouraged to ensure that by year 2015 all school aged children have access to free and compulsory basic education of good quality.

In PNG, the elementary school system was established to cater for children from the ages of 6 to 9 years. Elementary education is seen as a way forward for investing in a more equitable and affordable basic education for Papua New Guinean children and their families. Moreover, it is viewed as a strategy for increasing children's access to education and providing a more relevant education, aligned with the cultures and languages of local communities. However, it has come under a lot of criticism from parents and the public particularly, owing to the lack of confidence in the qualification of its teachers, the curriculum taught, the medium of instruction, and its ability to educate children with proficiency in reading and writing in the language in which they have been taught. This has been seen as contributing to lowering of the education standards in PNG.

If Papua New Guineans have major concerns about the quality of elementary education, how can it be improved to provide high quality basic education? This paper presents what the author believes to be a sustainable approach to investing in quality foundations for UBE in PNG: the early childhood education.

An Overview of Early Childhood Education

Early childhood education is a rapidly growing sector of the education system in PNG, yet it is not well understood. This is evidenced by a lack of a policy framework to provide guidelines on a range of issues such as enrolment age, monitoring and standards, curriculum and training for early childhood education. Worst of all, many Papua New Guinean children in the early years are missing out on quality and formal early learning opportunities. This is despite the fact that the early years of children's lives are now recognised as being vital in children's social and cognitive development. An excellent start to life is clearly recognised as the foundation for a child's future development, health and well-being, as well as throughout a child's life (Elliot, 2006).

So what is early childhood education? Early childhood education is a term commonly used in reference to the formal teaching and learning of young children provided by people other than a child's family. Developmental definition of early childhood education describes it as teaching and learning undertaken by young children that occurs anytime during the period from birth to 8 years of age. However, in developed countries like New Zealand and Australia, early childhood

education typically covers the period from birth to when a child starts school (Retrieved from: <http://www.childforum.com/early-childhood.html>).

Early childhood education is **not** elementary education as it comprises formal learning that commences earlier than the elementary school child's age. However, as early childhood education also covers formal teaching and learning during the period from birth to 8 years of age, it obviously covers early grades of elementary education in PNG. The period of early childhood education in many schools around the globe may be divided into pre-school, kindergarten, preparatory, Grade 1 and Grade 2. If PNG is to have quality UBE, it must invest in early childhood education as its foundation.

Developmental Basis Supporting Early Childhood Education

Margaret Sims (2004), a renowned expert in early childhood education in Australia, in her conference presentation in Adelaide, provided scientifically supported information about early childhood education. She said that early childhood education is based on a simple premise that:

“what happens in the world outside of children actually affects the way their brains are wired up... Their brains have a fairly big impact on the kind of people they are going to grow up to be and so, what we have is to learn how that outside world impacts upon the brain so that we learn to manipulate that world to give children positive outcomes.”

As Sims (2004) explained, if children's world can be manipulated as their brains are being wired up, the outcomes in children can be positive. So how does what happens outside the children's brain affect the growth inside their brains? There are two scientific explanations about how the external world of a child impacts on the interior world of the child. These relate to:

- a. Neurological Pathways; and
- b. Biochemical Pathways.

Neurological Pathways

When children are born, some brain cells (neurons) are connected up whilst others are not connected up well. For example, speech, motor skills and sight are amongst the areas that are not connected up well. Because of this, when babies are born they cannot talk, cannot grasp things with their hands and don't recognise their parents although their eyes may be open. It is the stimulation from the external environment that forces the brain to lay down pathways to process incoming information.

At birth babies have brains that are 25% the size of an adult brain and by age three, toddlers brains are 80% the size of adults. By age three, children have three times more neural connections than adults do. Owing to this, children need more energy to keep these connections happening because by two years of age toddler brains are twice active as adult brains and by age three, their brains are 25 times more active than adult brains. As many brain pathways get wired up in a growing child, the brain becomes too complex to function effectively and efficiently. At this age children also tend to eat small meals but at regular intervals to feed their developing

brains. Nutritional deprivation, on the other hand, has major short-term and long-term consequences.

What implications does this have on children's learning? First, the period from birth to three years of age is the most sensitive period. This is the period of major developmental milestones in life. These developmental milestones are evident in areas such as their physical growth, development in their motor skills such as crawling, standing and walking, and language development as children's brains undergo major development. Therefore, what children learn during the first three years of life has long lifetime effects. On the one hand, when brain pathways are not connected up well during this period, it becomes too hard to perform certain tasks. Therefore, it is important to stimulate brain pathways associated with areas such as learning, problem-solving, language, motor skills and social skills during the first three years of a child's life.

On the other hand, brain pathways that are not connected up well or are not connected at all during the most sensitive period are pruned. Pruning away of brain pathways commences from about 4 years to approximately 14 years of age. Owing to this process, children who have not heard a sound in the first three years, for example, lose brain pathways that are used for processing sounds so that even if they get a hearing implant, it is a long journey to developing speech (Sims, 2004). For this reason, parents of children who are found to have hearing impairments are now encouraged to have cochlear implants done on their children as early as possible.

Second, another major and positive implication for PNG families exists in the areas of language development, development in numeracy and development in other areas. For example, many PNG families are bilingual or multi-lingual. The more exposure children have to several languages in the first three years of life, the more they develop brain pathways for becoming bilingual or multi-lingual. In contrast, children who are exposed to only one language either become monolingual or take a while to learn other languages. This means that the current vernacular language policy for elementary education contradicts the way the brain develops and functions. When children are not exposed to multiple languages as they grow older, it becomes more difficult to learn a second language. This is one explanation for poor acquisition and lack of proficiency in English language when introduced in Grade 3 in PNG.

Biochemical Pathways

Humans have developed biological stress reactions to help deal with modern day lives. These are things that cause humans to experience uncertainty, unsafe feelings, fear, anxiety, thirst, hunger, sickness and stress as they cause biological reaction. In situation of biological reaction, the body releases a substance called cortisol. Cortisol takes energy from other parts of the body and feeds increased heart rate, blood pressure and levels of arousal. Cortisol assists by turning off the parts of the brain used for rational thinking and problem-solving and memory. Hence, energy used for feeding rational thinking, problem-solving and memory are turned off during stressful events or during periods of high levels of arousal. Cortisol then uses the energy that feeds rational thinking and problem-solving and memory to feed the increased heart rate and extra levels of arousal (Sims, 2004).

This implies that if children are stressed a lot of the time there's a lot of cortisol floating around in their system. Chronic high levels of cortisol can lead to problem behaviour, cardiovascular diseases, drug and alcohol addiction. On the other hand, low levels of cortisol can result in problems such as chronic fatigue syndrome. If the cortisol levels are too high or too low, children cannot learn effectively. Children learn best in quality learning environments where they feel safe and secure, loved, cared for and less stressed and where cortisol levels are kept at their acceptable levels.

Therefore, a high quality early childhood curriculum and a learning environment that promotes learning through play and fun during the early years are vital for the success of children.

Benefits of Investing in High Quality Early Childhood Education

The first three years of a child's life is the most sensitive period for physical, educational, social, intellectual and emotional development. High quality early childhood education makes a huge difference in the lives of children as indicated by a 100 year longitudinal study on mathematics achievement. This study found that when children start school at 6 years of age, there are already significant differences in their achievement levels. The differences that children bring into the schooling system are actually widened as children progress through the system so that by the time they leave school, those differences and outcomes are much wider than when they had started school. These marked differences are also evident in the literacy levels and life expectancy of children between those who have had early learning opportunities and those who have not. Early childhood education is supposed to be the leveling agent for closing the differences (Sims, 2004).

Early childhood education also provides opportunities for children to develop socialisation skills. Children are able to learn to interact with other children and this helps them to develop good socialisation skills such as communication, respect for others and their properties and positive values.

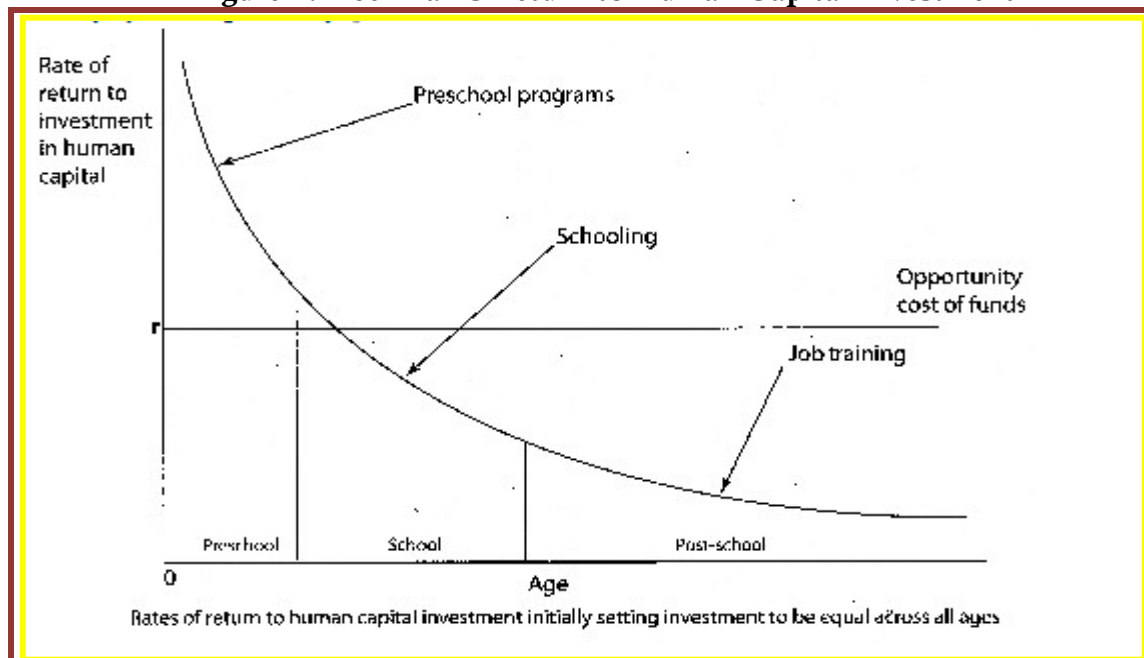
The early childhood education pedagogy is centered on play and fun as children have a short attention span. As such, high quality early childhood education should make learning stimulating, interesting for children and one that allows children to develop problem-solving skills.

In the PNG context, a formalized early childhood education is a must in order to have educated citizens in the future. This is due to the high illiteracy levels of mothers and to the inability of many families who come from low socio-economic status backgrounds to afford many things that are needed to kick start children's education at home. Additionally, the reality in the PNG context is that many mothers are busy trying to make money or gardens, therefore have no time to attend to children's educational needs. Therefore, a high quality early childhood education is very important for all children in Papua New Guinea. It is too vital not to be considered a social service for all families. The benefits of early childhood education cut across socio-economic benefits.

Social-Economic Benefits of Investing in Early Childhood Education

As pointed out by Clothier & Poppe (2011), Elliot (2006) and Heckman (2004), investment in early childhood education is important and not too expensive but the returns are positive and huge. James Heckman (2004), the Nobel Peace Prize winner and economist, who studied the economic benefits of investments in early childhood education in the United States estimated that a high quality early childhood education generates an average annual rate of return of 12%. This study concluded that there are greater social economic benefits, both short-term and long-term, when a government invests in early childhood education. The benefits illustrated are shown in Figure 1.

Figure 1: Heckman's Return to Human Capital Investment



According to Heckman (2004), with equal investment across all sectors of education (as indicated by the horizontal line), investment in early childhood education reaps much greater returns than investments to primary and secondary schooling and post secondary education (indicated by a curve). The benefits, which were also cited by Calman & Tarr-Whelan (2005), are as follows:

- Early childhood education prepares children to succeed in school and become better citizens; they earn more in the future, pay more taxes and commit fewer crimes.
- Every toea spent on early childhood education saves taxpayers significant sums of Kina in future costs in areas such as correctional services, law and order, health, etc.
- It enhances economic vitality. Early childhood education industry is economically important — much larger than often thought in terms of employees and revenues compared to other industries. For example, if you have an early childhood education facility in an urban centre and you have 100 children, paying K2,000 a year each, your total revenue is K200,000, per year.

- For 100 children you probably need 4 or 5 teachers with a ratio of 1:25 or 1:20 respectively. However, this amount could be reduced if government invested in it.
- For parents, access to available and affordable early learning programs enables them to fulfill their other responsibilities.
- It is more beneficial to taxpayers and the community. In PNG, it would be most beneficial if early childhood education could reach the most disadvantaged children.
- Investing in early childhood education is essential for a productive PNG workforce in the 2^{1st} century just as investing in infrastructure and LNG is. Unlike these, investing in early childhood education will develop the PNG economy for many centuries to come.

Additionally, high quality early childhood education is vital as children who start their lives with high quality early childhood education also develop personally in relation to their self-esteem, self-confidence and self-concept. Self-esteem involves children's beliefs about themselves. The early learning pedagogies used in early childhood education help children to develop their self-esteem and children begin to recognise their strengths, weaknesses and issues relating to social justice. Self-confidence is another attribute that children can develop early through high quality early childhood education program. The play, arts and drama activities which are often used in early childhood education are critical for developing their self-confidence. Imagine what the returns would be like if PNG invested significantly in early childhood education for all children to make the UBE become a reality.

How the University of Goroka is Investing in an Innovative Approach to Laying the Foundations for Quality UBE

The University of Goroka is leading the way in PNG by investing in its home grown early childhood education program. It is a program that aims to offer high quality training and preparation to educators and managers of early childhood education facilities in PNG. Currently offered at the Diploma level with a 4 year degree program already approved by the University, the program is offering a high quality training program for early childhood professionals in PNG. Although the early childhood education program is new, it is making its mark in the community and the nation as a whole.

Conclusion

Four conclusions are drawn from this paper. First, if scientific evidence indicates to us that investing in high quality early childhood education has major social economic returns, the way forward for quality UBE is to lay a strong foundation in high quality early childhood education program in Papua New Guinea. This can be offered in various forms: kindergartens, home care groups, community based centers, etc. Second, the current elementary education goes against the principles of cognitive development. Hence, starting schooling at 6, 7 years of age or later is too late for children. Teachers have to work hard against the pruning process that is at play. Third, whereas children have huge potential to learn during their first three years of life, the current language policy for elementary education also goes against the principles of cognitive development. Neurologically, it is too late for children to pick up on learning basic things in life such as a fluency in a second or third language. The current policy on vernacular education at elementary education makes it even more difficult for children to learn other languages. This goes to explain why bridging into English at grade three is not working well. The current

generation of Papua New Guineans who have gone through vernacular education and bridged to English at grade three, have no fluency and proficiency in reading and writing in the second language. Fourth, the approach the University of Goroka is undertaking needs to be considered seriously if PNG is to have quality UBE; train early learning educators who are equipped with the appropriate pedagogical knowledge and skills and start children early, whether it be in playgroups, kindergarten, home care groups or in early childhood education centers.

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PART THREE

RELEVANT AND QUALITY BASIC EDUCATION

CHAPTER 7: USING ACTION RESEARCH TO IMPROVE THE QUALITY OF TEACHING IN BASIC EDUCATION

*Patricia Paraide, Terry Evans, Eileen Honan,
Sandy Muspratt, and Medi Reta*

Introduction

The provision of universal basic education in Papua New Guinea (PNG) is dependent on suitably qualified teachers being available wherever there are schools in the nation. This means that children in the remote areas require good teachers who can be supported in their careers in remote schools. This support includes not only facilities and material resources, but also professional learning and collegial support. This paper reports on a project that researches the use of action research with teachers in remote primary schools in PNG to provide sustainable professional learning to help improve the quality of schooling. It arises from an Australian Development Research Award (ADRA) research project being undertaken by the authors from mid-2009 to mid-2012. This paper is one of two papers presented at the Inaugural Basic Education Conference from this project. The other discusses action research as an approach to professional learning and the development of an action research model and templates for use in PNG. The current paper describes the project's research design and its implementation to investigate the introduction, implementation and feasibility of teachers using action research to solve their own problems related to providing basic education in remote communities. If successful, action research may prove to be an effective approach to sustaining professional learning communities in locations where traditional approaches and means of professional development are difficult or impossible to sustain.

The paper describes the research team's approach to identifying and engaging schools in remote districts of Western and East Sepik provinces, identifying schools to trial action research, and to undertake the fieldwork to implement action research and to study its implementation. In addition, a survey was distributed to all teachers in the two provinces seeking their views and opinions about their professional learning needs and circumstances. The teachers' experiences with using action research are presented in the context of their particular research topics chosen for their school. To date, the findings suggest that teachers can use action research to help them improve the quality of the education they provide for children. However, the initiation and sustainability of such an action research approach is influenced by the capacities and commitment of head teachers and standards officers, in particular, valuing and understanding reflective practice and action research for professional learning in school communities.

Research Design

The research design for this project has its origins in an earlier project in PNG in which the authors participated that was entitled *Impact Study 6 Curriculum Reform Implementation Project* (Evans, Guy, Honan, Kippel, Muspratt, Paraide & Tawaiyole, 2009). That project was focused on elementary school teachers and used action research as one of its main strands, along with a survey of elementary school teachers, and interviews with key personnel. As Guy (1994) argued, there are potential advantages in the use of action research in educational research in PNG, not the least of which are the benefits that accrue to the participants themselves from learning to use

this form of reflective practitioner research on particular questions or problems they wish to address. In *Impact Study 6*, the approach to action research was modified to suit the specific context, including the elementary teachers' levels of education, their knowledge and experiences of writing English, and the need to have National Research Institute (NRI) research team members help facilitate the research during three sequenced visits to the schools. The NRI research team members helped the elementary school teachers identify a problem related to the curriculum reforms, collect and analyse appropriate data, formulate an action plan to solve the problem, implement the action plan and then collect data on its outcomes, and then write a report on the problem and how it was solved or otherwise. During the IS6 project about 135 elementary teachers participated in the action research, with varying degrees of success, over approximately 18 months (see, for further discussion, Evans, Guy, Honan, Paraide & Muspratt, 2010, pp.80–81).

The present ADRA project used a similar research design to explore if action research could be used as a form of professional learning for primary school teachers in remote areas of PNG. Sustaining teachers' professional learning in remote schools is a problem in many, if not most, nations and action research has proven to be successful in some instances (Maxwell, 2009, 2010). The costs and practicalities of providing professional learning that addresses the needs and contexts of remote teachers are often insurmountable. *Impact Study 6* showed that action research was feasible with elementary school teachers in different areas; the ADRA project is exploring whether it can work with primary school teachers (who are generally more highly qualified than elementary school teachers) but in remote areas of PNG. One element of the project uses a survey of all primary school teachers in all schools in the two remote provinces (East Sepik and Western) in which the action research trial schools are located. The survey contains, in addition to demographic detail about the teachers and their schools, a series of questions concerning professional learning models, questions related to teachers' perceptions of the importance of the sustainability and development factors that contribute to professional learning communities, their experience with professional learning models, the effectiveness of delivery modes in reaching large number of teachers, and their sustainability. The analysis will identify the professional learning models that teachers perceive to be more or less effective according to their, and their schools' background characteristics.

