

**Scripted lessons in Papua New Guinea: An investigation  
into the impact of training on elementary teachers' ability  
to use them.**

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## ABSTRACT

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This study presents the findings from a controlled trial of the new Teacher Guides for English as a subject (n=293) that form part of the new elementary English Standards-Based Curriculum in Papua New Guinea. The aim was to investigate whether training on the Teacher Guides had an impact on teachers' ability to use and deliver the scripted lessons they contain.

The trial was conducted in two provinces. Assessment was by pre- and post-trial questionnaires, reflective journals and focus groups. The multi-arm trial ran over seven weeks with three training groups: group 1, with 1.5 days of full training (n=96), group 2, with 0.5 day of introductory training (n=100), and group 3, (n=97) with no training.

Training on the Teacher Guides had no significant effect on adherence to or use of the teaching strategies in the scripted lessons. All groups, regardless of the amount of training they received, reported being able to apply the strategies from the Teacher Guides during lessons. From the pre- and post-trial questionnaires, a significant positive effect in the use of key teaching strategies from using the Teacher Guides was found over time.

Keywords: education, English, Papua New Guinea, phonics, scripted lessons, teacher training

# CONTENTS

<b>1</b>	<b>INTRODUCTION</b> .....	<b>4</b>
<b>2</b>	<b>LITERACY EDUCATION IN PNG</b> .....	<b>9</b>
2.1	Background and context .....	9
2.2	The OBE curriculum Exit Report – needs analysis and recommendations for the new Teacher Guides – setting the conditions.....	14
2.3	Every Child Reading project - the beginning of the Teacher Guides....	15
2.4	Other interventions to improve literacy in elementary and primary schools in PNG .....	17
<b>3</b>	<b>THE TEACHER GUIDES</b> .....	<b>19</b>
3.1	Theory.....	19
3.1.1	Scripted lessons and sociocultural bridging.....	19
3.1.2	Reading based on a phonological backbone.....	22
3.2	Design of the Teacher Guides for elementary English.....	25
<b>4</b>	<b>RESEARCH QUESTION</b> .....	<b>33</b>
<b>5</b>	<b>IMPLEMENTATION OF THE STUDY</b> .....	<b>33</b>
5.1	Approach.....	33
5.1.1.	Baseline fieldwork .....	35
5.1.2.	End-point fieldwork .....	38
5.2.	The participants.....	39
5.3.	Reliability and validity .....	44
5.4.	Qualitative data research method .....	47
5.5.	Ethical considerations.....	48
<b>6.</b>	<b>RESULTS</b> .....	<b>51</b>
6.1.	Quantitative data .....	51

6.2 Qualitative data .....	62
<b>7. DISCUSSION .....</b>	<b>69</b>
<b>REFERENCES.....</b>	<b>75</b>
<b>APPENDICES.....</b>	<b>86</b>

# 1 INTRODUCTION

This thesis presents the findings from a controlled trial of the Teacher Guides (TGs) for elementary English that form part of the new Standards-Based Curriculum (SBC) in Papua New Guinea. The study is based on the curriculum materials created during my Master's internship and the subsequent trial of those materials. The internship was with the international development charity Voluntary Service Overseas (VSO). VSO places experienced professionals in Africa, Asia and the Pacific by matching people with relevant skills and qualifications with positions requested by various partner organisations. The role was requested by the elementary section of the Curriculum Development Division (CDD) of the Papua New Guinea (PNG) Department of Education (DoE). The title of the role was Curriculum Writer and Educational Researcher. The role was part of a project called Every Child Reading (ECR). The main responsibilities of the role were the development and trial of a new curriculum for English as a subject at elementary level. Draft materials were completed in October 2014 with the trial of the material completed in December 2014. This was my second placement with VSO, having spent 18 months in 2011/12 working on a phonics intervention trial in the highlands of Papua New Guinea.

PNG is a unique and challenging environment. There are over 800 distinct languages among a population of approximately 7 million people (United Nations Development Programme, 2014. PNG National Human Development Report, 2014). It is estimated that 80% of the population lives in rural areas and depends on subsistence farming (United Nations Development Programme, 2014). The extractive industries have played a major role in the historical and political landscape of PNG. As a result of Australian gold prospecting in the 1930s, a major, previously unknown population of over 1 million people were 'discovered' in the highlands.