The nature of the action research procedure deployed in this project is explained in Reta, Honan, Evans, Muspratt & Paraide (2011). Our purpose here is to describe how the research project was implemented and how data were collected on this form of professional learning in the remote schools. Of course, the same difficulties that make professional learning in remote schools difficult also conspire to make research in those areas and schools difficult. The NRI team members are working with selected schools to identify problems and issues related to teaching and learning practices and to develop local solutions. Each school works together on one particular action research project guided and facilitated during visits by their NRI researcher. The NRI researchers are also participant observers who complete journals on their visits and collect other data as appropriate. These observations are related to the development and sustainability factors for a professional learning community. A key matter is whether action research can be introduced and sustained in remote schools using the action research guide developed and trialled as part of the project without external facilitators, such as the NRI researchers. We shall

now describe how the project unfolded commencing with the selection of the provinces, districts and schools.

Selection of Provinces, Districts and Schools

The ADRA project's goal was to work with schools in remote areas in Papua New Guinea because teacher professional support for these schools is generally minimal. This is due primarily to funding, distance, topographical and other practical constraints. Boat and air travel to and from remote areas is expensive and road travel poses security risks. Ambunti-Drekirkir District in the East Sepik Province and Middle Fly in the Western Province were selected for the study because they are classified as remote districts. Furthermore, these districts' students' performances in the 2009 grade eight examinations were the lowest in these two provinces. Three primary and community schools classified as remote, but accessible to the researchers, were selected as the ADRA school sites. We required schools to be a minimum of one and a half hours' travel from the nearest district station/township. The Provincial Education Advisors (PEAs) and District Education Advisors (DEAs) advised on the schools' selection.

In 2009, the NRI team leader communicated officially with the Secretary of the National Department of Education (NDOE) seeking permission to implement the ADRA project in the nominated districts. An ADRA project proposal was submitted to the National Department of Education Ethics Research Committee for approval: this was granted. With NDOE approval, a letter was sent to the PEAs in East Sepik and Western Provinces seeking their permission to conduct the study in the selected districts. Both written and telephone communication, especially to Western Province, proved to be difficult for establishing initial contact with the education officers in these provinces. Therefore, in late 2009 as part of another project, a preliminary visit was made to the Ambunti-Drekirkir District to seek approval for the project from the PEA and the head teachers of the nominated schools. Such an arrangement could not be done with Western Province because no NRI project was current in Middle Fly during that period. A similar exercise was done in Western Province during the first ADRA project visit, which proved to be quite challenging but productive. Even though the District Education Advisor had only verbally been informed about the ADRA project in the Balimo area, he was willing to allow the study to proceed. He was given a copy of the letter written to the Western District PEA.

The teachers in the three school sites were also approached to seek their permission to participate in the implementation of the action research booklet. Two of the school sites involved their schools' communities in the discussions of the schools' participation in the study. The communities wanted to understand how the students would benefit from such involvement. Once they understood why the research was being conducted in their schools, they provided unreserved support for the duration of the study.

Implementation of the Research

The duration of the project is three years from mid-2009. We planned four visits to each district during 2010 and two for 2011. The purpose of the first four visits was to support and observe the teachers during the various stages of the action research cycle. The last two visits in 2011 were to assess the sharing of the action research process with colleagues and to gauge the sustainability of action research in the schools.

The teachers and the Standards Officers were enthusiastic and keen to participate in action research to solve professional learning issues in the schools. This method of research is encouraged in the implementation of the School Learning Improvement Plan (SLIP). However, it was found that the teachers had limited knowledge on how to carry out research using action research. The teachers found the step-by-step approach in an action research booklet developed for the project useful because it allowed for collegial discussion and sharing of ideas about the research cycle throughout the implementation process.

The NRI researcher was in a particular school for only a couple of days during each visit. However, the teachers were encouraged to continue working on some of the activities in the booklets while waiting for the researcher's next visit. Although some of the older teachers had completed some research units during their Diploma in Education Primary (In-service) (DEPI) courses and the younger population had done likewise in their diploma courses, their general understanding of research was limited. The teachers were advised that they normally had some useful data to handle, such as assessment records, data that could be analysed as part of their own action research projects, for example, to calculate improvements in students' learning as a result of changes to teaching strategies to address a particular teaching or learning problem. Few teachers retained systematic assessment records in all subject areas that could have been analysed, and the findings used to plan strategies to improve teaching and learning issues in the schools. Therefore, the action research projects principally relied on new data being collected on the particular teaching and learning issues identified during the action research cycle. Developing simple tests and questionnaires to collect data from the parents, students and/or teachers was a new skill to be developed for most of the teachers. Much guidance was given to the teachers by the researchers from NRI during the development of research instruments.

Teachers collected data during the time between the researchers' visits. Rudimentary data analysis approaches were explained to the teachers so that they could assess their outcomes appropriately. For example, some of the teachers were unsure of how to calculate percentages and how to use and interpret them in their action research. The researchers addressed such matters during their visits and usually the teachers became competent as a result. Drawing inferences and conclusions from the data were also skills in which the primary school teachers were not well-practised. Again, the researchers helped the teachers gradually through these processes. The final visits to the schools and districts for the project will enable the team to assess whether the absence of such skills can be addressed beyond the project, otherwise sustainability may be compromised.

Preliminary Findings

Action research is encouraged by the NDOE as part of the SLIP program. Within SLIP, teachers are expected to identify school issues and develop strategies to address those using available resources. In the Middle Fly District, this was the primary reason for the Standards Officer's interest in supporting the trial of the action research booklet. The head teachers were also supportive of action research because, through their experience with the implementation of the action research booklet, they were able to identify their own teaching and learning issues, develop strategies to foster improvement and actually see the result of improvement. They were able to assess how their planned strategies addressed their issues and enhance them or develop new strategies to improve the professional learning situations. They were unable to do this before

the project, because they were uncertain of how such reflective and collaborative research was undertaken. Furthermore, the head teachers are currently implementing SLIP in their schools and so the project's action research plan and booklet complements the SLIP program. In this particular case, the teachers work through the research cycle systematically using the booklet as a guide with some support from the researchers. This allowed for a systematic learning of how to carry out such research in their particular schools. Participation in the action research cycle developed awareness among teachers about how they could solve professional learning issues themselves. This gave staff the confidence to tap into their own school's resources and other available materials to achieve professional learning without relying on outside 'experts' or attending workshops in locations distant from their schools.

As the two school districts are at different stages of implementation of the action research project, only the Middle Fly teachers have undertaken the sharing with colleagues' session. This is largely due to a delay in ADRA work in the Ambunti-Drekirkir district due to an unexpected change in the research team. However, at these different stages, it can be argued that the teachers found the experience of participating in the action research rewarding. In particular, the action research booklet was valuable as a guide and source of reference while the researcher was away. The teachers from the Balimo school sites used it during the sharing with colleagues' sessions. They were able to competently share their experiences about action research with teachers from the two primary schools in the Balimo Station and the ten community and primary schools around the lagoon area of Balimo. The planning and program of the sharing sessions was left entirely to the teachers from the school sites and the host schools. All the teachers were able to walk, paddle, or boat to the two different workshop venues during the two-day sharing sessions. All the schools contributed financially and in-kind towards lunch for the two-day workshop.

The research booklet has been used well by the teachers from the ADRA school sites to support their colleagues to implement the portion of the SLIP which encourages action research at the school level. Recent reports from the Standards Officer who was involved in the implementation of the action research booklet but is now based in Daru, show that the current Standards Officer based in Balimo is supporting the implementation of the action research method of research in the schools who participated in the action research sharing sessions in March 2011. The staff now meet every Friday afternoon to discuss the progress in the action research cycle in their particular school with professional support from the ADRA school site teachers on action research. Encouraging feedback from the provincial education headquarters in Daru indicates that the new senior primary standards officer is supportive of the use of the action research booklet by all primary and community school teachers in Western Province to solve their own professional learning issues. This suggests that the action research booklet has the potential to be used by interested stakeholders as a guide and source of reference in the absence of researchers or outside 'experts' to solve school level professional learning and other issues. The final stages of the project and the associated analyses may confirm this.

Conclusion

The preliminary findings from the project indicate that action research is a viable means of professional learning in these remote districts of PNG. The survey data analyses will be able to show the extent to which these districts and their schools and teachers reflect others in the provinces. To the extent that they do, this will or will not support the conclusion that action research is potentially viable, as is encouraged in SLIP, for professional learning in remote areas and, by inference, in PNG in general. The project, however, provides a level of support for the process of action research through its visits that is not envisaged in any sustainable form of using action research. The intention is to refine the action research booklet for primary schools so that it can be used in the normal circumstances of school life where external support is provided through the Standards Officers, cluster etc.

As noted previously, Guy (1994) argued nearly two decades ago for the advantages in the use of action research in educational research in PNG and that this form of reflective practitioner research has benefits for what is called nowadays, 'professional learning'. Our previous work *Impact Study 6 Curriculum Reform Implementation Project* (Evans, Guy, Honan, Kippel, Muspratt, Paraide & Tawaiyole, 2009) in which Guy was involved also supports our view that the potential exists for action research to be useful for teachers' professional learning. At this stage, it appears that our current project can provide further evidence for this and yield a tangible outcome in the form of an action research guide for use in PNG schools as they work to provide universal basic education in the nation.

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CHAPTER 8: CONSTRUCTING A PEDAGOGICAL FRAMEWORK FOR ENGLISH WRITING: IMPLICATIONS FOR UNIVERSAL BASIC EDUCATION

Rachel E. Aisoli-Orake

Introduction

Teaching writing skills in English as a second or foreign language to non-native speakers of English is a challenge faced by English teachers in non-English-dominant countries of the South Pacific, Asia, Africa, Europe and South America. The challenges that English teachers encounter in non-English-dominant countries are unique and they relate to a multiplicity of factors that are associated not only with teaching writing skills but also with the difficulties students encounter when learning to write in English as a third, fourth or fifth language. Non-native English speakers (NNES) or second-language (L2) writers who come from diverse linguistic and cultural backgrounds may have special needs because the nature and functions of discourse, audience and persuasive appeals often differ across linguistic, cultural and educational contexts (Silva, 2001). There is an additional impediment:

... most second-language writers are still in the process of acquiring syntactic and lexical competence — a process that will take a lifetime. These differences are often a matter of degree, and not all second-language writers face the same set of difficulties. While some native speakers of English may face similar difficulties, those experienced by second-language writers are often more intense (Silva, 2001, p.230).

Due to difficulties experienced by L2 writers, research-based recommendations by language teaching researchers in education have urged teachers of writing and program administrators to acknowledge the presence of L2 writers in writing classes, to understand their characteristics, and to develop instructional and administrative practices sensitive to their linguistic and cultural needs (Silva, 2001).

Second-Language (L2) in Papua New Guinea

Papua New Guinea (PNG) is a nation of diversity in geography, culture and language. A number of people have reported that there are more than 800 indigenous languages (Litteral, 2000 & 2005) and numerous dialects, which are spoken by 7 million people. This also includes the official language (English) and two *lingua francas* ('Pidgin' that is referred to as 'Tok Pisin' and 'Hiri Motu') that are widely used to facilitate communication among people of diverse linguistic backgrounds. According to Litteral (2005), PNG leads the world in linguistic diversity. A third of the world's total languages are spoken in the country.

Despite the country's cultural and linguistic diversity, English has been the medium of instruction at all levels of the education system since the colonial era. The policy of Australia's colonial administration was for English to be used as a medium of instruction in schools. This was because, *inter alia*, it saw it as a catalyst for westernising indigenous Papua New Guineans (Kukari, 1992). This policy was changed, beginning in the 1990s, due to concerns about the cultural relevance and the utility of English in the daily lives of the majority of Papua New Guineans. This resulted in a recommendation by the Education Sector Review of 1991 for the

curriculum and medium of instruction, particularly during the early years of a child's life, to be closely connected to the culture of the community the child comes from. This led to a reform "to include vernacular preparatory schools [called Elementary Education] in the formal system, in order to improve and increase access to initial education" (Litteral, 1999, p 3). Litteral (2005) reported that PNG has over 435 languages used for initial education, a situation unique in education.

PNG's school curriculum outlines teaching and learning strategies that identify the knowledge, skills, attitudes and values that all students should be able to demonstrate as a consequence of following the national syllabuses which have been developed for Elementary Prep to Grade 12. The National Curriculum acknowledges the goals and directive principles embodied in the National Constitution and 'The Philosophy of Education for PNG' (Department of Education, 1993).

Method

Six *multi-site case studies* involved interviews, observations and document analysis. These three data collection strategies enabled the researcher to focus on obtaining in-depth detailed knowledge of teaching writing in English at the selected sites. At each site, two sources of data were obtained, *lesson observations* and *in-depth interviews*. Lesson observations provided descriptions of teaching practices in the classrooms while in-depth interviews provided details from teachers about their experiences, in particular, actions relating to teaching writing skills and using the Upper-secondary Language and Literature (L&L) syllabus. A *document analysis* of the PNG Upper-Secondary L&L Syllabus, particularly the writing skills objectives, was conducted by the researcher. The analysis examined the objectives of the mandated pedagogy, the writing skills objectives, teaching guidelines, and observed teaching practices in relation to contemporary theories of ESL writing pedagogy. Data from three different sources (interviews, observations and detailed field notes, and document analysis) informed the study.

The study was conducted in PNG upper-secondary schools that have Grades 11 and 12. Participants were teachers involved in teaching writing skills based on the PNG Upper-Secondary L&L Syllabus. The study had the following objectives:

1. To compare the writing skills objectives outlined in the PNG Upper-Secondary L&L Syllabus with observed writing skills lessons.
2. To compare teachers' current pedagogical approaches to teaching writing skills with the mandated pedagogical guidelines outlined in the PNG Upper-Secondary L&L Syllabus.
3. To compare the observed writing activities with the teaching guidelines outlined in the PNG Upper-Secondary L&L Syllabus.

Using *stratified purposeful sampling*, upper-secondary schools were categorized on the basis of their Grade 12 students' average achievement scores in the PNG National Grade 12 English Written Expression Exam (WEE) Report for 2004 (DoE Measurement Service Unit, 2005). This document reports the mean examination score of the cohort of Grade 12 students at each school. The six case study schools were selected using purposeful stratified sampling. Sixty-five schools were ranked from highest to lowest according to the mean scores obtained in the 2004 National Grade 12 English WEE. Three categories were identified: *above average*, *average* and *below*

average scores. Within each of these categories, two schools were selected to obtain variation according to the geographical location and students' cultural/ethnic and socio-economic backgrounds.

Seven Grade 11 English teachers participated in the six case studies and they were all Papua New Guineans. Each site had a teacher who volunteered to participate with the exception of one site (case study #4) which had two teachers. The majority of the English teachers at each case study site were females, with only one or two males. This was also evident with the seven participants in this study who were all females. These teachers had either a diploma (Dip) and/or a degree in Education (BEd) with the exception of one teacher who had a degree in another field, Language and Communication Studies. Of the six BEd teachers, four were trained English teachers while the other two teachers were trained Drama and Expressive Arts teachers. Overall, their teaching backgrounds ranged from novice/new graduate English teachers to senior/experienced English teachers (1–14 years) and reflected a wide range of teaching practices and experiences in writing instruction.

Interviews with teachers

Each teacher was interviewed twice, prior to the first lesson observation and after the last lesson observation. The first interview focused on the teachers' life history that led to her becoming an English teacher and her experiences. The second interview focused on the teachers' reflection on their teaching experience (teaching practices and using the syllabus) as an English teacher at the upper-secondary level. The questions elicited definitions of the meanings that shaped the teachers' knowledge and their behaviour in the classroom. Each interview lasted approximately 30 minutes and was tape-recorded. Comprehensive field notes were taken.

Observation instrument

One to two weeks of lesson observations (3–6 lessons, each of 50 minutes duration) were conducted with each teacher-participant between their first and second interviews using a classroom observation manual. This manual was based on the New South Wales Quality Teaching Model (NSW Department of Education and Training (DET), 2003a) and its Classroom Practice Guide (NSW DET, 2003b).

The NSW QTM was developed by James Ladwig and Jennifer Gore from the University of Newcastle in consultation with the NSW Department of Education and Training (NSW DET, 2003a). The model is based on a substantial body of research into pedagogical practice and its relationship to student achievement. Original research was conducted at the University of Wisconsin in the United States by Newmann and his colleagues (e.g., Newmann & Associates, 1996). Newmann's ideas were adopted by the Queensland Department of Education. From there, a modified version of Newmann's work was developed for use in NSW. The QTM now has been adopted for use in schools in the Australian Capital Territory as well. The authors of the QTM argue that this model of pedagogy can be applied across all years of schooling and in all curriculum areas (NSW DET, 2003a, p.4).

The model had been developed as a framework for teachers' professional self-reflection and for school improvement practices. "With the aim of improving pedagogy and hence student learning,

the model is available for use by schools and teachers to focus discussion and critical reflection on the teaching and assessment practices that take place in classrooms” (NSW DET, 2003a, p.4). The model had been designed to cater for a wide variety of student and teacher individual differences across different approaches to teaching.

The NSW Quality Teaching Model consists of three dimensions which form the basis for pedagogy: intellectual quality, quality learning environment, and significance. The following is a brief overview of the three dimensions of the NSW model of pedagogy:

1. *Intellectual quality* refers to pedagogy focused on producing deep understanding of important, substantive concepts, skills and ideas. Such pedagogy treats knowledge as something that requires active construction and requires students to engage in higher-order thinking and to communicate substantively about what they are learning.
2. *Quality learning environment* refers to pedagogy that creates classrooms where students and teachers work productively in an environment clearly focused on learning. Such pedagogy sets high and explicit expectations and develops positive relationships between teachers and students and among students.
3. *Significance* refers to pedagogy that helps make learning meaningful and important to students. Such pedagogy draws clear connections with students’ prior knowledge and identities, with contexts outside of the classroom, and with multiple ways of knowing or cultural perspectives.

Each of the three dimensions of pedagogy can be described in terms of a number of elements. Each element has been selected and defined on the basis of research linking the practices or qualities of the element to improved student learning outcomes, and the practical capacity of each element to act as an indicator of the underlying dimension.

Elements comprising Intellectual Quality

- Deep knowledge: key concepts and ideas in the learning area and relationships among the concepts are presented to students.
- Deep understanding: students demonstrate meaningful understanding of these key concepts and the relationships among them.
- Problematic knowledge: students address multiple perspectives or solutions to problems and recognise that knowledge is constructed and therefore is open to question.
- Higher-order thinking: students are engaged in thinking that requires them to organise, reorganise, apply, analyse, synthesise and evaluate knowledge.
- Meta-language: teachers explicitly name and analyse the specialist language of a learning area and comment on language use and how language is used differently in different contexts.
- Substantive conversation: students regularly engage in sustained conversations (in oral, written, or artistic forms) about the concepts and ideas they are encountering.

Elements comprising Quality Learning Environment

- Explicit quality criteria: Students are provided with explicit criteria for the quality of the work they are to produce.