PNG's gross domestic product (GDP) has been consistently high over the last decade and a half. The forecast for 2015 is 20% (Asian Development Bank (ADB), 2014). Although categorised as a middle- to low-income country, historically there has been little inclusive distribution of wealth, partly due to a narrow employment base. Food scarcity is not considered a problem in PNG, yet UN figures in 2015 put 36% of the population living on less than 1.25 US dollars a day.

The United Nations Development Programme (UNDP) Human Development Report 2014 places PNG at 157 out of 187 countries and territories. Trends relating to PNG's Human Development Index (HDI) component indices for education show an increase of 2.7 years to the mean years of schooling and an increase of 4.8 years in the expected length of schooling from 1980 to 2013. Although PNG has shown considerable increases in these areas, the increases are below the average of countries in the low human development group.

At the World Education Forum in Dakar in 2000, 164 governments, including PNG, pledged their commitment to the eight United Nations Millennium Development Goals (MDGs) to be met by 2015. Pertinent to this study is MDG 2; universal primary education. PNG will not meet any of the universal or localised MDGs this year. PNG faces many challenges in attempting to achieve quality education as student enrolment increases. The Education For All global education movement arising from the April 2000 United Nations Millennium Declaration has been at the core of national and international efforts to strengthen education systems in the developing world for the last 25 years. It is posited that education in developing countries such as PNG can play an integral part in the development of social justice (Hopkins et al., 2005; Tikly and Barrett, 2011). Education for development is often seen through the lens of economics, yet it is not always the case that economic development is guaranteed as a result of educational development (see McGrath, 2010, re: Sri Lanka). Educationalists tend toward the wider view that education can influence state capacity, systems of democracy and, ultimately,

the role of the global north in determining trade, the extractives industry and the treatment of the environment.

Papua New Guinea is currently in the process of curriculum reform. The previous Outcomes-Based Curriculum (OBE) was a child-centred curriculum. The echoes of Basil Bernstein's sociology of pedagogy (1971a:1971b., 1975) still resonate in developing countries that are dealing with child-centred curricula, as they are faced with largely irrelevant curricula leading to systemic teacher disempowerment. Arathi Sriprakash (2012) draws on Bernstein's identification of the inherent tensions that arise from competence modes of pedagogy when implemented in under-resourced schools. She highlights the recontextualisation of pedagogic practices in rural India and the effect on teacher/student relations, and suggests this is just as relevant in other developing countries. Guthrie's review (2012) of classroom reform in Papua New Guinea confirmed the issues identified by Sriprakash and elaborates that the pedagogies and materials used in the OBE curriculum were difficult to implement due to lack of teacher training, support, resources and large class sizes.

With regards to how curricula come into being, Crossley (2010) challenges educationalists to look more closely at the unquestioned transfer of international educational policy. This was arguably the core problem with the OBE curriculum. McLaughlin (2011) argues that the noble ideals of the child-centred methodology were 'lost in translation' and failed to take into account the cultural context of PNG. Alongside this, Solon and Solon (2006) are careful to highlight that training on the previous curriculum was sporadic and professional development minimal.

As there are so few languages in PNG that are formally recorded, it is common that children learn to read in English in order to access school materials. Compounding the issue of second language acquisition is the fact that the English language has a comparatively low orthographic consistency. This accounts for a slower rate of reading acquisition in comparison to orthographically consistent languages (see Seymore, Aro and Erskine (2003); Frith, Wimmer and Landerl (1998); Goswami, Gombert and Barrera (1998)).

There is also the issue of teachers' language skills. In a study by Mclaughlin (1997) it was argued that language problems occurred as a result of the students being taught in a language of which teachers themselves had a poor grasp. Similar findings on the English language skills of elementary teachers were found in a more up to date study by Drinan and Jones (2012).

The new Standards-Based Curriculum has been developed following a government-initiated review of the education system. The new curriculum for English as a subject, which is the basis of the present study, will be introduced to all teachers of children beginning formal education. The new curriculum has daily scripted lessons for the teachers to follow, along with songs and training videos which accompany the lessons on memory cards for mobile phones. Within this direct instruction model, children are taught to listen to sounds and to make sounds. They learn that words can be broken into sounds and that these sounds can then be written down and used to read and build words. The new material provides teachers with access for the first time to inexpensive digital technology in the form of mobile phones as storage devices for speaking and listening songs, phonics songs and training videos. It is planned that the resource will go national to nearly 20,000 elementary teachers upon the finalisation of procurement.

The government-initiated education review recommended trialling of the materials upon their completion. This thesis is based on the first trial of the material. The intervention design allowed for a multi-arm trial. Two provinces were chosen which had similar Grade 8 English examination results. The Grade 8 exam is the first national exam for children in PNG. One highlands province, Enga, and one lowland coastal province, East Sepik, were selected. Within these provinces, three districts received different levels of in-service training: 1.5 days (full training), 0.5 day (introductory training) and no training. The third district, with no training, was also the most rural of the districts within the two provinces. This allowed for the replication of what could be as 'true' a scenario as possible, as teachers in rural areas have less access to resources and training when compared to their urban counterparts. Teachers in all groups received the



new elementary English TGs containing daily scripted lessons, flashcards and an SD memory card loaded with songs and training videos.

The purpose of this study is to determine whether there is a relationship between the amount of training provided to the teachers on the TGs and their ability to use them. The primary method of making this assessment was by pre- and post-trial questionnaires and a reflective journal, which teachers filled out each week during the trial. Further qualitative data was gathered in the form of focus groups and teachers' written reflections.

The main findings of the trial and design of the TGs will be reported to the PNG DoE (as yet unpublished). The purpose of the report is to make recommendations to the DoE relating to other elementary subjects and to primary subjects, planned to be written this year and next. The purpose of this thesis is to provide more context and a platform to analyse and discuss the teachers' use of the TGs comprehensively using a mixed methods approach.

This thesis will continue by giving an overview of literacy education in Papua New Guinea with particular reference to the elementary sector. Within this section the governmental and institutional processes that shaped the production of the Teacher Guides are illustrated and the appropriate links to other reading interventions in the country are made. Section 3 delivers an explanation of how the TGs were produced and the theory behind the inclusion of scripted lessons and phonics instruction. After the presentation of the research question, the methods by which this study was conducted are described. Finally, the quantitative and qualitative results are presented, followed by discussion revealing why the findings are important for emergent reading and writing in PNG.

## **2 LITERACY EDUCATION IN PNG**

### **2.1 Background and context**

The basic and post-basic education system in PNG contains an estimated 11, 000 schools housing 1.9 million pupils taught by 48,000 teachers (PNG DoE, 2014 cited in PNG EFA 2015). Education For All (EFA) goals feature in the strategic education plans of the government and can be seen in the Universal Basic Education Plan 2010-2019. Through the policy of Tuition Fee Free (TFF) education introduced in 2012, EFA Goal 2 - Universal Basic Education has gone some way to being met. TFF in PNG is a subsidised school fee for all students from elementary to secondary education. Elementary education in PNG refers to the first three years of formal schooling beginning at age 6: Preparatory Grade (EP), Grade 1 (E1) and Grade 2 (E2). Elementary schools were first introduced in PNG during the mid-1990s. The language of instruction was intended to be the vernacular as chosen by the local community. The previous elementary curriculum consisted of three subjects: language, cultural mathematics and culture & community and was introduced in 2003. The new SBC has four subjects: English, home language, maths and culture & community and is set to be rolled out to schools in 2015.

The quality of the education system as a whole in PNG has been questioned (Rena, 2011). There has been a significant increase in enrolment since the introduction of TFF education and, with it, implications for education quality (Howes et al., 2014; Brownlee, 2012) The Education for All National Review was prepared for the World Education Forum in Korea in May 2015 and stated:

“There has been a large increase in the number of teachers at all levels, with the exception of the elementary sector, which has suffered from poor administration in elementary pre-service training. That said, there is a lack of space in pre-service teacher training colleges, and it is unlikely that these colleges will be able to meet the demand for teachers that will be brought upon the system in coming years if action is not taken. An even more perplexing issue is that recently qualified teachers throughout the system have been reported to lack the required level of proficiency in the English language to perform their role. The cumulative effect of declining standards at the elementary level severely impedes pupils’ ability to learn as they progress through the system, which is having a negative impact on the overall learning process. A very high teacher absenteeism rate may also be further negatively impacting the learning process’ (The EFA PNG 2015 National Review 2015, p.85)