- Engagement: Most students, most of the time, are seriously engaged in the lesson, and display sustained interest in and attention to their work.
- High expectations: Teachers communicate high expectations to all students and encourage students to take academic risks.
- Social support: Teachers encourage strong positive support for learning, and there is mutual respect among teachers and students. The classroom is free of negative personal comment or put-downs.
- Students' self-regulation: Students demonstrate autonomy and initiative so that there is little need to discipline misbehaving students.
- Student direction: Students exercise some direction over the activities they undertake and the manner in which they complete these activities.

Elements comprising Significance

- Background knowledge: Lessons regularly and explicitly build on students' background knowledge in terms of prior school knowledge as well as aspects of their private lives.
- Cultural knowledge: Lessons regularly incorporate the cultural knowledge of diverse social groupings, such as economic class, gender, ethnicity, race, sexuality, disability, language and religion.
- Knowledge integration: Lessons regularly demonstrate links between and within learning areas.
- Inclusivity: Lessons include and publicly value the participation of all students across the social and cultural backgrounds represented in the classroom.
- Connectedness: Lessons rely on the application of school knowledge to real-life contexts or problems, and provide opportunities for students to share their work with audiences beyond the classroom and the school.
- Narrative: Lessons employ narrative accounts within lessons (as content or as a process) to help student understanding.

The researcher studied the observation-scoring manual that coded classroom practice in line with the dimensions of the QTM. Additionally, she observed the video of the Classroom Practice Guide Package (NSW DET, 2003b) which showed a number of lessons being taught and accompanied with notes illustrating the scores given for the QTM elements evident during each lesson. Table 1 provides an overview of the lessons observed. During each lesson observation, field notes were taken on aspects of the dimensions and elements of the QTM. Copies of lesson plans and activity worksheets/handouts were obtained from the teachers after lessons were observed.

Interview data

The following is a summary of seven teachers' responses during the interviews:

Background and teaching experiences of teachers

Of the seven teachers, six were trained secondary school teachers, four were initially trained as English teachers, while the other two were trained in other subjects. The three teachers who were

not trained English teachers reported that they began teaching English when there was a shortage of English teachers in the L&L course at their school.

Students' knowledge of English

According to the teachers, the students in their classes were all Papua New Guineans. Most students spoke English as a third, fourth or fifth language. Most teachers said that their students' performances and competence in English in general and more specifically in writing in English were unsatisfactory; that is, students were still learning how to master writing skills. Their students' unsatisfactory performances could be attributed to two main reasons: the diversity in the students' cultural and linguistic backgrounds and the impact of the current education structure and curricular reforms, for example, a too quick shift in the language of instruction from the local vernacular to English in grade 3 in the lower-primary school.

Table 1: Summary of Lesson Observations and Topics

#1	1	2 wks/ 6 lessons	Descriptive Composition (Narrative Writing)
#2	1	1 wk/ 4 lessons	Letter to the Editor (Structure, Letter of Complaint)
#3	1	1 wk/ 2 lessons	Summary Writing (A Summary Paragraph)
#4	2	1 wk/ 3 lessons 1 wk/ 2 lessons	Poetry Writing (Elements of Poetry) Response to Literature (Tchr. Feedback); and, Argumentative Essay (Tchr. Feedback)
#5	1	1 wk/ 5 lessons	Argumentative Essay (Developing the Essay)
#6	1	1 wk/ 2 lessons	Summary Writing (Response to a Newspaper Article)
(n = 7)		Total: Observed Lessons = 24	

Location of schools

Many of the upper-secondary schools in PNG are located in the rural and remote areas of the country that have limited access to teaching and learning resources compared with those schools located in the urban areas. PNG's rugged terrain, inadequate infrastructure, and limited school funding are major factors that hinder the accessibility of learning and teaching resources. Furthermore, students from rural and remote upper-secondary schools cannot afford, or have

limited or no access to, services and resources that might enhance their learning, such as public libraries, computers and Internet access.

Effective and ineffective teaching strategies

Writing instruction strategies varied: a student-centred approach in an urban city Catholic school, assisting students by providing points or ideas for both sides of an argumentative essay topic in a new private school in an urban town, and taking a step-by-step approach in teaching any English topic in a rural Catholic agro-technical school. All the English teachers were confronted with difficulties in maintaining their students' interest during their English writing lessons.

The teachers' instructions and explanations had to be very clear and the English vocabulary used had to be appropriate for the students' level of understanding. The teachers claimed that their writing lessons were most effective when they took on a guided step-by-step approach because this assisted the students through the different writing stages towards developing the writing task.

Most teachers thought that pre-writing activities done in small groups were more effective than individual students working alone. Working in small groups enabled the students to share, enhance and develop deep knowledge and understanding of the topic which they would later write about. When assigning writing exercises or tasks, the teachers chose topics that were related to their students' cultural context and prior knowledge. A case study #5 teacher stated that when it comes to assignments, she uses most recent information and information related to the school community. One of the teachers kept a collection of copies of her past students' writing which she uses to illustrate a particular writing style or aspects that are relevant to her writing lessons.

Since the students were non-native speakers of English, they were encouraged to read a variety of English literature (books, magazines, newspapers) in order to be exposed to different writing styles/formats and to expand their English vocabulary. Two of the teachers encouraged students to enter public essay writing competitions (e.g. Pacific Youth Essay Competition) to practise their writing skills. Another teacher asked her students to keep a personal journal and write anything in it to practise using English vocabulary.

Most students do acknowledge the importance of English in the L&L course because they are aware that their English speaking and writing skills are important for learning and communicating in other subjects; as the medium of instruction and communication in tertiary institutions and the workplace; and as the global language of communication. However, there were a number of factors which the teachers noted impeded their students' willingness to practise writing in English.

Impediments to students' success in writing in English

For most PNG students, writing is not part of their traditional culture. Oral communication plays the major role in PNG's traditional culture. Events were spoken about repetitively from one generation to the next through story-telling, legends and songs, and illustrated in artwork such as wooden carvings and story-boards, paintings and dances. Writing was introduced into PNG after the arrival of the first western missionaries as part of their literacy program to enable Papua New Guineans to read the Bible.

At present, writing skills are formally learnt by most PNG children once they begin schooling at the elementary level. The language of instruction in elementary schools in the rural areas is mostly in the local vernacular, while the lingua franca or national language ('Tok Pisin' [pidgin]) is the language of instruction in the urban elementary schools. Most of their students only practise English literacy skills (speaking, reading, and writing) when they attend classes. After classes and at home most students communicate with friends and family members in other languages; that is, 'Tok Pisin' and their vernacular. Only a small number of private International Education Agency schools in the urban towns of PNG use English as the language of instruction in their curriculum from elementary classes up to grade 12.

'Tok Pisin' does not align closely with formal English. Most students' expression (oral and written) in the English language is influenced by 'Tok Pisin'. Students did not read many books written in English. Reading a variety of books that are written in English would enable the students to become familiar with figurative language in English, for example, the use of idioms. Most students are not critical when writing an argumentative essay. Students tend to be passive in English classes, not thinking about how to use English to help them find a suitable career. Teachers lack sufficient time to work closely with students on the basics of writing in English. Teachers require updated resources to help students read and write in English.

Some students are not interested in becoming competent in writing in English, but want to do well in other subjects (for example, Science, Social Science, History and others) in which English is the medium of instruction and which involve writing tasks. Students complain that there is too much writing in the English course and that they do not like instructions about grammar, tenses, vocabulary, spelling and punctuation. The teachers also made reference to the students' *strengths* in their writing lessons in that their students do better in descriptive writing than in argumentative writing.

Teachers' views of the Upper Secondary L&L Syllabus and their preparation to teach the syllabus

Only one teacher indicated that her teacher-training program had a course relating to the implementation of the L&L syllabus guidelines into the English teaching program. The L&L Departments of all the upper-secondary schools in the country are provided with students' resource booklets for the different teaching themes for each term. The teachers' comments about teaching resources varied.

Although some teachers felt that the L&L Syllabus guidelines did meet the learning needs of their students, others identified weaknesses: the syllabus guidelines were very broad when trying to incorporate them into the teaching program; teachers are given limited freedom to select issues/topics that relate to the students' learning context, such as PNG poetry or literature; and limited time was given to teaching, speaking and writing skills in English.

The trained English teachers claimed that the only course in their teacher-training program which was relevant to the upper-secondary L&L Syllabus was the English literature course. The teachers indicated that their teacher-training program did not prepare them well for the challenges that they confronted in the classroom at upper-secondary level. The difficulties

included implementing the syllabus guidelines within the teaching program; teaching academic writing; teaching creative writing and administering writing assessment. The teachers said that strategies to overcome these difficulties and strategies for improving feedback on writing should be included in the English teacher-training programs at universities in PNG.

Lesson observations

The researcher spent a week at each case study site (except for case study site #1). The number of writing lessons observed at each site was determined by the teacher's teaching program for the week. Within the week of lesson observations, the minimum number of writing lessons observed was two and the maximum was five. The duration of each lesson was 50 minutes.

There was a wide range of writing skills topics that were taught across the six case studies: descriptive (narrative) writing, argumentative writing, poetry writing, response to a newspaper article (letter to the editor/letter of complaint), and summary writing. The Grade 11 L&L Syllabus course structure for term four indicates that the theme is 'culture'. This implies that the content of what is taught could relate to the learning context or particular cultural aspects of the PNG society. The writing skills activities focused on narrative, poetry, and drama/script writing.

The range of writing skills (narrative and poetry) and the instructions for the different genres enabled the researcher to observe the quality of the teaching content, the nature of the learning environment, and the type of pedagogical strategies, including the responses from the students.

Table 2: Lesson Observation Ratings by QTM Dimensions and Associated Elements

<i>Dimensions/Elements</i>	<i>Ratings for each teacher</i>							<u>M*</u>
	1 (6)	2 (4)	3 (2)	4T1 (3)	4T2 (2)	5 (5)	6 (2)**	
<i>1. Intellectual Quality</i>								
Deep knowledge	4	3	3	3	4	5	3	(3.6)
Deep understanding	4	3	3	3	3	3	2	(3.0)
Problematic knowledge	3	4	2	2	3	3	2	(2.7)
Higher order thinking	3	4	2	2	3	3	2	(2.7)
Meta-language	4	3	3	4	2	3	3	(3.1)
Substantive communication	3	3	2	3	3	3	4	(3.0)
(Teachers' MEAN scores - Dimension)		(3.5)	(3.3)	(2.5)	(2.8)	(3.0)	(3.3)	(2.7)
<i>2. Quality Learning Environment</i>								
Explicit quality criteria	4	4	3	3	4	4	2	(3.4)
Engagement	4	4	3	4	3	5	5	(4.0)
High expectations	4	4	4	4	4	5	4	(4.1)
Social Support	4	5	3	4	4	4	2	(3.7)
Students' self-regulation	5	5	3	4	4	4	3	(4.0)
Students' direction	3	1	1	1	1	1	1	(1.3)
(Teachers' MEAN scores - Dimension)	(4.0)	(3.8)	(2.8)	(3.3)	(3.3)	(3.8)	(2.8)	

Table 2 (Cont'd)

Dimensions/Elements	Ratings for each teacher							<u>M*</u>
	1	2	3	4T1	4T2	5	6	
	(6)	(4)	(2)	(3)	(2)	(5)	(2)**	

3. Significance								
Background knowledge	3	3	3	3	4	4	3	(3.3)
Cultural knowledge	1	1	2	1	3	4	1	(1.9)
Knowledge integration	2	1	4	3	3	1	2	(2.3)
Inclusivity	5	5	3	3	5	5	5	(4.4)
Connectedness	4	4	4	3	3	4	3	(3.6)
Narrative	5	4	1	1	4	4	1	(2.9)
(Teachers' MEAN scores - Dimension)	(3.3)	(3.0)	(2.8)	(2.3)	(3.7)	(3.7)	(2.5)	

M Mean for each element

** Number of lessons observed for each teacher; there was one summative rating for each element across the lessons observed.

Table 2 shows the scores for the seven teachers across the three dimensions and the associated elements of the Quality Teaching Model: Intellectual Quality, Quality Learning Environment, and Significance. Table 3 shows teachers' scores on the QT dimensions combining the elements of each dimension.

Lesson observation data

After the completion of lesson observations, a summative score was given for each element on the Lesson Observation Coding Sheet. The scoring scale (1–5) was based on evidence of the elements in the observed lessons: (1) = *no evidence* of an element at all, or *not applicable*, to (5) = *substantial evidence* of the element is observed or present. The observation scores indicate the extent to which the elements of the three dimensions of the QTM were evident in the observed lessons.

Table 2 presents lesson observation scores for each of the QTM dimensions for each teacher in the study. Table 3 presents the same data but with the scores for the elements for each QT combined for each dimension. The results in Table 2 indicate that there were differences in the scores for each teacher within each dimension of the QTM. The majority of the scores within the 'Quality Learning Environment' dimension were the teachers' highest scores, except for CS4T2. Within the 'Quality Learning Environment' dimension, CS1T had the highest score of 4.0, which indicated that the quality of her learning environment was high in comparison to the other teachers, particularly CS3T and CS6T who both had scores of 2.8.

Table 3: Lesson observation scores and means for each teacher using the QTM dimensions (combining the elements for each dimension)

	<i>Teacher</i>	<i>Intellectual Quality</i>	<i>Quality Learning Environment</i>	<i>Significance</i>	<i>QTM Mean**</i>
CS1T (6)*	3.5	4.0	3.3	3.60 (0.36)	
CS2T (4)	3.3	3.8	3.0	3.36 (0.41)	
CS3T (2)	2.5	2.8	2.3	2.53 (0.25)	
CS4T1 (3)	2.8	3.3	2.3	2.80 (0.50)	
CS4T2 (2)	3.0	3.3	3.7	3.33 (0.35)	
CS5T (5)	3.3	3.8	3.7	3.60 (0.26)	
CS6T (2)	2.7	2.8	2.5	2.67 (0.15)	
<i>Mean**</i>		3.02	3.43	3.00	
<i>QTM Dimension</i>		(0.38)	(0.48)	(0.52)	

* number of lessons observed.

** number in parenthesis is the standard deviation for the mean.

Some of the factors which might explain these differences included the schools' location, students' socio-economic backgrounds, and the teachers' teaching experiences. CS1T was a more experienced English teacher (12 years) than CS3T (1 year) and CS6T (5 years). CS3T was a new graduate and was in her first year of teaching while CS6T was not a trained English teacher. CS1T's school was located in the city and the students' socio-economic backgrounds were better than those of CS3T and CS6T whose schools were located in a town (newly established) and a rural area, respectively.

Within the 'Intellectual Quality' dimension, CS1T also had the highest score of 3.5, which indicated that her lessons focused on producing deep understanding of concepts, skills and ideas and actively involving her students in higher-order thinking. Since most of CS1T's students come from affluent family backgrounds with high income and high standard of living, it is likely that they have been exposed to educational resources that enhanced their learning (e.g., textbooks, TV, public library). CS1T's students' educational competence may have determined her careful preparation and approach. In contrast, CS3T (a new graduate) had the lowest score of 2.5 for this dimension. CS3T stated during the interview that her students were always shy and reluctant to answer questions or speak openly in class.

Finally, the 'Significance' dimension contained most of the low scores, except for CS4T2 and CS5T who had scores of 3.7. CS3T and CS4T1 both had the lowest score of 2.3. CS3T, a new graduate, indicated during the interview that she had great difficulties in teaching her students who constantly had to be guided in lesson tasks and activities. Her students were not critical in their reasoning and in analyzing given tasks. CS3T felt that her students' previous English teachers did not teach the English subject well and this had affected her students' current interest in and approach to learning English writing skills. For CS4T1, it was the topic, poetry, which did

not capture the interest of her students. The students did not have the creative and imaginative minds required for poetry writing. She argued that creative and imaginative thinking was not a significant part of the cultural life in Papua New Guinea and therefore poetry lessons lacked significance for most students.

Overall, the lessons observed did not rate highly on QT elements or their dimensions. Only one teacher scored a mean of 4 (out of a possible 5) for one dimension. As Table 3 shows, the average mean for the seven teachers were not high: $M = 3.02$ for Intellectual Quality, $M = 3.43$ for a Quality Learning Environment, and $M = 3.00$ for Significance. Three teachers (CS3T, CS4T1, and CS6T) had low ratings across the three dimensions. Averaging across the teachers, there were mean scores less than 3.0 for Problematic Knowledge ($M = 2.7$) and Higher order thinking ($M = 2.7$) within the dimension Intellectual Quality, for Students' direction ($M = 1.3$) within the dimension Quality Learning Environment, and for cultural knowledge ($M = 1.9$), knowledge integration ($M = 2.3$), and narrative ($M = 2.9$) within the dimension of Significance.

Analysis of the interview and observation data

Examination of the teacher interviews and the lesson observations has revealed at least three areas of deficiency in teaching English writing skills in PNG upper-secondary schools. First, current practices for teaching English writing skills in PNG are affected by an out-of-date syllabus for the English (L&L) course. The theoretical foundation behind the syllabus is the proposition of "process writing" which was developed in English speaking countries. As it was imported into PNG where English is the third, fourth or fifth language, its validity and effectiveness are questionable. The teachers in this study point out that many PNG English teachers have called for a change in theoretical foundation and teaching practice.

Second, because of the outdated syllabus, the current practices for teaching English writing skills have not been able to accommodate the cultural reality of PNG students. The instructions about English writing and content of English writing are not closely associated with the students' lives outside school. For most students, writing is not part of their daily lives and they are only exposed to writing in school. Many students in upper-secondary schools are not motivated to learn to write in English. The quality of students' work is far below teachers' expectations. The learning outcomes do not match the objectives of the English syllabus. The unrealistic objectives of the curriculum have been criticized by teachers.

Third, teachers complained that the existing English syllabus does not provide any implementation strategies. Teachers are expected independently to interpret how to use this syllabus to direct their teaching practice in schools that are diversified in geographical location and cultural norms. The teachers spoke of difficulties in adapting syllabus guidelines into their teaching program. They would welcome a pedagogical framework to support syllabus documents. Effective writing instructions for students from diverse cultural and linguistic backgrounds require a variety of pedagogical techniques.

Findings from the interviews and the lesson observations provide insights into the English teachers' writing instruction practices in upper-secondary schools in PNG. The findings point to the desirability of a pedagogical framework to provide specific teaching guidelines and strategies that focus on enhancing writing instructions to improve students' writing skills.

Pedagogical Framework for Teaching Writing in English in Papua New Guinea

Students from diverse cultural and linguistic backgrounds need specific and appropriate instruction to write in English. There should be a variety of writing activities that take into account students' prior learning. In light of the findings, the researcher proposes a new pedagogical framework with four domains and associated components: Intellectual Stimulation; Productive Writing Environment; Cultural Relevance to Writing; and Human Development. This framework is shown in Table 4.