The report highlights a number of challenges for PNG education. The elementary sector lacks teachers and institutions that can train them. Currently elementary teacher training takes place through what is known as Teacher Directed Training. Teachers are expected to attend six weeks of residential workshops at the beginning of each year for the first three years of their teaching. In addition to this, teachers carry out Self Instructional Units (SIU). Those teachers who gain their certificates may not have the necessary levels of English skills, which in turn leads to poor student achievement. The results of the World Bank-led, Madang Early Grade Reading Assessment (EGRA) conducted in Grades 2, 3 and 4 in October 2011 showed that a significant number of students did not have the skills required to enable them to read and this was compounded by poor comprehension levels; just 37% of students could understand a simple text (Machuca-Sierra, de Silva and Williams, 2011). In addition, teacher absenteeism leaves other teachers to take their students, compounding the issue of large class sizes and lack of resources.

The complexity of the issues surrounding the education system in Papua New Guinea may be seen to be in some way related to its high ethnic diversity. Around 12% of the world’s languages are spoken in this one country alone. Although PNG gained independence from Australia in 1975 it has retained English as its official language. Throughout this time the promotion and use of home language or vernacular literacy has been seen as crucial for cultural and educational reasons. Ball (2010) and Cummins (1979, 1999) recognise the role of the mother tongue in the elementary classroom and posit that the use of mother tongue gives rise to improved cognitive academic skills leading to conceptual skills that can be mirrored in L2. Vernacular instruction is still promoted and

seen as the best basis for L2 (English) acquisition. However, the new government in 2011 changed the intended language of instruction in elementary schools to English. There have been mixed reactions to the new policy. The rationale given for it was that English standards have fallen as a result of vernacular instruction. Paraide (2014) argued that the government's failure to train teachers for and implement instruction in the vernacular and the short timescale for its implementation did not allow for effectiveness. Within this study just 19.5% of the teachers reported using English only, while nearly 63% reported using a mix of Tok Ples, Tok Pisin and English. It can be generalised that in more urban areas Tok Pisin and English are more prevalent, as many ethnic groups come together and more resources are available. With such a complicated picture across the country it seems that code switching will continue for the time being, despite government policy. There may be some benefits to this. Westbrook et al. (2013), in a literature review of pedagogic practice found that code switching and the use of local language was a practice that was likely to enhance children's learning.

A significant challenge for first language (L1) to second language (L2) learning in PNG is the lack of orthography in the majority of L1s. In light of this, it is important to take into account the fact that little research has taken place on how a spoken-only L1 affects English reading and writing acquisition (De Sousa and Broom, 2012). The DoE has tried to address the lack of orthographies in vernacular through the Home Language Syllabus and TGs. Home language is defined as the language children speak at home and in the community. It is in this language that the DoE wishes children to learn to read and write first. To this end, the Summer Institute of Linguistics (SIL) has been working alongside the DoE in developing the new Home Language Syllabus and TGs. SIL is an American Protestant missionary group and Bible translation organisation. There are guidelines in the new Home Language TG which are based on the SIL Creative Phonics Instruction Manual. This is a guide for teachers to follow with the intention of the teacher mapping and recording the orthography of the language. They are asked to make a list of all the

phonograms, count their frequency, order them and then develop a teaching programme for each term, leading to daily lesson plans.

In addition to vernacular, one major lingua franca exists in PNG, Pidgin (Tok Pisin). Tok Pisin is by far the most widespread language in PNG. As the country has become more interconnected and marriage between different tribes and ethnic groups commonplace, Tok Pisin has spread. Now Tok Pisin may be considered a creole, as children have learned it from their parents as their mother tongue. Tok Pisin is lexified by English and has been called an 'expanded pidgin' (Siegel, 2010), as it has become lexically and grammatically more complex. The grammar and syntax are borrowed from Melanesian and much of its vocabulary is borrowed from English (Klaus, 2012). Many communities took Tok Pisin as the language of instruction for their schools during the last curriculum reform. Yet there has been resistance to its recognition as a valid mode of literacy acquisition. Much of this resistance stems from the idea that pidgins and creoles are somehow inferior in status to the lexifier language, which is English in the case of PNG.