Intellectual stimulation

The 'Intellectual Stimulation' domain involves teaching content that facilitates the learning of English writing skills. Within this domain, instructions and corresponding cognitive processes serve as the basis for designing and selecting appropriate teaching and learning materials. In addition, instructions need to be clear in defining the intellectual skills that the students are required to acquire for the writing tasks at hand.

ESL students in upper-secondary schools in PNG are expected to learn different writing genres in the L&L course using a language which is their second, third, or fourth language. Language teaching is most effective when learners are presented with meaningful language in context. Furthermore, the integration of language (English) and content (PNG related issues/topics) in teaching is appropriate because it enables the students to learn a second language in itself and to learn writing skills in general.

Tasks should be selected according to a hierarchy organised by the complexity of the tasks and students' ability. The primary significance of the hierarchy is to identify prerequisites that should be completed to facilitate learning at each level. Prerequisites can be identified by doing an analysis of the learning task. Learning hierarchies could provide a basis for the sequencing of instructions. The domain of 'Intellectual Stimulation' consists of three components: purposeful stimulation, authentic communication and meaningful communication.

Table 4: Pedagogical Framework for English Writing in PNG Upper- Secondary Schools

	Domains	Components
1.	Intellectual Stimulation	Purposeful stimulation Authentic communication Meaningful information
2.	Productive Writing Environment	Teachers' preparation Students' interaction Group collaboration
3.	Cultural Relevance	Understanding localization Promoting globalization Encouraging integration among disciplines
4.	Human Development	Recognition of difference Knowledge construction Critical evaluation

For purposeful stimulation, it is important to consider what each task or activity will require of students. Teachers should take time to activate students' relevant background knowledge. Any stimulation should be related to a clear pedagogical purpose so that the stimulation gets students' attention. Helping students to make links between new information and information they have stored in long-term memory is one of the most significant implications of the information processing model (Woolfolk & Margetts, 2008).

The content of lessons should reflect authentic communication. It is important to link learning activities within the school and classroom to the naturally occurring communication that occurs outside the school. One of the problems identified in the current research was that writing topics were not relevant to students' lives outside school. Students were asked to write in English for the sake of writing. Students should understand the purpose of writing and enjoy the challenge of communicating in English in real life situations. In countries like Australia, communicative language teaching has been commonplace for decades. In PNG, it is a relatively new phenomenon. Although some teachers are attempting to make their content more communicative, for instance, having students imagine they are traveling around Australia or shopping in London, such content is artificial because few PNG students will go to Australia or Britain. Authentic communication should be linked to students' lives in PNG.

Writing usually involves an attempt to make meaning. There is an increasing focus on *the social nature of the meaning making process* (e.g., Lave & Wenger, 1991; Vygotsky, 1978). From this perspective, learning is a dialogue, a process of internal as well as social negotiation. Human beings are unique information processors who make meaning from their experience.

Productive Writing Environment. The domain of productive writing environment involves teaching instructions that support the learning of English writing skills. Teaching should be more effective when students are engaged in activities within a supportive environment and receive guidance from the teacher using appropriate physical, cultural, and psychological tools.

Within PNG's diverse linguistic and socio-cultural context, students cannot be understood independently from the social and cultural forces that shape them. Instructions should enable students to participate in meaningful writing tasks and conversations with other students who share their interests. Conceptual and cultural learning can occur through conversation. Vygotsky (1978) proposed that there is a close relationship between the use of language as a cultural tool in social interaction and the use of language as a psychological tool providing the resources for individual thinking. This socio-cultural view of learning sees as central the relationship between learning and the social situations in which it occurs. For Vygotsky (1978), talk is not simply a mirror on a learner's inner thought processes, but actually constructs and shapes the learner's thinking.

Effective teaching helps students to learn. Instructions enable students to learn to write by working with a more knowledgeable person (usually a teacher or a more advanced student) on the skills and knowledge needed to perform specific purposeful action. Students learn by gradually appropriating the teacher's goals and purposes for writing, as well as the appropriate language forms in the process of the writing activity and through feedback on writing. Appropriation occurs in what Vygotsky (1978) termed the 'zone of proximal development'

(ZPD), that level of knowledge between normal student performance and what a student is capable of attaining with expert assistance.

Teachers should maintain high expectations for all students as well as provide scaffolding to assist students to complete tasks. However, expectations should not be unrealistic and beyond students' capability because students will lose motivation if they are not able to reach goals. Students should have the knowledge and skills required for the task. Teachers should provide information and support if and when requested by the students. Teachers should establish a supportive learning environment where students are given challenging tasks but have the support and help of the teacher and other students to surmount challenges.

Students should be encouraged to interact with each other. They should be allowed to work on tasks in small groups after the teacher has modeled the activities that should be occurring. The teacher assists as needed but does not dominate the groups. Teachers sequence teaching activities, provide support and guidance, and challenge students to extend their learning. Group collaboration can be used to achieve several outcomes: helping students explore the personal relevance of content; making students more active participants in learning about different writing genres; improving social skills; and giving teachers insight into what students think or believe. Collaborative group work should be encouraged. Students work together to achieve a goal and each member is accountable for the final product. This organizational structure should provide a setting for Vygotsky's zone of proximal development where students can be helped to learn with the assistance of a more capable peer.

Cultural relevance This dimension involves teaching strategies that help motivate the learning of English writing skills. Learning is a situated and contextualized enterprise. Learning happens at a specific time and in a specific place, and the characteristics of that time and place matter greatly in how students learn and develop (Wertsch, 1985). Teachers of English writing should recognise that cultural experiences affect students' values, pattern of language use, and interpersonal style. Students are likely to be more responsive to a teacher who affirms the values of their home culture. In the multicultural environment of PNG schools, it is important that teachers promote regional-ethnic harmony and respect for different cultural values.

Teachers should understand that English writing, as a learning process, cannot be separated from its cultural context. Unfortunately, many current learning activities involve knowledge that is abstract and out of context. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge. Linking English writing to the social and cultural contexts of PNG should be a key consideration when selecting teaching strategies. There are three components of the Cultural Relevance within the proposed pedagogical framework: understanding localization, promoting globalization, and encouraging integration among disciplines.

Effective teachers understand their students' backgrounds and abilities and are aware of their individual effort and achievement. Students should be given the opportunity to write about local issues with which they are familiar. As Vygotsky pointed out, human learning cannot be understood independently from social and cultural forces. English writing in PNG must be related to the local culture. Students should be encouraged to write about local affairs.

While emphasizing the link between English writing and local culture, English writing also can promote globalization. One of the reasons for introducing English to school curricula was to prepare younger generations for economic expansion. In an era of economic globalization, English not only is an intra-national language for communication among various cultural communities within PNG, but also is a means of communication with Asian-Pacific countries and the wider world.

To make English writing more meaningful to students, it should be integrated with other subject areas such as Mathematics, Social Science, and Information Technology. Here integration refers to cross-disciplinary integration of knowledge. Upper-secondary school students in PNG are required to choose subjects or disciplines which are taught in English. The content of various subjects could form part of the focus of English writing. Teachers of English should cooperate with teachers of other subjects which are taught in English. When students find that English writing is relevant to other parts of their learning, their motivation may be enhanced.

Human Development This domain involves teaching activities that enhance learning beyond English writing. Learning is an active process and students are able to construct new ideas based upon their current and past knowledge. Teachers should encourage self-regulation in their students. Students should be actively involved in their own learning, deciding what they want to learn, monitoring their progress towards achieving their goals, and assessing the quality of what they have achieved.

The task of the teacher is to translate information they want students to learn into a format appropriate to the students' current state of understanding. Learning activities can be made more effective by careful sequencing of materials to allow students to build upon what they already know and go beyond the information they have been given to discover key principles.

This is in line with the major goal of education in PNG, encapsulated in *A Philosophy of Education for Papua New Guinea* (Matane, 1986). The goal is integral human development. "It emphasises the need for developing human potential so that each individual can solve his or her own problems, contribute to the common good of society and maintain, promote and improve learning and living" (PNG Department of Education, 1993, p.2). Three components make up this domain: recognition of individual differences, knowledge construction and critical evaluation.

Teachers should recognize individual differences among their students. Because of differences in gender, ethnicity, and social-economic backgrounds, it is counterproductive to regard students as one homogeneous cohort and to use a limited range of teaching activities. A variety of teaching activities should be tried to suit students' learning ability, their level of language proficiency, their ability to self-regulate, and so on. For example, flexibility in pedagogy is necessary when considering how to meet the differing goals and expectations of relatively wealthy urban students living in big cities and poor rural students in remote areas.

The constructivist view sees knowledge not as externally transmitted but as constructed by learners themselves. Teaching activities are not just a means of presenting knowledge for learners to grasp. Rather, teaching activities should help students learn how to self-regulate their learning. Active, thoughtful learners tend to be more successful than passive learners who have

an excessive reliance on teachers. Teachers of English should create classroom environments where students are actively engaged in learning the skills of writing in English.

PNG's Philosophy of Education focuses on integral human development. English writing is related to the processes of critical and creative thinking. If writing in English contributes to human development, then teaching activities should encourage critical thinking. Education in any country plays both a conserving role and an innovative role. The conserving role can be seen in the way education maintains cultural values, passing the traditions of a country from generation to generation. The innovative role can be seen in the way education helps to produce creative people who bring changes to their country. Teaching activities should promote critical thinking in students. Students should develop their ability to evaluate both local and global events that are shaping their world and respond to them in a thoughtful manner.

Conclusion

A pedagogical framework consisting of four domains has been presented. The components overlap although they are discussed separately. They form parts of an inter-related system, a framework which should prove useful for teachers of English in PNG. Three of the four domains have features in common with the Quality Teaching Model (QTM) endorsed by the New South Wales Department of Education and Training in Australia. The QTM was used to guide the classroom observation aspect of the researcher's PhD thesis. There are overlaps between the QTM dimension of Intellectual Quality and the domain of Intellectual Stimulation. In both cases, it is argued that teachers who stimulate their students with challenging and interesting tasks are likely to enhance their intellectual development. There are overlaps between the QTM dimension of a Supportive Classroom Environment and the domain of Productive Writing Environment. In both cases, teachers are encouraged to create classrooms where students have the confidence to tackle challenging tasks, classrooms where teachers and students work together in communities of practice.

Finally, there are overlaps between the QTM dimension of Significance and the domain of Cultural Relevance of Writing. In both cases, teachers are encouraged to design learning tasks that have relevance for students in their world outside school. This is a particular challenge for teachers of English writing in PNG. For many of their students, written English does not play a significant role in their everyday lives. The proposed pedagogical framework presented here may help teachers with this daunting task.

Construction of the new pedagogical framework was based on the findings of this study. The pedagogical framework itself focuses on the teaching of English writing skills in the upper-secondary L&L course in PNG. Its intention is to guide English teachers in teaching English writing skills, particularly teachers new to the L&L course and those not trained as English teachers. The pedagogical framework's guidelines would help them provide explicit instructions when teaching English within a meaningful learning environment.

Because of PNG students' diverse cultural and language backgrounds it is important for English teachers in upper-secondary schools to build effective learning environments that take into account these backgrounds. There is no one best way to teach English writing skills to non-English speaking background students. Different approaches are required because of the

diversity of conditions faced by schools and the varying experiences of PNG English learners with literacy and schooling in their first language.

Implementation of the proposed pedagogical framework should result in important consequences for teaching and teacher-education in PNG. First, unlike the PNG Upper-Secondary L&L Syllabus for Grade 11 and 12 (a document that provides general objectives but allows teachers to teach in their own ways), the proposed pedagogical framework makes specific recommendations for pedagogical practice. These recommendations are the result of the current research. Second, the domains and components of the framework can be used during the preparation of novice secondary school teachers so that they have strategies prepared for the classroom. The domains and components also can be explored during in-service programs particularly for novice English teachers who wish to keep up to date with current practices. Third, if this pedagogical framework can be shown to contribute to effective writing in English, it should be considered by teachers in other areas of the English curriculum.

The implementation of the pedagogical framework was beyond the scope of the researcher's PhD study in 2008. Since 2010, the pedagogical framework has been presented to L&L teachers of particular secondary schools in Lae through a research seminar at the PNG University of Technology and a number of L&L teachers' in-service programs in the National Capital District and New Ireland Province. The pedagogical framework is yet to be trialled through L&L teachers' in-service workshops using the revised 2009 Upper-secondary Applied English and L&L Syllabuses.

The development of this framework marks a start rather than an end to improving the teaching of English writing skills in the PNG upper-secondary L&L writing program. Implications of this pedagogical framework can be considered for pedagogical practice, teacher-training, teacher-in-service programs and other subject areas beyond English writing within PNG's reformed curriculum.

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CHAPTER 9: PROVIDING RELEVANT AND QUALITY LEARNING: AN AIM OF UNIVERSAL BASIC EDUCATION

Priscilla Kare and Raphael Semel

Introduction

In 2010, the Papua New Guinea Education Advocacy Network (PEAN) commissioned research to review the national literacy situation and relevant government policies and programs. The review showed that women's literacy is one of the most effective ways to increase school enrolments, in particular, participation of disadvantage groups such as girls. The study analysed the barriers that impact on women's literacy and reviewed policies to address the literacy gap. Several initiatives were undertaken to develop the research paper. At the start of the project, data from previous literacy surveys undertaken by PEAN in four provinces were processed and analysed. Inferences were drawn specifically on women's access to information, education and training, and their implication on gender disparity in literacy. This paper will discuss the findings from the review on gender related equity barriers that hinder women's access to education, and conclude with suggestions for the way forward.

Background

The purpose of the review was to understand the issues women, including girls, face in accessing educational opportunities in Papua New Guinea (PNG) and to identify existing initiatives on adult female literacy toward a policy agenda to address female illiteracy. The research report was further enhanced by the results of a literacy survey undertaken by PEAN in five provinces: National Capital District, New Ireland, Sandaun, Simbu and Gulf Provinces, including one community feedback and two budget assessments for Milne Bay and Sandaun Provinces.

The Literacy Situation in Papua New Guinea

The national and political commitments to ensuring a literate population have been reiterated in important government deliberations and key policy documents such as the PNG National Constitution, PNG's Vision 2050, PNG Development Strategy 2010–2030, Medium-Term Development Plan (MTDP) 2010–2015, National Education Plan (2005–2014), Organic Law on Provincial and Local-Level Government, and the National Population Policy. Overall, all of these documents point to the importance of literacy for the sustainable development of a nation, yet the actual support for literacy and non formal education programs is minimal.

Papua New Guinea leads the world in linguistic diversity with over 850 languages. The population is predominately multi-lingual, with PEAN's research indicating almost ninety percent of survey respondents speak at least two languages. However despite the multi-lingual oral proficiency, research consistently highlights that literacy is low.

The Government of PNG uses data from the population census to calculate the national literacy rate for youth and adults. This literacy rate is calculated from individuals self-declaring if they are literate. This approach, commonly known as self-declaration, is used throughout the Pacific. The 2000 National Census National reported the literacy rate at 56.02% which remains today as

the official figure. It presented an average illiteracy rate of 43.98 percent (66.9% females/73.9 percent males). The 2011 census will most likely be used again to calculate the national literacy rate.

Within the PNG Government's own literacy figures, issues of inequity are clear. Some groups in PNG are far more likely to obtain basic literacy skills while the majority is denied this fundamental asset and critical pillar of socio-economic empowerment. A comparison of the literacy rates from 1990 and 2000 highlights that youth, males and those living in urban areas are more literate. The results from the 2000 Census reported a literacy rate for the adult population of 45.10% of which the female rate of 40.3% was lower than the male rate of 49.5%. This gender gap is observed across most age cohorts. The literacy rate for youth is also higher than that for adults. Disparity can also be observed across different provinces. As can be observed in Table 1 (sourced from NLASMIS and NSO) the literacy rate in the National Capital District was 90%, almost triple the literacy rate in Enga of 35 percent.

Table 1: Provincial Population and the Number of Illiterate Males and Females (NLASMIS and NSO—PNG 2000)

No.	Province	Population	No. of Illiterates	Literacy Rate
1	Southern Highlands	546,265	409,585	36.05%
2	Morobe	539,404	149,418	63.06%
3	Western Highlands	440,025	331,239	38.04%
4	Eastern Highlands	432,972	312,069	43.09%
5	Madang	365,106	251,327	55.02%
6	East Sepik	343,181	107,619	52.07%
7	Enga	295,031	224,580	35%
8	Chimbu	259,703	193,932	41.08%
9	National Capital District	254,158	63,338	90.07%
10	East New Britain	220,133	66,024	81.06%
11	Milne Bay	210,412	60,991	78.01%
12	West Sepik	185,741	128,660	44.04%
13	West New Britain	184,508	54,904	70.07%
14	Central	183,983	47,728	72.01%
15	North Solomon	175,160	52,582	76.07%
16	Western	153,304	46,404	71.03%
17	Northern	133,065	41,251	69.07%
18	New Ireland	118,350	35,542	77.04%
19	Gulf	106,898	33,294	61.01%
20	Manus	43,387	12,593	85.08%
	PNG	5,190,786	2,623,080	Rate: 56.02%

Despite the widespread use of census self-declaration methodology to ascertain the literacy levels of Papua New Guineans, there are significant concerns about its reliability to accurately measure literacy. Numerous studies suggest that the Government of PNG's literacy rate is

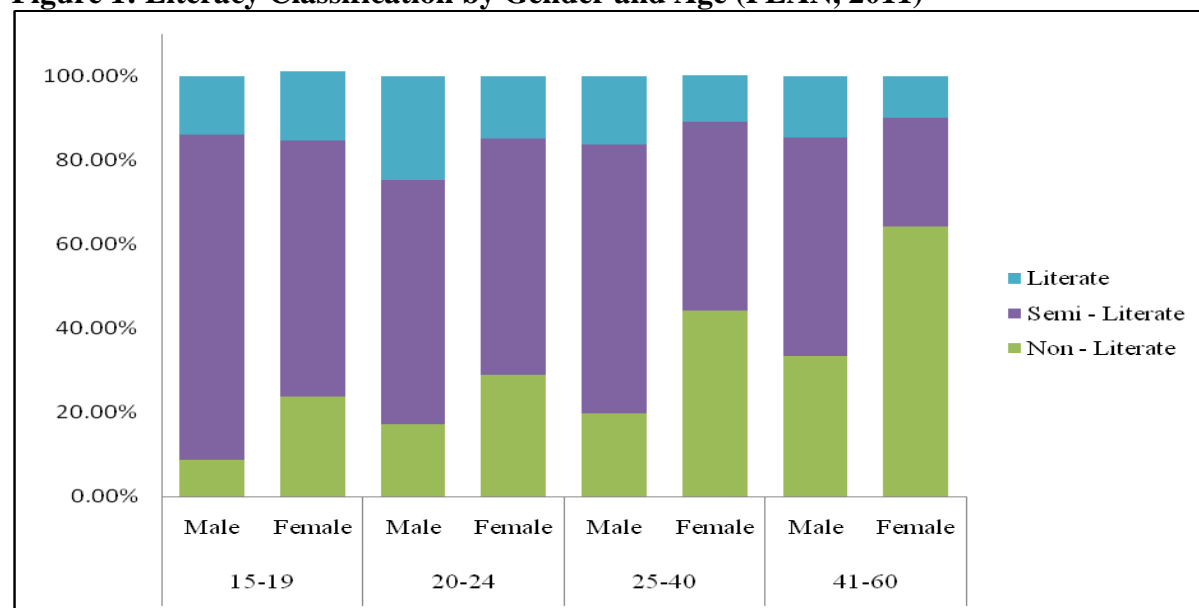
overestimated, and the literacy challenge in PNG is vastly underestimated. For example, the United Nations Education Scientific and Cultural Organization (UNESCO) sponsored Literacy Situation Analysis Report (2008) showed that PNG's literacy situation was in a dire state. Other development reports from development partners quote the figures at 45 percent. PEAN's own research in four provinces, which focuses on demonstration of literacy skills, consistently highlights that the majority of the population is semi or non-literate (see Table 2).

Table 2: Literacy Classification for Sample Provinces (PEAN, 2007 & 2010)

Literacy Status	New Ireland & NCD	Chimbu	Sandaun
Non-literate	45.1%	30.9%	47.1%
Semi-literate	39.4%	54.6%	41.5%
Literate	15.6%	14.5%	11.4%

The inequalities observed in census figures are also reinforced by independent research. A key feature of PEAN's research is the disaggregation of data by gender and age. The bias in favour of youth and males observed in PNG Government statistics is clearly supported by PEAN's own research as can be observed in Figure 1. This example from Chimbu Province clearly highlights that males in all age cohorts are more literate than females and also that younger cohorts are more literate compared with older cohorts. These results show that schooling does not ensure literacy in PNG, with the majority of those who complete primary or secondary school being either semi or non-literate. Not surprisingly, the literacy rates are even lower for disadvantaged groups such as girls. The old official literacy rates are clearly inaccurate and inflated, and can no longer be used as the basis for policy—making and planning educational service delivery. The findings of this survey should be seen as an urgent wake-up call for bold and decisive action.

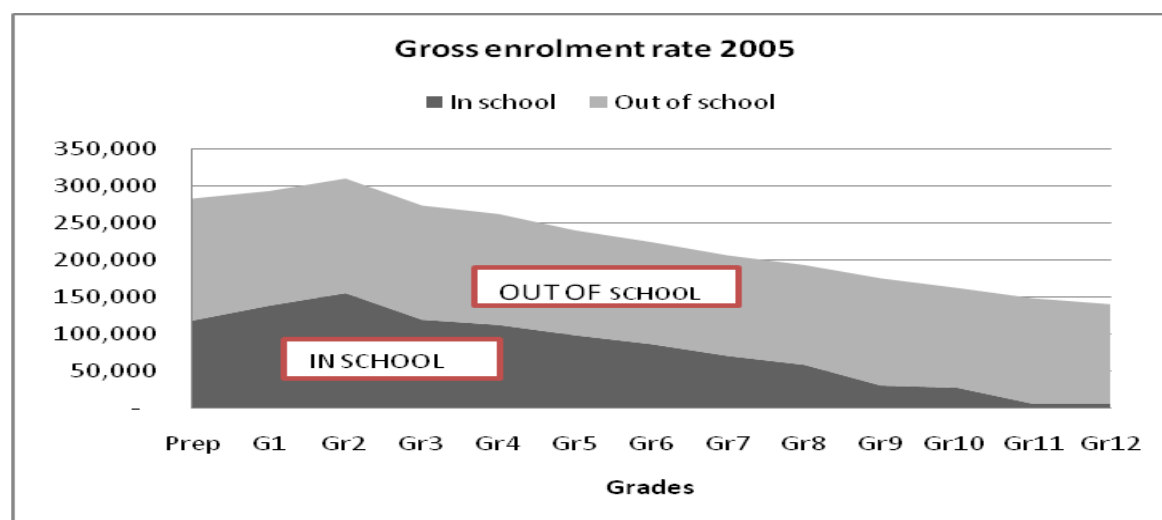
Figure 1: Literacy Classification by Gender and Age (PEAN, 2011)



Barriers to Literacy Attainment

The poor literacy situation in PNG is often blamed on poor access to basic education. The Department of Education acknowledges that lack of equity is a cross-cutting issue where access, retention, and quality of education are concerned. However, recent net enrolment rates from preparatory to grade eight is estimated to be 53 percent which means 47 percent of the school age children are not being catered for. A survey by PEAN in 2009 showed that 39% of school age children between 15–19 years of age in two provinces were illiterate. Further, only half of those finishing primary school and only one in six primary school students receive any secondary schooling. While basic education is seen as a fundamental driver of a country's economic and social development, unfortunately significant numbers of Papua New Guinean children are continuing to be denied the benefits of basic education. Equity issues include gender, HIV and AIDS, vulnerable children and children with specific needs. While the goal of the Universal Basic Education Plan is to achieve 100% Universal Basic Education (UBE), there are still more children out of school than in school as shown in Figure 2. These children have school fee problems, access to school problems, and other socio-economic problems, including cultural hindrances.

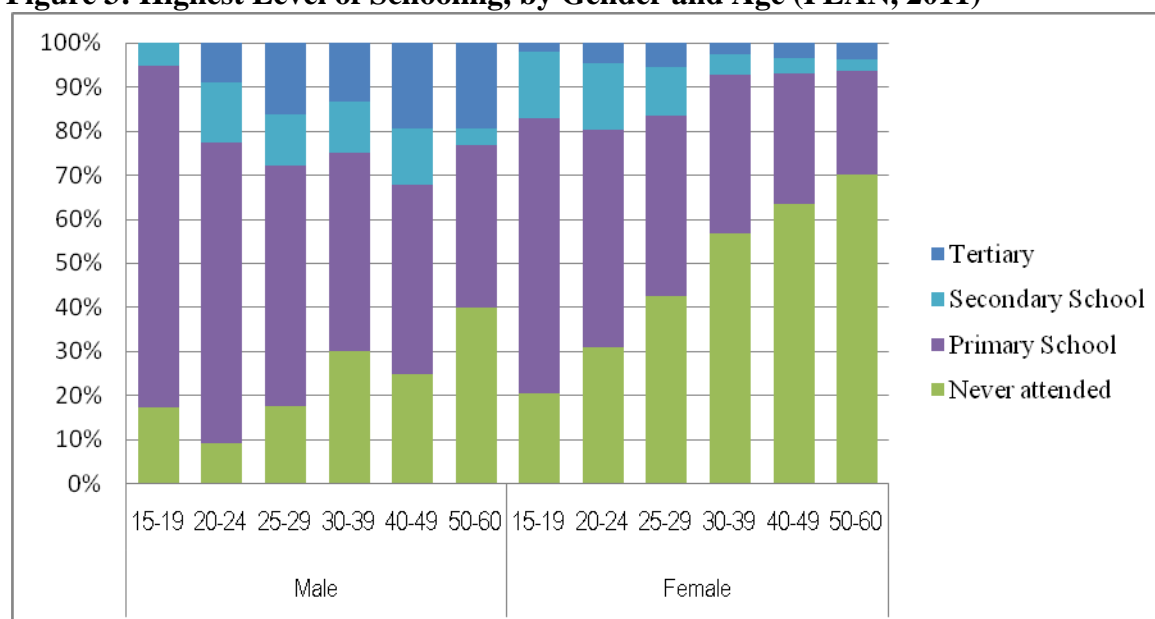
Figure 2: Gross Enrolment Rates in 2005 (Department of Education Student Enrolment Statistics)



PEAN's research provides further evidence of poor participation and transition in formal schooling. For example, in the National Capital District 44% of young people of school age are not in school whereas in New Ireland Province, 71% of the 15–19 year olds are missing out on education. Of those that enrolled, 31% of the school aged group have not completed primary school in the two provinces. Boys have a much greater chance, with 51.2% of them completing primary school compared to 48.8% of girls in both provinces. Boys have much higher chances of completing school than girls. Many more girls are not in school and their chances of enrolment are slim, and they do not usually complete school, if enrolled. Further evidence can be found from Sandaun Province as shown in Figure 3. Lack of opportunity for education is also a hindering factor for women and girls as shown in the Sandaun survey where 47.9% of female

respondents have never attended formal school and only 12% have been as far as secondary school, highlighting the poor transition between primary and secondary school. The highest number of illiterates in Sandaun Province is among the ages of 20–39 years and women and girls make up the majority rates for illiterates.

Figure 3: Highest Level of Schooling, by Gender and Age (PEAN, 2011)



The barriers to school participation are complex and research indicates that a combination of reasons is usually present for those children who are not enrolled or who have dropped out of school. PEAN's research since 2007 has consistently highlighted cost factors and parental expectations as major reasons cited by respondents who fall into the 'out of school' category. Individuals also regularly cite lack of a school in the village and disinterest as other important factors. The barriers to participation also have consistent gender bias present for some reasons, with parental expectations to help at home a more significant reason for females. For example, see Table 3, which highlights reasons for exclusion for respondents in Sandaun Province.

Table 3: Reasons for Primary and Secondary School Non-Completion, by Gender (2011)

Declared Reason(s)	SANDAUN		
	Male	Female	Overall
School fees	57.6%	54.6%	56.1%
No school in the village	47.7%	47.8%	47.8%
Parent want help at home	45.5%	53.9%	49.9%
Parent want me to work	46.1%	40.0%	43.0%
Not selected	38.8%	28.3%	33.0%
Other costs	34.3%	33.5%	33.9%

Table 3 (cont'd)

Declared Reason(s)	SANDAUN		
	Male	Female	Overall
Not safe	29.9%	26.9%	28.3%
Not interested	25.7%	30.6%	28.2%
Not enough desks, books	24.4%	21.5%	22.9%
No toilet	21.8%	19.6%	20.7%

In addition to non-participation being a barrier to literacy attainment, the quality of existing schools is a major factor. Although it is encouraging that youth are more literate than adults, many youth currently attending school are not obtaining literacy skills and, as noted above, most are either semi or non-literate. There is evidence that many children who attend school do not gain literacy skills and thus despite growing participation in primary schooling, the quality challenge is significant. For example in Chimbu Province, most youth who currently attend school are semi-literate as shown in Table 4.

Table 4: Literacy Classification for Youth Currently Attending School in Chimbu Province (PEAN, 2011)

Gender	Non-literate	Semi-literate	Literate
Male	1.2%	73.3%	25.6%
Female	3.1%	74.0%	22.9%
Overall	2.2%	73.6%	24.2%

Further, in PEAN's 2007 survey, 36.8% of primary school graduates in NCD and New Ireland were unable to read or write. The critical status of literacy in PNG means development challenges, including the formal education sector, must be tackled together with literacy development of the nation in mind.

Literacy Policies and Strategies

Equity and access continue to remain major barriers affecting women and girl's education in Papua New Guinea. They are also the contributing factors for most vulnerable and marginalized children from poor and remote families, according to the review conducted by PEAN on barriers to women and girls education in 2010. The review found that existing policies and programs of the government lacked implementers' ability to translate the policies to programs for women and girls' wellbeing and had been totally neglected. Similar, PEAN surveys have clearly indicated that there is persistent inequality between boys and girls in enrolment, basic literacy and completion rates. The result showed that many females have not attended any formal school and only a quarter of them make it to secondary school, highlighting poor transition between primary and secondary school.

PNG is lagging far behind in achieving most of the Millennium Development Goals. Poverty is reported to be increasing in both urban and rural areas. Some indicators, particularly for health,

show deterioration while in education some progress is being made towards meeting the targets by 2015. In the area of literacy, PNG has been selected to be on the second phase of Literacy Initiative for Empowerment (LIFE) because of the disappointing results of the recent literacy assessment in two provinces². In education, the key challenges result from the rapid growth of the population, and the school age population will grow by 25.7% between 2005 and 2014 as mentioned above. The education sector has to be prepared to absorb this growth and improve service delivery. Rapid population growth creates financial pressure throughout the system and strains the capacity to deliver services. Despite stated recognition of females' economic and political contributions in official documents and even in laws, in general the improvement of gender related equity remains lip service. Gender disparity is a persistent social issue that is difficult to resolve, despite general improvements in policy planning and strategic visions of the government. Women make up 50% of the country's population. Despite changes in educational opportunities for women, the educational status of women is generally low. Moreover, the literacy rate of women is lower or non-existent and the cycle of illiterate women is a demotivating factor that hinders many young girls from pursuing educational opportunities. Clearly, the rate at which the adult population, especially women, is gaining literacy rate is outstripped by the increased rate of population growth at 2.3%, while the primary school 'push outs' and not drop outs add to the number of illiterates.

Women's education, particularly literacy, is in line with the international commitments made by the Government of Papua New Guinea, which has recognized that education is a right that belongs to all children and a right for all citizens by agreeing to achieve the Education For All Goals (EFAG) in 1990 and Millennium Development Goals in 2000. Nationally, the PNG Constitution states that basic education is a right for all citizens. This is further identified in the national development policies; in particular the Medium Term Development Plan (adapted from the MTDS) as well the existing principles of dialogue, engagement, participation, equity and opportunities that harmonize the working relationship between development partners.

Addressing these specific aspects of equity in education coincides with a conception of education and human rights. Article 3 of the 1990 World Declaration on Education for All pointed out that:

Basic education should be provided to all children, youth and adults. To this end, basic education services of quality should be expanded and consistent measures must be taken to reduce disparities. For basic education to be equitable, all children, youth and adults must be given the opportunity to achieve and maintain an acceptable level of learning.

The most urgent priority is to ensure access to, and improve the quality of, education for girls and women, and to remove every obstacle that hampers their active participation. All gender stereotyping in education should be eliminated. An active commitment must be made to remove education disparities. Underserved groups, such as the poor; street and working children; rural and remote populations; ethnic, racial, and linguistic minorities; refugees; those displaced by war; and people under occupation, should not suffer any discrimination in access to learning opportunities.

² Education Watch Report: PNG – Educational Experience Survey: Education, Language and Literacy, Asia South Pacific-Bureau for Adult Education, 2007.

The agenda of the World Declaration on Education for All is by nature a concern for access and equity, covering the gender aspect and the underserved groups (or disadvantaged groups in this context). In addition, current conceptions of human rights include a variety of aspects, such as economic rights, social rights and cultural rights, and are related to equal access to education provision for all.

The Cost of Illiteracy

There are nearly one billion people in the world who are illiterate, one-fifth of the world's population. In spite of the fact that most development agencies identify women's literacy as the single most important factor in development, one out of every three women in the world cannot read and write. Illiteracy is not confined to adults; in 1986, 105 million children between the ages of 6 and 11 were not in school. This activity explores several aspects of the issue of global literacy: the gender gap; personal stories of people affected by illiteracy; and programs that work. "A person is functionally literate who can engage in all those activities in which literacy is required for the effective functioning of his (her) group and community and also for enabling him (her) to continue to use reading, writing and calculation for his (her) own and the community's development. Generally, literacy also encompasses 'numeracy', the ability to make simple arithmetic calculations" (UNESCO Definition — Source: World's Women 2010, Trends and Statistics)

The Asia-Pacific region is home to three-quarters of the world's illiterate population. Illiteracy in the region is both a cause and consequence of poverty, deprivation, and under-development. It is commonly accepted that the gains of development cannot reach the general population until basic education and literacy are provided to all. Literacy is not merely about basic skills of reading and writing; it is about providing individuals with the capabilities for understanding their lives and social environment as well as equipping them with problem-solving skills. Literacy, therefore, is a foundation of human resources development and is critical to alleviating poverty and enhancing the general quality of life of the people.

The education of women is particularly valuable as a strategic investment in human resources, as the social returns are high. The education of women and girls has a tremendous impact not only on their own development, but also on that of their families and communities. It acts as a catalyst in virtually every dimension of development and poverty alleviation, with outcomes such as reduced fertility, reduced infant mortality, improved child survival, better family health, increased educational attainment, higher productivity, and general improvement in the nation's economic situation.

A Way Forward

1. Accelerate initiatives to make education equitable, inclusive and gender fair.

PNG missed out on the gender parity target in 2005; therefore, the government must strengthen efforts to achieve gender parity. Gender disparity persists in PNG according to the ASPBAE/PEAN Education Watch Surveys. Women have significantly lower educational attainments and literacy levels. They continue to be discriminated against and the school environment is far from sensitive and friendly to girls and women.

Governments must substantially increase investment in girls' education and women's literacy. More and better schools must be set up for girls, with better facilities and a more conducive environment for learning. Violence in schools must be banned and eradicated, with stiff penalties imposed against perpetrators. Education and school authorities must ensure gender sensitive policies, curriculum, textbooks and materials, and school environment. Proactive measures must be taken to increase the participation of women in governance of schools and education programs.

Adult education and literacy programs catering specifically to women must be developed and implemented to address the huge disparity in literacy. Such programs must be flexible, participatory and appropriate for women and effective in improving their life-skills, reproductive health and livelihood. These programs must also strengthen women's participation and leadership in the public sphere and ensure gender justice through equal access to adult education and lifelong learning processes.

An effective evaluation system must be developed to closely monitor progress in achieving gender equality in education at all levels, and in all aspects, specifically in terms of access, performance, and outcomes.

2. Enhance functional literacy to empower youth and adults

Literacy has been identified as the most neglected EFA goal. The survey reveals literacy rates are below official figures. However, literacy is found to be strongly linked to livelihood, with high illiteracy rates prevalent in remote and impoverished areas where people have little or no access to education. Bold and decisive action must be implemented to address youth and adult illiteracy. The government should develop a comprehensive national literacy policy, translated into a well-targeted and fully-funded program in cooperation with civil society organizations and communities. Innovative approaches must be made to reach out to specific target groups, particularly women, ethnic minorities and other disadvantaged groups. Substantial increases in financial resources must be invested considering that most governments allocate a meager 1% of the education budget to adult education and literacy.

Civil Society organizations have a lot to contribute to adult education and literacy and their participation should be harnessed. Specifically, the Government should:

- a) Draw on the experience of, and provide support to, civil society organizations actively involved in providing non-formal education and training for young people and adults who have missed out on full education.
- b) Ensure that the efforts of the various government and civil society providers of non-formal education and training are better coordinated and targeted to meet community needs.
- c) Institute support systems and structures which respect alternative or non-formal approaches to learning and at the same time provide a pathway into formal schooling for those who wish to take this path.

Conclusion

The results of research findings, including PEAN's own research findings, revealed that ensuring the literacy of adults, and particularly mothers, is one of the most effective ways to increase school enrolments, including the participation of disadvantaged groups such as girls. Many cited parental expectations as a reason for not being in school. Literacy is therefore an important goal for the Government of PNG to include in the implementation of the UBE Plan. Research findings revealed that women's literacy is important for the socio-economic development of the country. Institutions and systems for delivery of such services are not working, hence services including education services are not delivered, particularly those related to female literacy. Identification of gaps and assessment of the institutional environment that promotes or hinders female literacy are not monitored and coordinated and relevant data is lacking.