Siegel (2005), in analysing pidgins and creoles as legitimate languages, noted that opposition was evident from many quarters: administrators, educators and to some extent linguists themselves. It was thought that pidgins and creoles would have a negative impact on students' learning and be impractical to implement due to variances in the dialects and the fears of reduced literacy levels in the official language. Evidence from research into a pre-school programme teaching literacy in Tok Pisin conducted by Jeff Siegel (1997) looked at three cohorts of students over a six-year period. The results showed that there were no negative effects on the acquisition of English as a result of instruction in Tok Pisin, indeed English acquisition was seen to improve.

The majority of vernacular, pidgin and creole speakers still learn literacy in the official standard language. Furthermore if people do write in their own language there is a tendency to use the orthography of the lexical language (etymological orthography) rather than a phonemic orthography which would

better facilitate literacy acquisition. It is common for the standard form of the original European colonising language to be the goal of education systems in which pidgin or creole is spoken. Colonial ties with English are not easily dismissed and critics propose economic and cultural globalisation are inextricably linked to English (Pennycook, 2015; Phillipson, 1998, 2004, 2008). There is recognition by researchers that those in the teaching profession should be aware of English and the issues related to identity and culture (Seidlhofer, 2004, 2005; Bolton, 2005; Jenkins, 2006). English as a means for economic development is a common argument (Coulmas, 1992; Crystal 2009). Yet with regards to culture, there are well known opponents of English as a global language. Phillipson (2012) used the phrase 'linguistic imperialism' to explain the threat he saw English posing to non-English speaking cultures. Counter arguments to Phillipson's position do exist, and they tend to focus on the intercultural dimension of what an international language can provide (Khondker, 2011). There is the view that non-native English speakers' cultures may not necessarily be marginalized should the benefits of global English be made more inclusive, indeed Schulzke (2014) believes English may hold the key to the protection of minority interests. Claudia Maria Vargas (2000) calls the third pillar of sustainable development within curricula respect for local and indigenous cultures; it may not be English itself that is the threat, but the global culture and value-set attached to it that replaces local culture (see section 3.1.1 Scripted lessons and sociocultural bridging).

In sum, literacy levels in PNG are low among both teachers and students. (ASPBAE Australia Ltd and PNG Education Advocacy Network 2011, PNG Pacific Islands Literacy and Numeracy Assessment (PILNA) Report 2013). The overall low educational level of teachers and their lack of training and resources are exacerbated by their lack of English skills and the complexities of language and culture in PNG. The next section looks at how these issues, along with the difficulties in implementing the OBE curriculum led to the formation of the new Standards-Based Curriculum (SBC).

## **2.2 The OBE curriculum Exit Report – needs analysis and recommendations for the new Teacher Guides – setting the conditions**

The new Standards-Based Curriculum (SBC) has come into being as a result of much public criticism of the previous Outcomes-Based Education (OBE) curriculum. An analysis of the education sector in Papua New Guinea was carried out by Divine Word University (DWU) and VSO in 2012, funded by Australian Aid (AusAid). Baki, Jones, Nongas and Norman (2012) carried out a systematic documentary review, meta-evaluation, rapid appraisal, public consultation and semi-structured interviews with teachers, school inspectors and public servants, totalling over 700 informants. The United Nations Development Programme Capacity Assessment Methodology was used to compile the capacity needs analysis report. Capacity gaps that were found included:

overcrowded classrooms and inadequate facilities and resources for increased student numbers.....weak elementary teacher training and inspection. (Baki et al., 2012, p.9)

The Ministry of Education used the findings to develop a capacity development plan leading to the OBE Exit Report, initiated by the Prime Minister in 2013. The Government of PNG established a national taskforce that proposed the introduction of a new curriculum to cover basic and secondary education. Teachers felt they were overworked and there was confusion experienced by the schools and public regarding low student attainment and exam results as well as low literacy rates in English (OBE Exit Report, 2013). The taskforce presented the DoE with a strategy for moving away from OBE and recommendations aimed at improving teaching and learning. The report was led by DWU and VSO and made the following recommendations in order to address the low levels of student literacy:

- develop or procure and distribute scripted lessons for elementary English and maths
- develop or procure and distribute sufficient graded and dual language (English and Tok Pisin) elementary readers
- ensure teachers can understand and use amended syllabi, scripted lessons and units of work.