These findings show that women's literacy can become a motivational factor for high enrolment rates in PNG. It is concluded that illiterate women further discourage their daughters from attending schools. The survey findings revealed that 25% of the school age children are disinterested in school due to lack of motivation and lack of support by parents. Equity and access of women's literacy and girls' education can be improved by addressing the systems and institutions to find harmony in delivering the educational services. This can be done by upgrading school infrastructure, providing learning equipment and materials, building management capacity, and maintaining schools to achieve literacy at both the primary and adult education levels.

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CHAPTER 10: PROMOTING UNIVERSAL BASIC EDUCATION THROUGH ENVIRONMENT AND SUSTAINABLE EDUCATION

Sangion Titu and Emmie Betabete

Introduction

The development of a country requires a significant mass of its population to be educated to a level that can enable them to effectively contribute to its social and economic development. All citizens in rural and urban communities have the right to be educated and have access to various government services. Unfortunately, in Papua New Guinea (PNG), this does not always happen because of the remoteness of some communities. Health and education services do not always reach these places. It is for this reason that the work of non-governmental organisations (NGO) and other civil society organisations (CSO) is vital to deliver much needed services.

The Research and Conservation Foundation (RCF) is a not for profit organisation with a focus on conserving the biodiversity of PNG. Since its inception in 1986, RCF has developed various activities to promote its goal through two major programs — the Crater Mountain Wildlife Management Area Project and the Conservation Education Program. RCF is involved in providing both formal and informal environmental and sustainability education (ESE). The formal ESE programs comprise courses offered at two tertiary institutions, namely the University of Goroka and Balob Teachers College, and the training of elementary, primary and secondary school teachers and students in Eastern Highlands, Morobe, Simbu and Western Highlands Provinces.

A significant aspect of RCF's efforts in promoting UBE is through the informal education efforts for rural communities in parts of Eastern Highlands and Simbu Provinces. This paper discusses RCF's efforts in utilising basic education as a strategic tool to promote environmental and sustainability issues. Through this approach, RCF also ensures peoples' culture and livelihoods are safeguarded for the future, and the long term benefit of a clean sustainable environment is realised by the people.

Promoting Universal Education

At this juncture, basic education in the formal sector comprises elementary (Elementary prep — grade 2) and primary (grades 3–8) sub-sectors. This will be expanded gradually to include secondary (grades 9–12) education. Notwithstanding this emphasis on basic education, it should also include a range of educational activities taking place in non formal and informal settings targeted at achieving basic learning needs (Gandhi, 1955). In developing countries like PNG, basic education may also refer to education received prior to primary education and literacy programs targeting youths and adults. Despite this inclusive definition of basic education, PNG has made a conscious decision to target only basic education in the formal sector. RCF operates within the much broader and more inclusive definition of basic education to support and promote the right of all Papua New Guinean children to education, be it formal or informal education.

RCF recognises the importance of Universal Basic Education (UBE) and has attempted to promote it through its informal environmental and sustainability education activities. The following highlights how UBE is promoted in some of these activities.

Conservation Area Outreach

Conservation Area outreach programs involve close collaboration with conservation communities. The communities identify school aged children and youths who are then engaged by RCF staff in various learning activities promoting environmental and sustainability issues. The learning activities explore children and youths' preconceptions of environment and conservation with emphasis on indigenous environmental knowledge and other local and scientific knowledge systems. Topics include basic ecology in terms of animal homes, feeding behaviours, life cycle and adaptation mechanisms for survival.

Participants also use local environmental knowledge to identify fauna and flora of significance to the local community. This activity enables children and youths to develop their understanding of the local fauna and flora and link it to scientific knowledge. It also provides an avenue for learning and practising basic language and arithmetic skills to improve and upgrade their knowledge of the local fauna and flora.

Community Awareness

Basic awareness and education on environment and sustainability issues enhance understanding of the environment and how it functions. The awareness and education activities that RCF provide aim at informing and empowering communities to manage their resources wisely. The approaches used involve drama, talks, posters and brochure distribution. Drama performances are designed to target communities experiencing certain environmental problems such as bush fires. The general awareness sessions also provide communities with the opportunity to learn about current global, local and regional environmental issues. This enables all community members, including women, youth, children and old people, to improve their knowledge and understanding of these issues.

The training workshops focus on specific issues such as climate change and its impact on food security, on water sources and on availability of firewood and timber resources. It also includes other topics such as the impact of extractive activities like mining and logging on biodiversity. This activity enhances the communities' environmental knowledge and understanding of global, local and regional issues. It also provides opportunities for discussions and deliberations in simple English and Tok Pisin, and builds participants' grammar and vocabulary skills. Participants also use this opportunity to practice their listening and writing skills.

Conservation Capacity Building Trainings

Building community capacity to take the lead in sustainable development of their community and nation is vital for achieving the national directives and principles of PNG enshrined in the national Constitution. RCF recognises rural people as important development players and has involved them in various activities to enhance and empower them. RCF also realises that when equipped with appropriate skills and knowledge, rural people can take the lead in improving their livelihood as well as the livelihood of those around them. The conservation capacity training program was developed to upgrade and improve resource owners' skills and knowledge in conservation and business management, record keeping, project proposal writing and budgeting. It also provides background knowledge and understanding in basic ecology, how the

environment functions and the impact uncontrolled and unmanaged development activities can have on biodiversity. The training empowers participants to communicate their views about the issues surrounding them and how effectively they can participate in sustainable development. This program contributes to improving basic literacy and arithmetic skills and empowers participants to improve their communication skills. It also empowers them with additional skills and knowledge to effectively participate in PNG's development.

Conclusion

The programs described above have enabled RCF to promote UBE in the project sites that it is working in. While the formal setting is addressed, the informal setting is recognised as an area that needs further training and skills development. RCF has taken that initiative to ensure that its communities are not left out but are involved in receiving basic education.

RCF's experience has enabled it to realise that UBE is not achievable by only one group or government department like the National Department of Education. It is the responsibility of all stakeholders in Papua New Guinea to unite to ensure the objectives of UBE are achieved.

In addition, the activities involved in achieving UBE are not restricted to the formal environment. It can also extend to informal and non formal education settings and include various activities that promote basic literacy and arithmetic skills. These activities can also develop the capacity of citizens to effectively contribute to the development of their communities and the nation as a whole.

NGOs and civil society organisations also have a key role in supporting the government to achieve UBE. The CSOs are strategically placed in communities where there are often limited or no government services. This enables them to extend their activities to also promote UBE.

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CHAPTER 11: CHEATING COMPROMISES THE INTEGRITY OF EXAMINATIONS

Musawe Sinebare

Introduction

Papua New Guinea (PNG) has effectively managed and administered the School Certificate Examination (SCE) over many years. The Measurement Services Branch (MSB), which is mandated to ensure that SCE is managed and administered successfully throughout PNG, maintains the records obtained from students' examinations. The Department of Education (DoE) is responsible for certifying the grades achieved by the students, based on their examination results in the various examinable subjects. There are three examinations that are currently being administered by the MSU and these are at Grades 8, 10 and 12 levels. The successful completion of each terminal grade level is a prerequisite entry criterion to progress to the next level. At the Grade 12 level, highly satisfactory completion at an acceptable Grade Point Average (GPA) qualifies the students to enter into universities and colleges.

Recent reports in the print media have however identified an interesting development that has resulted from the strong emphasis placed on students to perform successfully in their SCEs. These developments and observations are discussed here. It is anticipated that some lessons will be learnt from observing and analyzing this trend and that necessary policy changes and reviews into existing systems may need to be carried out to enhance and uphold the integrity of the SCE in Papua New Guinea.

This paper discusses reports about students cheating during their SCEs, with the aid of teachers in some schools, resulting in complaints and criticisms from many stakeholders in the country. The complaints highlight the need to ensure that the due process of the examination, the integrity of the examination results, and the merit of the certification are protected from abuse and undue practice. These may result in loss of confidence in the system, bring disrepute to the Department of Education, which is mandated to conduct exams, and discredit the worthiness of the certificates. This paper recommends that in order to uphold the integrity of the SCE, an independent examination authority, which is external to the DoE, is created to take charge of the examination function and report directly to the Minister for Education. In this way the DoE and the teachers will be accountable to the expectations of the independent examination authority, which will take care of setting the exams, marking them and grading the students accordingly. The creation of this authority would thereby bring confidence in the integrity of the examination system in PNG and the certificates awarded as a result.

Limited Places in Tertiary Education Encourages Cheating in the School Certificate Examination

The major expansion in the secondary school sector in recent years without the corresponding expansion of places in existing universities and colleges has had a major impact on the demand for the places at universities. Even rivalries between schools and between provinces, as well as parental expectations, have all added extra motivation and pressure for students to perform better in examinations, with the assistance of their teachers. As a result, students strive to excel to

achieve the ‘best academic results’ which will guarantee them a place in the limited number of university places available in Papua New Guinea’s institutions of higher learning. As the Secretary for Education, Dr. Joseph Pagelio, stated: “The examinations are essential tools for selection and the certificates issued, using the results of these examinations, will be used for both selections for further and formal education and employment” (Oreke 2010). Hence, students are well aware that obtaining excellent grades in examinations is a prerequisite to securing study places in higher education institutions and ensuring eventual success in future.

For many students, gaining a place at a university or a college for a program of study and eventually graduating from the institution is their motivation to perform well at exams. Performing well in exams and obtaining top grades enhances their chances of securing a place in a tertiary institution or even being employed. More importantly, their performance helps to raise the standing and profile of their school, their teachers, their province, their clans or their community.

Many provincial administrations and Members of Parliament (MP) are funding school fees and also providing financial support to assist students to continue their education into universities and colleges. It is no longer the individual student working hard to secure a place in a university. It is now becoming a school or province-wide activity with students from provinces or clans securing school fees from their local MP or their Provincial Government. At times, students’ high performance is expected by the communities at large, which continue providing an impetus for the students to pass their examinations. In fact many schools are now adopting ‘exam coaching’ or ‘remedial lessons’ as exam preparation and confidence-building strategy in the weeks or months leading to the examination week. The ‘exam coaching’ is being rigorously adhered to for many hours and in most cases, this has been carried out at the expense of other non-examinable subjects and school activities such as ‘community work’, also known as ‘work parade’ or ‘school development’ programs.

School Certificate Examinations

Three different School Certificate Examinations (SCEs) are held annually for students completing Grades 8, 10 and 12 levels of education. The examinable subjects in these grades vary. Their respective lengths also vary in depth of coverage and content. The SCE results are primarily used to assess students’ academic ability to progress to the next level of education. The Grade 12 SCE results are primarily used by universities and colleges to select students for higher education places. It is thereby an important criterion for scholarship consideration. The SCE is the ultimate milestone that all students in Grades 8, 10 and 12 levels are concerned about. The students are nevertheless anxious to get it over and done with as it determines their destiny either towards success and fulfillment or shattered dreams. The students do everything within their power and means to successfully complete the respective examinations with good grades and their parents place high value on the outcome of the exams.

Prior to finalizing the examination, the exam questions are drafted, individual test items written, items drafted are trialed in selected schools, the item difficulty index determined, the item discrimination index worked out, its validity calculated, its currency and accuracy established, and the exam question or statement checked for possible errors and, where necessary, revised. Any slight cue that could add unnecessary ambiguity to its originally intended test item is

checked and revised. Of course, once the items are written and trialed they are stored in the item bank under respective topics or subjects for recall and use later. This means that exam items used in the 2010 examination may not necessarily have been developed in that year. If the item bank has integrity built into it, the items would have come from questions developed a few years before the examination year. The items are randomly chosen and used according to the exam specification plan that sets out which topics are to be examined and what level of importance in terms of percentage is placed against each topic, depending on the amount of teaching time allocated to each subject.

The exam items could be categorized into categories of learning objectives such as application, knowledge, process, comprehension and analysis with their unique characteristics of difficulty and discrimination indices, validity and relevance. The MSB determines which item with its unique characteristics is required in a particular subject so that it provides a more just means of examining the broad range of student abilities and across different learning objectives. In other words, a more just examination should clearly separate the academically gifted students from the weaker ones. However, it ensures that a greater majority of the students who do not fall in either category are categorized as average performers under a supposed normal distribution curve.

Nangan (2010) highlighted that there were gross spelling and grammatical errors in the Grade 8 English and Mathematics examination papers from the 2010 examination. Allowing errors to creep into the examination papers is sufficient to suggest that the integrity of the examination is being compromised. Careful scrutiny to measure a student's quality of learning is absent and the actual measure obtained is faulty even before the exam is administered. The officer who allowed such errors not only brought much disrepute to the MSB and the Department of Education but also contributed to the declining quality of the examination. The Department has since established quality assurance system and sacked the officer responsible to avoid a recurrence of the lapses in exam scrutiny by MSB.

Carrying out an analysis of the examinations in the different subjects would also identify some of the obvious weaknesses in the choice of examination items which could provide further information to improve the quality of subsequent examinations. This raises the question of overall integrity of the examination system.

In another incident, Grade 8 students in the West Sepik Province were unable to sit for their exams because the exam papers were not airlifted into the schools. It was stated that it was expensive to fly in the exam papers. It could be deduced that students couldn't sit for exams but the '...students will be considered for high school placing with or without the Written Expression marks based on the marks from other papers already sat and from internal assessments' (Kivia, 2010). The truth of this incident needs to be established as it is unfair to many other students. The Grade 8 students could still find a place in Grade 9 even if they didn't sit for an exam. This is unfair to those students who sat for the exam in other parts of PNG. Personal communication with MSB revealed that; 'Written Expression (exam) result is not included in (the) certificate and selection. The results should be used for monitoring purpose but this is not being done'.

Cheating in Examinations

Teachers and parents are important partners in the delivery of education services in PNG. They are at the forefront of education services as providers and recipients respectively. As such they are privy to what goes on at the school and often have a particular view about the developments. It was reported in the media that parents were concerned about the practice of cheating in three secondary schools in the Enga and Central Provinces (Gumuno 2011). Cheating in examinations is real and parents oppose such an unethical practice.

A parent of a Grade 12 student in Mt Hagen was quoted in *The National* newspaper as saying: ‘...Grade 12 teachers who worked hard to see their students score good marks in the national exams would not see the real fruits of their efforts, ... cheating was a major set-back for students struggling hard to further their education’ (Gumuno 2011). In the same report another parent of a Grade 12 student attending Kerowagi Secondary School said: ‘I am feeling sorry for my daughter because if there is nothing done,...she will become a victim of cheating’ (ibid).

A writer using a pen name in the Opinion column of *The National* newspaper expressed these sentiments: ‘I am a parent and am very disturbed by this (cheating) as my child as well as other hard working and honest children deserve better. Through all the honest sacrifices hardworking and committed children went through during two years of secondary studies – this is a slap in the face and all for nothing. The very people who are to vigorously safeguard the system are allowing this to happen...The cheaters get a place in tertiary institutions of their choice while the honest ones are left behind’ (Kokopo 2011). Parents are obviously concerned about cheating and the consequences for those who worked hard and sat for their exams in all honesty and fairness.

Parents and teachers are saying in no uncertain terms that they deplore cheating in school examinations because it is not the first time such cheating has taken place. There were reports of cheating in previous years and the schools alleged to have been involved in cheating were not disciplined or reprimanded. Parents and teachers have stated that cheating disadvantages and punishes honest and hardworking students, teachers and schools. On the other hand, the cheaters, their teachers and their schools have been exonerated where they have secured university placements as rewards for cheating. The Principal of Hutjena Secondary School in the Autonomous Region of Bougainville, Mr. Martin Takali deplored exam cheating and called for thorough investigations to be conducted and the perpetrators (students and teachers) severely penalized to deter a repeat of such practices (Laepa 2011). It is understood that the Department of Education has completed an investigation and that appropriate action will be taken soon.

According to one newspaper report, a total of eight secondary schools in the country were accused of cheating in the Grade 12 examinations (Haip 2010). Some of the schools were reported to be from Enga and Central Provinces. It was revealed that cheating in examinations has recurred because nothing has been done about any of the past incidents. Similar incidences of cheating were reported to authorities in the previous year. In these instances, three other schools were identified for allegedly cheating and got away with it. As a result, the practice has subsequently increased in number.

No action was taken against the schools by the authorities. Thus, the lazy and dishonest students got away with A and B grades in their examination results. Teachers warned that if this practice was to continue without the students being punished, the trend would escalate to unprecedented levels. According to a newspaper report (Haip 2011a), teachers from the Highlands region are concerned that this matter has fallen on deaf ears and that no deterrent action has been taken by the MSB and the Department of Education. This has eventually allowed students who have cheated in their exams to graduate with their certificates. Even the MSB has been reported to be silent over the examination cheating issue where eight secondary schools in the country were allegedly cheating (Haip 2011b). Teachers are quoted as saying: ‘...there was no point in talking about quality of education when there was cheating going on to spoil the whole purpose of education’ (ibid). Sources within the Department of Education stated that available data analysis is being used to assess the examination results of the schools concerned and where there is strong evidence to support the allegations of cheating then appropriate action will be taken.

Official Response to Cheating Allegations

The Department of Education instituted an internal investigation but was careful with its use of terminology. The department suggested that the investigation was, ‘... to establish the sources of examination security breakdown which may have resulted in ‘unanimity’ of the answers in the examination of three subjects’ (Gavamani Sivarai 2011; Oreke 2011). The Secretary for Education, Dr. Joseph Pagelio, also stated that teachers who were found to be involved may be disciplined and charged depending on the findings of the investigation.

The Department of Education stated that the exam markers had detected synonymous answers in a number of exam scripts in Biology and Chemistry exams in two schools and Physics exam in the third school. The department further stated that: ‘... even after item analysis (of the suspected exam scripts) they did not indicate a significant difference to say that every student in each of the school had the same exact response to each question’ (Gavamani Sivarai 2011). Dr. Pagelio then stated that; ‘A small group of students may have cheated as their answers seemed to be similar. Due to time constraints for selections and certification, all results were processed as normal (Oreke 2011). There is no evidence to suggest that exam cheaters (both students and teachers) were disciplined. Therefore, such actions have been condoned and students who had cheated had been indirectly rewarded for such behavior with university places.

Some Impacts of Exam Cheating

Disciplinary action against the teachers involved

The Department of Education has clearly stated in the media that it will take appropriate disciplinary action against teachers who are found to be engaged in cheating. Secretary Dr. Pagelio was quoted as saying: ‘Officers and teachers found to be involved may be disciplined and charged depending on the findings of the investigations’ (ibid). While an internal investigation has been instituted, the findings from that investigation have not been released nor has the public been informed of any disciplinary actions taken against the officers and teachers concerned. Could this mean that the officers and teachers involved have not been disciplined yet? By implication, no disciplinary action means the act of cheating is condoned and officers and teachers who were party to facilitating cheating in exams were exonerated. The hardworking

students and their teachers who deserve encouragement and commendation for their honest efforts in the exams are unfairly dealt with as opposed to those who cheated to gain the marks they have been allowed to record against their school certificate at the completion of their studies.

Students miss out on university placements

Some parents in the Western Highlands Province expressed concern that innocent students missed out on securing places in tertiary educational institutions as a result of the eight schools that were allegedly involved in exam cheating even though they scored the required grade point average (Uki 2011). The parents demanded that authorities declare the exam results null and void for the eight schools allegedly involved in cheating so that selections could be done again. These concerns have fallen on deaf ears and the students who cheated have not been disciplined. There have been some discussions taking place between Office of Higher Education and Department of Education and some consideration concerning these students has been instituted.

In another case, 124 Grade 12 students from Grace Memorial Secondary School in Morobe Province allegedly missed out on securing places at tertiary institutions because of the incompetency of the school administration which failed to submit internal assessment grades to the Measurements Services Branch (Kivia and Gubuli 2011). The students who were affected by this blunder by the school management have had their futures permanently destroyed. The students missed out on selection for the university places thereby wasting twelve years of school education all because of the unprofessional conduct of senior teachers or the school management's incompetence. Teachers were not disciplined for their unprofessional conduct. However, the honest student's future is permanently destroyed while cheats are slipping through the net to enter into the economy after tertiary studies. Their potential contribution to the economy is anybody's guess.

Apart from the Grade 12 students missing out on university and college placements, Grade 10 students are denied placements in Grade 11 after completing their exams. Parents in the remote Jimi High School of the Western Highlands Province had expressed concern when the Grade 10 Certificates for the 90 students of that school were not delivered to the school. Thus, students were not able to check their results and see whether they had made it to Grade 11. The MSB has been blamed for causing unnecessary delays (Lari 2011). Such delays create unnecessary anxiety among the students and frustration for parents who have painfully invested in their children's education and expect the system (MSB) to lift its game.

The problem of missing out on university placements is not an isolated case. Even the university students claim that the delays in processing their examination results have cost them scholarship opportunities (*The National* 2011a). While one group of students at a university claimed that their transcripts were riddled with errors, another student claimed that only one out of the four courses he had registered for was graded while the other three had no grades. Others found it hard to accept the fact that a student with a GPA of 3.75 could not secure a Tertiary Education Scholarship Assistance Scheme (TESAS) scholarship. These claims need further investigation and if verified, relevant authorities should take appropriate measures to rectify the irregularities in order to add credibility to the system of certification.

Threats to force the closure of the Highlands Highway

It is not normal for communities to resort to this sort of behavior, but a rural-based anti-corruption group of 14,000 members in the new Jiwaka Province has called on the government to investigate allegations of cheating by students who sat for the 2010 final exams.

The group warned that if this was not done they would physically stage a sit-in protest along a 30 km stretch of the Jiwaka portion of the Highlands Highway (Togarewa 2011). The group further called on the government to nullify the exam results, direct the relevant authorities to redo the selections for university and college placements, and refer those implicated to the police for criminal proceedings against them. Obviously, not only the parents but the community at large is saying that exam cheating is serious in nature and that they would like to see the perpetrators dealt with. In this way, the practice can be discouraged in order to restore confidence in the examination process and give credibility to the integrity of the examination processes, the results and the certificates awarded.

Foul play in the Grade 12 selections

When the authorities fail to take disciplinary actions against the teachers and schools allegedly involved in cheating during exams, there is already a guarantee of wide disparity in the exam results of those students who sat for the national examinations. Teachers and school principals would naturally suspect that the Grade 12 results were rigged and manipulated as a result of the alleged cheating in the examination. A letter to the editor of *The National* newspaper under the pen name 'Grade 12 teacher' claimed: '...that a Secondary School in Enga Province made history by scoring 143 As...' (*The National* 2011b). This raises suspicion among many teachers and school principals who work hard to ensure every student excels at a level playing field through SCE. It also raises the question of what extraordinary thing this school may have done to achieve such results which others in the country have not done. The Principal of Hutjena Secondary School Mr. Martin Takali asked, 'Why are other schools in the highlands scoring higher marks than other schools?... I believe there is foul play at MSB because certain schools are getting very high marks than others. For one school to get very high marks than other is impossible' (Noho 2010). This claim calls for a thorough investigation to establish the truth and allay animosity among other teachers and schools in the country. Moreover it calls for help to maintain the integrity of the national examination system entrusted to the Department of Education.

Integrity of the School Certificate

The integrity of the School Certificate and the School Certificate Examination is at stake not only within the country but also internationally. Thus it brings disrepute and discredit to the education system and the quality control processes and mechanisms that are in place. The results of the very best students in the country would be suspicious given the public outcry over the management and administration of the school certificate examinations at both Grade 10 and 12 levels. The external exam results are added to the internal assessment results in order to arrive at an aggregate total that determines the final grading.

News about cheating in the SCE within PNG schools has been given a wider coverage by the print media with its online presence. Thus, reports of cheating which are accessible via the internet, are available worldwide. Cheating in exams portrays and projects a negative picture for the country and questions the integrity of the examination processes including the examination results issued on the school certificates.

Implication for Measuring Quality as a Core Domain of Universal Basic Education

Quality is one of the three core domains of Universal Basic Education (UBE). Quality in UBE in terms of learning outcomes of a student is a measure of what students learn as a result of the curriculum delivered. School Certificate Examination at the Grade 8 level is the first such opportunity that helps to determine the pass rate as a measure of quality student learning and an indicator of UBE. Given the incidence of cheating taking place in examination in PNG, the final result has serious implications for ascertaining the accuracy, reliability and validity of the measure of quality student learning and therefore as an indicator of UBE when reported, it is likely to be questionable. This further means that the pass rate as a measure of quality student learning could be considered inaccurate and suspicious and brings into question the integrity of the indicator in the greater scheme of UBE.

While other Quality indicators such as Pupil to Textbook ratio and Pupil to Teacher ratio can be easily determined from enumeration of the prescribed textbooks, number of teachers and number of students through the School Census, the Pass Rate as a measure of quality student learning under the current exam cheating environment poses an even greater challenge. It questions the integrity in the examination processes and management. Furthermore, if cheating has serious implications for determining the Pass rate as a measure of quality student learning, then there is an even greater implication and challenge for the examination and certification processes.

Enhancing the Integrity of the School Certificate Examination

The School Certificate Examination (SCE) in PNG has been brought to disrepute and this has raised questions about the integrity of the examination processes under the auspices of the Measurement Services Branch of the Department of Education. These processes include the conduct of exam item writing to the certification of the examination results and eventually to the selection of Grade 12 students for study places at universities and colleges. Cheating in examinations shows that there are lapses in the security and confidentiality protocols established to manage and administer SCE in PNG. The MSB is not only accountable to the Department of Education but also to the nation. This is to ensure that the integrity of the school certificate examination is enhanced and stringently protected. This means that when a Grade 12 student shows his or her SCE results, the grades and the certification of the grades bearing the signature of the Secretary for Education symbolizes the integrity of the examination system. Thus, the certificate is valid and has integrity.

If the so-called internal investigation was carried out by the department, then its findings should provide a strong basis for further reform to improve the processes administered by the MSB. This may be an opportune time to revisit the security and integrity of the examination paper from the time exam items are selected and compiled to the printing of examination papers and its

distribution to schools throughout the country. Every step must be taken to ensure the security and integrity of inbuilt processes.

Moreover, steps must be taken to check and cross-check the process from one phase to another. In addition, when the examination papers are returned to their marking sites, the same stringent processes must be maintained. Even the marking panel members have sworn an oath to comply with protocols to ensure that there is integrity in the examination marking process. This process should involve more than one person checking each marked item to ensure that no irregularities pass through the marking stage by members of the marking panel.

If these processes do not improve or are found to be too difficult to implement, the next obvious choice for the Department of Education would be to establish a separate and independent entity such as an examination board. The board would take on the clear mandate of developing exam items, maintaining these items and constructing examinations for all the examinable subjects. It is pleasing to learn that the Department of Education is taking measures to set up an Assessment, Examination and Certificate Advisory Committee (AECAC) to look into the examination system and deal with issues arising from examinations. This is a good start and shows potential for the concept to progress to creating an independent entity as recommended in this paper.

Conclusion

The School Certificates are the most important documents in a student's possession because they demonstrate what the student has achieved in his or her years of schooling. They also demonstrate the grades the student has achieved in comparison with other students in a particular subject in a particular year. The school certificate must portray the academic performances of a student as accurately as possible and must communicate the grades awarded in recognition of the student's ability as determined in the examination.

The School Certificate Examinations are also the most significant event in a student's schooling in the first eight, ten and twelve years of their education. It is significant because the exams determine the extent of the student's academic performance against the cohort. This performance forms the basis for which an appropriate grade is awarded that gives a comparative measure of a student's performance in the final assessment. The certificates are treasured by the holder and are held in perpetuity as evidence of academic achievements by the student.

In pursuit of advancement in life, students highly value not just possessing the certificate but also the measure of learning reflected in the grades. These are particularly essential for meeting selection criteria to secure study opportunities in universities and colleges. There is very strong competition and demand for securing places in universities and colleges. Students and teachers go out of their way to obtain the necessary grades to be eligible so that they can be considered for university and college placements.

In the desperation to achieve top grades, cheating in exams has been practised by some schools. This is yet to be addressed by authorities although concerns have been raised by parents and teachers about the unfairness dealt to the students who were honest and hardworking. Cheating inflates the grades of a student and portrays a false image of the true worth of the individual student. It is unfair for a weak student to obtain an A or B grade from cheating while someone of

a similar academic ability obtains a D grade under the standard exam conditions. When grades are inflated or the examination processes and protocols are abused or rigged, the final grades awarded are held suspect. The certificate thereby becomes redundant and the examination system loses credibility and integrity.

The integrity of the School Certificate and the School Certificate Examination is at stake. The Department of Education has a legal duty to restore confidence in the examination system so that every student is examined fairly under similar exam conditions. Cheating in examinations negates the fairness, honesty, diligence and credence required from every student by giving an unfair advantage to the perpetrators. This however disadvantages students who are academically bright, honest and hardworking. There is an even greater social cost to the nation when cheaters are infiltrating the formal system with highly inflated views of themselves and their potential to ply their trade as they enter and re-enter different work places in their working life. Their potential impact on the society at large may mean they would cheat their way in and gain with dishonesty in whatever they do and wherever they are.

The implications for measuring quality learning for students as an indicator for UBE using the Grade 8 exam poses serious questions about its accuracy and reliability given that cheating has tarnished the good intention of the examination. Is the Grade 8 school certificate examination a good indicator for measuring quality student learning for UBE under a cheating exam regime? The greater societal implications of cheating in school examination need national effort to address the issue in order to find a lasting solution that brings integrity and credibility to the examination system.

It is critical to ensure that the integrity of the examination system and its respective certification are not compromised because of administrative inadequacies and incompetency. Cheating raises the question of the integrity of the teachers and the schools that facilitate such a corrupt practice. Two recommendations are made with a view to bring back respectability and add credibility to the examination and certification system and thereby uphold the integrity of the examination and certification system in PNG.

- a) That the Department of Education immediately addresses the issue of cheating in examinations and the integrity of the certificates awarded through a review of all the necessary administrative and management protocols governing the SCE. This should be done as soon as possible to restore confidence and credibility in the examination system so that it measures what it is supposed to measure; and measures it accurately, honestly and fairly.
- b) That the Department of Education investigates the possibility of relinquishing the roles and functions of school certificate examinations and certification to an independent authority whose responsibility includes, amongst others, setting exam questions, marking exam papers, grading the students' exam results, keeping the records of exam results and certifying the students who sat for the prescribed examinations. Such a body could have its own governance structure in place with a legal mandate and be tasked to manage and administer School Certificate examinations and report directly to the Minister for Education.

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PART FOUR

EQUITY AND ACCESS: PROVIDING AN INCLUSIVE UNIVERSAL BASIC EDUCATION

CHAPTER 12: INCORPORATING INCLUSIVE EDUCATION ELEMENTS IN THE MAINSTREAM TEACHER INSPECTION PROCESS

James Knox

Introduction

Inclusive education means that children with special needs should be educated alongside their non-disabled peers in the mainstream classroom. The fundamental idea of inclusive education is to prepare all children, with or without disabilities, to contribute to and participate in the communities in which they live. Papua New Guinea first committed itself to inclusive education in the National Policy and Guidelines for Special Education in 1993. The inclusive education policy's goal was to integrate children with disabilities into mainstream schools. Inclusive education is designed to apply to gifted children, children with disabilities and those who are disadvantaged. If inclusive education is to be implemented in the mainstream schools, supervisory authorities are naturally required to monitor the process.

Papua New Guinea is one of the countries in the world that practises inclusive education. Inclusive education benefits everyone. The practice of adapting instruction in mainstream classrooms allows all children to learn together at their own pace. To be more precise, inclusive education benefits individuals with special needs. Power-deFur and Orelove (1997) found that children with disability in inclusive school settings improved in social, emotional and communication skills. Inclusion also allows for more interaction with peers and classroom teachers, so that Individual Education Plan (IEP) goals can be achieved in a natural way — in the classroom where children without disabilities learn.

Children with Special Needs in the Regular School Setting

Children with special needs enrolled in mainstream schools benefit greatly when learning alongside their peers. Social and communication skills are developed as a result of continuous interaction between class teachers and fellow students. Class teachers for children with special needs also learn special skills through support services from resource staff, or from having their own experiences when frequently working with children with special needs.

All children, with or without disabilities, have the capacity to learn at their own pace. Disability does not stop children from learning. According to the Papua New Guinea National Policy on Disability (2009), an estimated 10–15% of a national population will have some kind of disability. Therefore, we would expect there to be 520,000 people with a disability in PNG. According to the Enabling Education Network (EENET) website, the number of children with disabilities enrolled in Papua New Guinea's schools has not been documented, since there is no national data collection mechanism for doing so. It is also not known how many children are not enrolled or have left school for other reasons.

Practice of Inclusive Education in the Mainstream Schools

There are quite a range of reasons why inclusive education is implemented within the mainstream schools. Many children with special needs achieve good educational outcomes in

inclusive settings. This may be the result of having good support from class teachers and peers and a general school environment that is conducive for the child's learning. Other important components of inclusive education are accessible resources and parents' and resource officers' ongoing support. On the other hand, some children with disabilities drop out of school. This may be because they get little or no support from teachers and peers. Being physically present in the classroom does not necessarily lead to learning. Successful inclusive education requires continuous communication among the teacher, child, peers and family.

One of the factors that affect children's educational experiences is the diverse cultures in PNG. Many people in PNG believe that ancestral curses or family members' hidden sins are the cause of children's disability; so many families refuse to send their children to schools. The cost of school fees and families' low motivation for enrolling children in school may also result in children with disabilities not being sent to school.

Many classroom teachers who have students with special needs argue that planning for, and supporting, such children is an extra work load that should be accompanied by extra incentives or bonus pay. However, some teachers are committed to supporting children with special needs regardless of compensation because they understand that it is part of their duties to educate all children in their class and respect individual rights to have access to education. The Papua New Guinea National Policy on Disability recognizes that people with special needs or impairments have the same human rights as people without disabilities and that physical barriers or attitudes should not limit their full participation in everyday life (PNG National Policy on Disability, 2009, p.23). The Constitution of PNG states that, "citizens have the same rights, privilege [and] obligations" (PNG National Policy on Disability, 2009, p.18).

Although children with disabilities have a legal right to education, most do not attend school. There are many reasons for this, but one contributing factor may be that teachers do not feel it is their legal obligation to educate all children. Almost all teachers who have graduated from primary teachers college at least had some form of training in inclusive education. To earn a diploma in primary teaching, teachers are required to take at least eight units in special education. Even though children with special needs should be enrolled within the regular schools, as directed by the Government, and even though teachers have some training in inclusive education, there is no system in place to hold schools accountable for serving all children. Some children may be present in class, but the necessary supports are not provided. There is no system in place to evaluate whether teachers are providing adequate support to children with special needs who are physically in a classroom.

Stakeholders' Roles and Responsibilities to Implement Inclusive Education

The network of Callan Services has established resource centers in 16 provinces in the country. Callan resource centers have different programs that address the needs of people with disabilities. Inclusive education is one of the priority areas that Callan emphasizes. Inclusive education components include in-service training of teachers, training parents, creating educational plans for children with special needs, and supporting them through regular classroom visits. Often people think that resource teachers or regular class teachers can meet all the educational needs of children with disabilities. This is not true. Supporting children with special

needs requires team effort. Teachers, parents, peers and education authorities all need to work together to make inclusive education work.

Resource teachers play an important part in making sure that the needs of children with disabilities are met within the regular schools. Resource teachers make sure that the regular class teachers enrolling children with special needs are well equipped with necessary skills that can assist the children to reach their full potential. They also do trainings for peers and parents and promote awareness of disability issues and rights.

Resource teachers are certified special education teachers that make arrangements, design IEPs and support children with special educational needs. They also make referrals to allow for more assistance from partners for further support, for example, from health services, if need be. The resource teachers work with registered clients following the National Special Education Unit directive that allows one teacher to assist and support 15 clients (1:15). It is a standard ratio which all Callan resource centers use. However, due to geographical, staffing, financial or other reasons sometimes this ratio is higher or lower.

Regular class teachers directly support children with special needs enrolled in their class. They prepare work for all children, regardless of the learners' differences. The children learn at their own pace with the support of their class teacher. The class teacher identifies the child's specific learning needs on certain topics each week and consults with the resource teacher for IEP planning and implementation. The teacher also keeps and monitors the records of each child's learning progress.

The parents and peers also play an important part in the learning of children with special needs. Parents provide the moral and financial support to make sure the child attends school and gets the support needed. Parents receive special training and information on ways to support the child based on his or her learning needs. Peers help children with mobility and accessibility or communicate on a regular basis to make sure lessons taught are fairly understood.

The education authorities are also important people in implementing inclusive education. They are responsible for creating and implementing policies that give all children access to education, including children with special needs. School inspectors are direct supervisors of teachers, making sure that the teachers perform their duties well so that the children in their class can reach their full potential. School inspectors' involvement would make a huge difference in promoting the implementation of inclusive education.

Callan Services for Persons with Disabilities as a Major Disability Service Provider

Callan Services National Unit for persons with disabilities is a non-governmental organization, administered by the Christian Brothers within the Catholic Church. It is a capacity-building agency within the network of Callan Services that focuses on education, community based rehabilitation and health services for people with disabilities. Callan Services has practiced and supported inclusive education in PNG for more than 20 years. Officially, the National Department of Education endorsed the implementation of inclusive education in 1993 but initial work was done in 1983, through the Mercy Mission Society.

Recommendation to Add Inclusive Education as an Item on the Regular Inspection Checklists

While Callan has a long history of practicing inclusive education, and therefore also has extensive expertise to support children in mainstream school, it does not have the authority to monitor and enforce national inclusive education policies. There is a need for higher authorities to monitor the implementation of inclusive education and to make sure that all parties, not just resource teachers, fulfill their roles. One such higher authority is the school inspection system. Supervision of teachers plays an important role in quality assurance and accountability.

School inspectors have lists of concrete inspection items designed to assess whether teachers perform satisfactorily in the various aspects of the teaching profession. However, there is no inspection item that specifically calls for regular teachers to address the needs for children with special needs. Therefore, we recommend incorporating inclusive education elements into the mainstream teacher's inspection process by adding an inclusive education item to the inspection checklist. We believe that doing so will assist PNG in achieving its Department of Education and United Nations goals of giving all children equal rights to education.