Public consultations led to the beginnings of a curriculum overview for elementary English, outlined below:

1 <sup>st</sup> year of Elementary (Prep, age 6)	Speaking and listening, phonemic awareness
2 <sup>nd</sup> year of Elementary (E1, age 7)	Speaking and listening, phonics, reading and writing
3 <sup>rd</sup> year of Elementary (E2, age 8)	Speaking and listening, phonics, reading and writing

### **2.3 Every Child Reading project - the beginning of the Teacher Guides**

In light of the taskforce recommendations, the Every Child Reading (ECR) project was established at the DoE's Curriculum Development Division (CDD). This programme aimed to support the development of the new elementary English syllabus, daily scripted lessons and new reading resources. The main outcomes from the ECR project were to be:

1. High-quality, structured and relevant daily scripted English lessons approved and delivered to elementary teachers
2. Elementary teachers can deliver scripted daily lessons and assessment effectively



3. Elementary students have access to quality, relevant, decodable comprehension reading texts

The ECR project was managed by the VSO education programme manager Richard Jones who has a long history of working for the DoE. A team of three VSO international volunteers were recruited to support writing, editing, graphic design and research. The team was embedded in the elementary section of CDD from February 2014 to December 2014. The team comprised Janina Clark as editor, myself as curriculum writer and educational researcher, and Amandine Goineau as graphic designer. The Department of Education funded the project using direct financial support from the Government of Australia, with VSO managing the finances and activities.

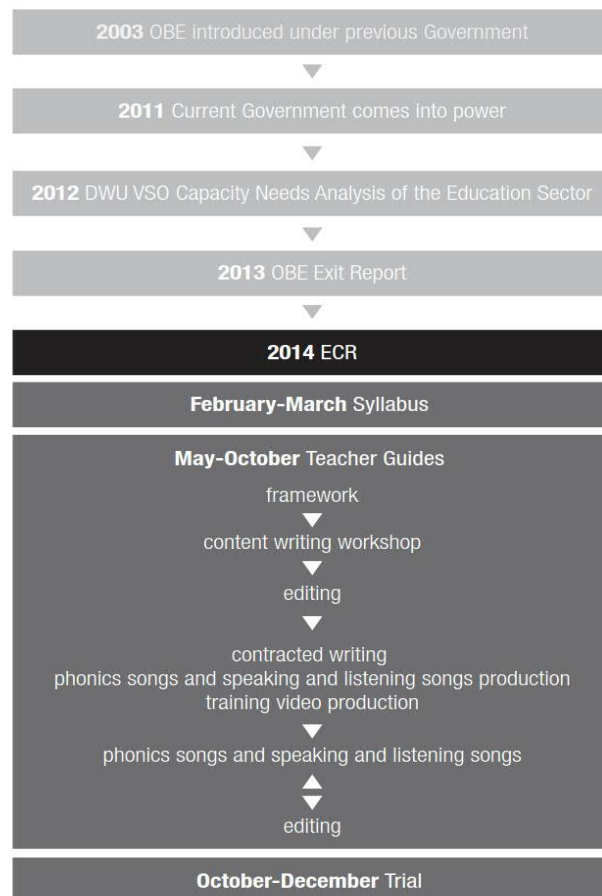


FIGURE 1. Process diagram showing the background to and the production of the new Teacher Guides for English as a subject at elementary level.

The production of the Teacher Guides is explained in more detail in section 3.2 which covers the period May to October 2014 shown in FIGURE 1. Recommendations from other relevant PNG literary projects and the theory behind the two main recommendations (scripted lessons and phonics) that fed into the production of the TGs are now presented.

## **2.4 Other interventions to improve literacy in elementary and primary schools in PNG**

ECR was able to draw on recent research from a related literacy project, Read PNG, based at CDD. Funded by the Global Partnership for Education and supervised by the World Bank, Read PNG had been conducting Early Grade Reading Assessment (EGRA) studies in a number of provinces since 2011. A group of 20 schools from the Madang area were chosen to be assessed by the DoE. Read PNG survey results showed that children (n=1279) at the end of elementary (E2) and the beginning of primary school (Grades 3 and 4) only begin to achieve reading fluency by the end of Grade 3. What this means is that students may have had 4 years of schooling yet only meet very basic levels of literacy. Of more concern was the finding that reading fluency improvement did not correlate with improvement in reading comprehension. At the end of Grade 4, 75% of students were reading at 45 words per minute yet comprehension levels were found to be low at 60 % or below of the read text. The study showed that a statistically significant predictor of better reading performance was whether the teacher had used the recommended teacher guide. Read PNG had also managed the development and trial of daily scripted literacy booster lessons in 2013/14.

In addition to Read PNG, from 2011 to 2014 there were several key studies around elementary teacher education and the elementary teacher workforce that are pertinent to this study and the development of the Teacher Guides:

- VSO and the British Council conducted an assessment of elementary teachers in 2013 (n=750) using the International English Language Testing System (IELTS). Among their findings were that around 40% of elementary teachers had ‘very limited English proficiency’ (Drinan and Jones, 2013). For this reason, training manuals and Teacher Guides were simply written. The content in the TGs is 8.0 or under using the Flesch-Kincaid Grade Level for Readability.
- A phonics trial run by VSO in 2012 (n=480) assessed elementary and Grade 3 students over two terms. Assessments pre- and post-trial for active and control groups were made in four main skill areas; letter recognition, phoneme-grapheme correspondence (PGC), blending and segmenting. A significant percentage uplift was shown in the skill areas tested for those receiving daily scripted phonics instruction (Cawley, Pilgram and Smith, 2012). One of the main recommendations of the trial was the further development and use of scripted phonics instruction.
- SMS Story, again run by VSO, conducted a trial to determine if daily SMS phone messages containing lessons plans and decodable stories would improve children’s reading in elementary schools. Baseline reading comprehension scores of just under 22% (n=1329) were found. Control and active groups of students were assessed pre- and post-trial in five areas; decodable words, sight-word fluency, invented words, oral reading fluency and reading comprehension. The daily text messages to elementary teachers (n=102) resulted in a significant improvement across four of the five key reading skills tested. (Kaleebu et al., 2013).

The recommendations from the above studies and those from the OBE Exit Report have been taken into consideration in the design of the TGs. Section 3 now goes on to look at how those recommendations have been operationalised.

## **3 THE TEACHER GUIDES**

### **3.1 Theory**

Scripted lessons are based on the idea of Direct Instruction. Developed in the United States in the 1960s by Bereiter and Engelmann, this was a method of teaching that was aimed at meeting the needs of disadvantaged students (see Bereiter and Engelmann, 1964, 1966). For a review of their methods and approach at the time see Friedlander (1968). Its roots lie in B.F. Skinner's condition-stimulus-response theory. Behavioural psychologists relate the process of learning to the development of new behaviours. A teacher sets the condition, lessons are broken into parts and these parts taught explicitly, once key skills are grasped the intention is that there is response to a stimulus, which in the case of the TG may be reading of simple words on the board. The lessons move on to cover the next level of required skills once the students are grounded in the prerequisites. Reading is taught by teachers through scripted lessons which deliver the key skills of letter sound correspondences, bolstered by related activities leading to the ability to deal with written text. Scripted lessons can be thought of as the method, and reading as the content.

#### **3.1.1 Scripted lessons and sociocultural bridging**

In an attempt to meet EFA goals and subsequent donor requirements, many developing countries have undertaken major curriculum reforms. Reforms have often focused on child-centred classroom pedagogies, sometimes also referred to as learner-centred education (LCE) such as OBE. These constructivist, child-centred pedagogies have been proposed as a means to achieve economic, social and political gains (Chisholm and Leyendecker, 2008; Schweisfurth, 2011). Nevertheless, the implementation of such curricula in developing countries has faltered. Although there are some exceptions (see Thompson, 2013) there is a general accumulation of evidence to support this. In a review of 72 research

studies into learner-centred education, Schweisfurth highlights that this has been an ongoing problem that fails to address points on

... how teaching and learning are understood in different contexts, and about whether LCE is ultimately a 'western' construct inappropriate for application in all societies and classrooms. (Schweisfurth, 2011, p. 425)

There is a large amount of international evidence for the effectiveness of daily scripted lessons for improving literacy and this approach is widely recommended for developing countries with inadequate teacher training and few resources (Grossen and Kelly, 1992; Kremer and Holla, 2009; Murnane and Ganimian, 2014; Van Staden, 2011). It was found that scripted lessons were able to provide structure where planning and programming knowledge was lacking and delivered key concepts in clear and understandable language to address a lack of training in pedagogical skills.