Access to education is a fundamental right for all children. The Constitution of PNG clearly provides for all citizens to have equal rights despite differences. Moreover, the United Nations Convention on the Rights of Persons with Disability specifically affirms that children have a right to education. However, such rights are meaningless without mechanisms that hold schools accountable for making the right a reality. Therefore, we recommend that all inspection checklists include "promoting the implementation of inclusive education" as an additional item.

The term "promoting" includes such actions as encouraging, helping, supporting, sponsoring, upholding and advancing. "Implementation" refers to completion, execution, realization, achievement and performance. There may be a need for inspectors to discuss and agree on further criteria within this item, but the item itself provides a first step toward accountability for inclusive education. In order to initiate this change to the inspection checklist, we recommend that school inspectors and the special education inspector meet to discuss the change, its meaning, and the process to officially change the criteria by which teachers in PNG are evaluated.

Conclusion

The successful delivery of inclusive education for children with special needs within the regular schools will benefit all children, with or without disabilities. Adding an item to the teacher inspection checklists, "promoting the implementation of inclusive education" would no doubt make a huge difference to the full implementation of inclusive education, and universal basic education cannot be achieved without such full implementation of inclusive education.

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PART FIVE

THE BOTTOM LINE: FINANCING OF UNIVERSAL BASIC EDUCATION

CHAPTER 13: SERENDIPITY EDUCATION ENDOWMENT FUND

Rod Mitchell

Introduction

The HIV epidemic impacts most severely on families and children. It is a familial epidemic, affecting married people, people in their reproductive as well as their productive years. In Papua New Guinea (PNG), most people living with HIV are between 20 and 35 years old. It has been estimated that by the end of 2011, about 60,000 people in PNG would be living with HIV. The majority of these are parents with young and older children in their care. PNG has a very high dependency rate. These children may themselves be infected although the majority will not be infected. Whether infected or not, these children will be affected by their parents' infection, by the social and familial reaction to their parents and by their parents' deaths.

The needs of children touched by the epidemic are profound; their rights to their basic needs, their inheritance, their culture and citizenship are often neglected. Amongst the basic rights most often denied them is the right to education, a right essential to their future development and to the development of the nation. Protecting the right to education in an environment which is caring of the children involved can create the possibility of these children being able to survive the trauma of their parents' infection and of themselves being able to survive the ravages of the HIV epidemic. In this way, the vicious cycle of impacts of the epidemic over generations can hopefully be lessened.

What is the Serendipity Educational Endowment Fund?

The Serendipity Education Endowment Fund (SEEF) was established by the Asia Pacific Business Coalition on AIDS (APBCA) to provide for a quality, sustainable education to children living in PNG whose lives have been impacted by the AIDS epidemic and to allow them to either begin schooling or complete their studies.

A short history

The Serendipity Educational Endowment Fund (SEEF) has its origins in what is now often called a sense of corporate social responsibility. A young Australian entrepreneur, Craig McMahon signed up the world renowned Italian operatic tenor, Andrea Bocelli, to tour Australia in 2008. As part of the deal he struck with Bocelli, a percentage of each ticket sold would be donated to the Asia Pacific Business Coalition on AIDS (APBCA). The concerts were a success and 300,000 kina was set aside to help address HIV issues in PNG. APBCA, in consultation with Business Against HIV/Aids (BAHA), decide to use the legacy to further the educational aspirations of children disadvantaged in the context of the HIV epidemic and who lack the support and funding to continue their education.

Thus SEEF was established in 2009. A Board of Trustees was set up with at least one Trustee from APBCA and one from BAHA and one Trustee knowledgeable about children and families with HIV in PNG. The decision was taken that the Fund would work through organisations

working with families living with HIV and a set of Operating Guidelines was drawn up and approved. A number of guiding principles for the scheme were formulated:

The Board

SEEF has a Board of Trustees that oversees its functions. The Board comprises:

- Chairperson: Mr. Stephen Grant, CEO, APBCA.
- Trustees: Mr. Rod Mitchell AO, CEO, BAHA & NASFUND, Mr. Lawrence Stephens, Program Manager, CSIP, PNGSDP; and Dr. Elizabeth Reid AO, Development Consultant.

Financial procedures and reporting requirements are in place through BAHA. The Board of Trustees is responsible for due diligence in the selection of partner organizations. SEEF falls under the auspices of BAHA which is a recognised not-for-profit organisation with charity status.

So Who is Eligible?

SEEF benefits children who have lost one or both of their parents to AIDS, children whose parents are living with HIV and the children of families providing support. Priority is given to families, guardians, foster parents or carers of these children that are unable to meet the cost of the children's education but are prepared to contribute to and support education to the best of their ability.

- Children in families where one or both parents are infected often do not have access to school before their parents die and so the scheme covers these children as well as HIV orphans.
- The scheme supports *families* of children rather than individual children, that is, if one or both parents are infected or dead, all the children who want to continue their education are included.
- Where one or both parents are alive, the parents should demonstrate their desire to stay well for the sake of the children, in particular by, where relevant, accessing and adhering to HIV prophylaxis and treatment.
- The parents, guardians, foster parents or carers will show their concern for their children's wellbeing by contributing towards their education, in cash, kind or labour. The Fund will top up this contribution.
- The parents, guardians, foster parents or carers will be asked to encourage the children to be actively engaged in school, to oversee homework, and to provide care in the school holidays.
- The principles of social justice must be honoured, in particular, priority be given to families in need, gender equity be actively sought, and the rights of the children be protected, especially the right to be free from abuse and exploitation.
- Since school fees are only a part of the cost of education, the Fund is prepared to support, where necessary, to keeping the children in school, associated educational costs. SEEF support follows the school year. Fees are paid at the start of the school year. Other costs,

where these are covered by the scheme, may be drawn down during the year. These include uniforms, school supplies, transport, lunch monies, etc., as agreed with partners.

Administration Costs

All of the funds raised under SEEF go directly to the costs of providing education for children who have been affected by HIV & AIDS. To this end BAHA pays for the costs of administration and auditing of the Fund and the four board members act in a totally voluntary capacity.

How are Children Selected?

The Trustees have been careful in the selection of 'Fund Partners', on the ground organisations with the ability to pick the families most in need, monitor the children's progress and administer strict guidelines to prevent the misuse of funds. The Fund partners are generally religious based with on the ground management being run by the clergy. In 2011 we have eight partners working with SEEF. Through its principle of gender equity in access, families have been encouraged and supported to ensure that their girl children are also able to attend school. The education of girls is something that I am taking a very strong advocacy line on at the SEEF Board. Too much evidence has been seen of young girls who are left without parents through HIV moving into the households of relatives where their existence is marginalized to that of indentured labour with no opportunity, no schooling and where abuse is rife. Similarly when illness strikes a parent, more often than not it is the girl child who is sought to fill the household gaps.

Confidentiality

A premise in all HIV work is confidentiality. The SEEF along with the Partners have a rigorous approach to the confidentiality aspect of the children assisted. Children who have been touched by HIV have enough to deal with without the additional burdens of discrimination and stigmatization.

First Year of Operation

Let me first emphasise that the program is focused on fulfilling the needs of the communities rather than reaching numerical targets. In its first year SEEF worked with five partner organisations. Through them, it supported the education of 105 children, both boys and girls, in 43 families. Of these, 73 were in primary and elementary schools, 24 in secondary school and eight in tertiary colleges or technical courses. In 2011, SEEF will increase the number of partners and through them the number of children on the scheme to over two hundred. The demand for such support still far exceeds the current capacity of SEEF and others working in the field to fulfill it and will continue growing in the immediate to longer term future.

Funding Update 2011

The target for 2011 was to have 800,000 kina committed (200 children x 5 years x 800 kina).

Table 1: Funding up to 2011

Source	Kina	All PNG	WP only
Initial Serendipity Donation	250,000	250,000	
Interest Earned	50,000	50,000	
Myer Foundation	200,000	200,000	
(various Australian sources)	200,000	200,000	
PNG SDP	240,000		240,000
PNG Gaming Board	40,000	40,000	
Total	980,000	740,000	240,000
Approximate number of children	245	185	60

The Average Cost Per Student

Based on our 2010 data, the average annual cost per child is 800 kina. In order to ensure sustainability, children are only added to the scheme when funding is in place to complete their education, deemed to be an average of five years. To add a child to the scheme therefore calls for an investment of; 800 kina x 5 years = 4,000 kina.

SEEF – A Case Study

A SEEF student has won a prestigious national government scholarship towards his second year studies at Teachers College. The young man who won the national scholarship was one of the first students to be taken into the SEEF scheme. This is an achievement to be proud of by a young man whose life has been marked by a great deal of suffering and injustice. His father died when he was a boy and his mother is living with HIV and struggling to survive. He is an only child. He and his mother have taken care of each other. When he was at school, whenever his mother fell sick, he would go with her, even carry her at times, to the health centre. Her health improved dramatically when she was put on ART. They were determined that he continues at school and he and his mother worked and scraped the money together to get him through to Grade 12. He worked hard and did well.

He was then accepted into a number of educational institutions but the cost was too much for his mother. For four years, he felt that there was little hope in his life. He and his mother had lost their access to their gardens and coffee trees. They were outsiders in their village. They eked out an existence moving from place to place. His mother decided to speak out with three other positive women about living with HIV. The women wanted to help others and stop them from getting infected. Often this brought them more hardship and mistreatment.

Then, through one of our church partners, the children of these four women were brought into SEEF. Hope started to return. The young man decided to go to teacher's college so he could earn money and help his mother. He was determined to work hard and to do well.

There are many other such heart-warming stories from our first year. A SEEF student living with HIV and on ART finished grade 10 and did so well that he has been awarded a scholarship to go to a national high school in 2011. He wants to be an accountant as his father was, before his father's illness and death. Another young SEEF student with HIV and living on her own had little formal education. She wanted to do a computer course so that she could look after herself. She did so well in the basic computing course that she has been selected to go on for further studies.

These are stories of struggle as well as of success. Each of the students supported by SEEF in its first year has a story of pain but each of them, together with their families, has experienced the joy of being cared for and has gained a sense of hope for the future

Conclusion

SEEF was explicitly established to support needy children in families touched by the HIV epidemic to finish their schooling in a supportive environment so that they would be better prepared for their future lives. Through its principle of gender equity in access, families have been encouraged and supported to ensure that their girl children are also able to attend school.

Very often, though importantly not always, it is the mother, often herself infected with HIV, who has the care of the children, left to cope alone through death or desertion by the father. SEEF, through its financial support and the emotional and social support of its partners, provides solace and hope to these women.

The future of a nation is in the hands of its children. This scheme seeks to ensure that the children in families touched by the HIV epidemic have a better hope of becoming responsible and informed citizens, parents and members of their communities. This also contributes to strengthened law and order in society.

Families trying to cope with HIV often experience severe emotional trauma, physical suffering, financial hardship and social marginalization. They often disintegrate or become dysfunctional under the strain. Support for the education of the children can help them regain a sense of agency and capacity to cope. The stories that SEEF is collecting also help others better understand the nature and impact of the HIV epidemic and so contribute to the development of more effective responses to the epidemic.

CONCLUSION: WHAT INTERVENTIONS ARE REQUIRED TO FAST TRACK THE GOAL OF UNIVERSAL BASIC EDUCATION?

Arnold Kukari

Introduction

The achievement of the EFA goals and the MDGs, particularly the goal of universal primary education, will be critical to the achievement of the other seven MDGs, including gender parity and poverty alleviation. Access to free and compulsory primary education of good quality by all school aged children will ensure that they learn all that they are expected to learn and complete the primary school cycle with foundational literacies and competencies necessary to function effectively in life. This is the key to unlocking the potential of every child, regardless of his or her background, freeing him or her from a life of poverty, and giving him or her a chance to lead healthier and more meaningful lives. Moreover, it is the single most important key to achieving the desired development goals, alleviating poverty, emancipating and empowering citizens, and ensuring an equitable and more meaningful participation by all Papua New Guineans in the development dialogue at the national and sub-national levels. In addition, it provides an important pathway and an effective strategy for ensuring a literate population. It is the single most important strategy for addressing the poor state of literacy in PNG. Yet, as the Inaugural National Conference on Universal Basic Education was being convened to discuss past experiences of universalizing basic education and draw lessons from these experiences to craft innovative strategies for achieving the goal of Universal Basic Education, an estimate of 500 000 school aged children were yet to have access to the first grade of formal education (AusAID, 2010).

Children's Right to Education

All school age children have a right to education regardless of their background. This right is enforced by various legal frameworks. These frameworks enable the promotion and protection of children's right to education. This is important because without legal protection of children's rights, children can easily be denied access to education. The consequences of such a situation can be catastrophic for the individual child and his or her family. Alleviation of poverty and the improvement of social and economic outcomes require that children's right to education is protected and secured through appropriate legislative frameworks. Globally children's right to an education is embedded and promoted through the Universal Declaration of Human Rights, 1948, and the United Nations Convention on the Rights of the Child, 1989. These frameworks stipulate the rights for all children to receive an education without discrimination on any grounds. They make it obligatory for all countries that have ratified these instruments to ensure that children's right to education is secured through the development and implementation of relevant enabling policy and legal frameworks. PNG is a signatory to these declarations and conventions and as such it is obliged to ensure that all children have access to relevant, affordable and quality education.

Interventions Required to Fast Track the Goal of Universal Basic Education

The purpose of the Inaugural National Conference on Universal Basic Education was to bring together all stakeholders to critically discuss the experiences of universalizing basic education in PNG, examine the lessons learnt, and together craft innovative and sustainable strategies for fast tracking the goal of Universal Basic Education (UBE). The conference provided a platform for increasing commitment and action by the Government of Papua New Guinea (GoPNG), government departments and organizations, Faith-Based Organizations, Non-Governmental Organizations, civil societies, donor agencies, international partners, policy makers, planners and practitioners towards the achievement of UBE targets by 2015. In particular, increased commitment and strategic investment by the GoPNG, mutually accountable partnerships, comprehensive multi-stakeholder dialogue, and committed actions will be required at all levels to increase access, retention and ensure the quality of learning for all children, regardless of their backgrounds. A number of strategies for increasing access, retention and the quality of learning were discussed at the conference. These discussions culminated in the drafting and the endorsement of 41 recommendations relating to access, retention, and quality of basic education. These recommendations were presented to the GoPNG and the Department of Education (DoE) for consideration and implementation.

Strategies for Increasing Access and Retention

A number of strategies targeting access to basic education were discussed by the participants at the conference. Provision of a more holistic and an inclusive basic education were viewed as critical to increasing access and ensuring the right of all Papua New Guineans to receive an education. Those who made this argument believed that the perspective and definition of UBE adopted by PNG excludes basic education for adults and out-of-school youth, and does not adequately cater for the marginalized and educationally deprived children such as girls, children living with disabilities, children living with or affected by HIV/AIDS and children living in extreme poverty. Moreover, it was also argued that the approach to basic education pursued since the colonial era continues to suppress and undermine the educational opportunities of children who are 5 years and below. The neglect of educational opportunities of children below 5 years has deprived these children of an opportunity to begin learning at an early age. It has been detrimental to their cognitive development.

The denial of educational rights of adults and out-of-school youth, children under 5 years of age and marginalized children, and negligible support in the provision of educational opportunities for them has directly contributed to the high levels of illiteracy, especially amongst women and girls, poor quality of learning at subsequent levels of education, limited life choices and hence the continuation of the poverty cycle. These are very serious consequences and can only be addressed through the provision of a holistic and an inclusive basic education. However, discussions regarding an expanded and inclusive basic education, inclusive of Early Childhood Education, adult or non formal education and elementary prep, primary and secondary education, must take into account the capacity to delivery such an expanded basic education system. A major review and realignment of the whole education system should be carried out for informed decisions to be made on how best to organize, structure, implement, manage and monitor an education system that embraces all aspects of education and training as equally important in the development of all citizens.

With regards to increasing access to basic education; that is, elementary prep to grade 8, the conference recommended, inter alia, for the government to take immediate steps to make basic education free and compulsory for school-aged children and implement an effective Inclusive Education Policy. The former recommendation will require the government to legislate for free and compulsory basic education through an Act of Parliament. The latter will require the involvement of all stakeholders to develop, implement and monitor an effective inclusive education policy. These two frameworks will ensure the rights of all children to receive a quality basic education by addressing barriers outside and within the education system preventing children from accessing basic education and being retained to complete a full cycle of basic education. These are overarching enabling frameworks for enabling access and retention of all children. When developed and put in place, they will have a very big impact on access and retention of children, and contribute significantly towards achieving the goal of UBE. In addition, the participants at the conference recommended for the GoPNG to accelerate the payment of school fees to cover all grades from elementary prep to grade 8 by 2015. The GoPNG during the latter part of 2012 moved to abolish school fees for basic education and subsidized 75% of school fees at the secondary school level. This intervention has seen a massive increase in student enrolments at the basic education level.

Strategies for Improving the Quality of Learning

Quality of learning is difficult to define owing to differing perceptions of what it means and how it should be measured. In some cases it is defined in terms of the relevance of what children learn in school and its utility in life. In other cases it is defined in terms to how much children have learnt while in school in relation to the learning indicators described in the school curriculum, which often embodies the expectations of society. These differing definitions of quality of learning, its enablers, and how it is to be measured underpin the strategies discussed and recommended by the conference participants.

The provision of a relevant curriculum was viewed as important in providing a quality education for all children. The proponents of this view perceive quality learning as the provision of a pragmatic, vocational oriented education and training that will enable children to learn the necessary vocational skills required to effectively function in life and, at the same time, contribute to community and national development. The view is in direct contrast to the view of learning centered on the learning of pure academic subjects as well as the view which is focused on the integration of academic and vocational subjects. These perspectives of curriculum relevance and structure have underpinned much of the debate and struggle over school curriculum over the decades.

However, in order for children to achieve academically and acquire the relevant competencies and required literacies, enabling inputs and processes must be effectively provided to enable them to effectively learn what they are expected to learn. Quality learning enablers are therefore critical to the attainment of quality learning outcomes. Significant investments must be made to provide and sustain these enablers of learning if the desired quality of learning is to be achieved and improved over time. Some of these enablers were discussed at the conference and should be seriously considered for implementation to ensure a high level of student achievement. These include, amongst others, investment and committed support for school-based teacher professional development and continuous learning. Strategic support and investment in

continuous and sustainable teacher professional development and learning is a catalyst for achieving improved and sustainable quality of learning by children.

The strategies for increasing access and retention, and ensuring the quality of education discussed and recommended in this book are worth considering in efforts towards universalizing education in PNG. These strategies are evidence-based and drawn from years of experience and practice of universalizing basic education not only in PNG, but also in other contexts. It is now clear that PNG will not fully attain the goal of UBE by the target date of 2015. It requires all stakeholders to increase their commitment and action to fast track the goal of UBE. More so, it requires us to think outside the box and come up with innovative strategies to improve access, retention and the quality of education. This book provides a platform for action towards full universalisation of basic education in PNG.

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