Dresser (2012) suggests that teachers who have had little or no previous experience teaching emergent reading and writing find scripted lessons useful, as they provide all the required resources and teachers value the fact that scripted reading programmes provide pre-designed lesson plans. During the writing of the TG content, some of the CDD officers quite rightly pointed out that they did not wish to stifle the creativity of teachers by imposing strict lesson plans on them. Commeyras (2007) argues that scripted lessons need not be seen as a hindrance to creativity, indeed they can be improved upon with individual teacher flair. Reeves (2010), in an 18-month study of two novice teachers in the US, found that the teachers themselves were learning through the use of scripted instruction. The US and PNG are difficult to compare when it comes to training provided pre-service, however, development of conceptual knowledge in both cases comes about as a process of internalisation. Johnson (2009) writes of this as:

a process through which a person's activity is initially mediated by other people or cultural artifacts but later comes to be controlled by him/herself as he or she appropriates and reconstructs resources to regulate his or her own activities. (Johnson, 2009, p.18)

The SBC scripted lessons are quite different to the previous OBE curriculum in that they offer step-by-step instructions, resources and assessment. Haring, Lovitt, Eaton and Hanson (1978) developed what they called a framework of instructional hierarchy. This framework shows how scripted lessons can take the teachers through a process of using and applying the scripted lessons with the aim of feeling comfortable in delivering the objectives outlined by the materials. Fang, Fu and Lamme (2004) found that as teachers become more comfortable with scripted lessons this can reduce stress and lead to greater satisfaction in their teaching.

The language and terminology used and the pedagogies that focus on a learner-centred approach are seen to be at odds with the capacities of teachers who lack training and resources in PNG (Neofa, 2011). In evaluating what went wrong in the previous curriculum, Guthrie (2012) takes into account project evaluations from the Curriculum Reform Implementation Project (CRIP) funded by AusAid. The study found no evidence that attempts to implement a so-called progressive curriculum had any benefits or final, positive measured effect when used in the classroom. The progressive curriculum was based on child-centered methodologies, which he suggests run counter to the social and cultural norms in PNG.

In an attempt to address a culturally appropriate learning style, the theoretical framework behind the Teacher Guides has taken into consideration what Kukari (2004) suggests is a three-stage process by which children learn in PNG:

1. observation and memorization, the child being a passive receiver
2. practice of the knowledge received, often with adult support
3. independent demonstration of the new knowledge

An example is story-telling, using an oral tradition to transmit ideas and knowledge, often used to teach cultural knowledge which children are then

expected to acquire and recall. Within the TGs there are scaffolds that allow for recall, such as Pair and Share, Story Boxing and Story Tagging. The OBE system used a learner-centred approach in which the teacher's role was as a facilitator in the children's learning. This was somewhat at odds with what Hahambu (2011) found about the learning style of children in PNG. He proposed a move toward 'culturally connected' teaching, where learning-centred and learner-centred could co-exist within the frame of teaching and learning in the PNG cultural context. This was taken on board by the OBE Exit Report in its recommendations to the government. Explicit and implicit instruction through the scripted text and activities, such as role play, aim to bridge some of the factors to aid children's learning. The phonological progression in the TGs is explicit, that is to say scripted, while the speaking and listening activities and role play are implicit. As the teachers go through the scripted lessons it is intended that they will become more confident in their own teaching. They will internalise the material and build their own conceptual frameworks as they learn and build ownership leading to culturally connected teaching.

### 3.1.2 **Reading based on a phonological backbone**

When acquiring word reading skills, Ehri (1995, 2013), and Ehri and McCormick (1998) propose a set of phases that beginners go through:

"Five phases of development are identified to distinguish the course of word reading; each phase is characterized by students' working knowledge of the alphabetic system, which is central for acquiring word reading skill. The phases are: pre-alphabetic, partial alphabetic, full alphabetic, consolidated alphabetic, and automatic alphabetic.' (Ehri & McCormick, 1998, p.135)

Phonological skills are inherent in Ehri's phases outlined above and are often the basis for reading interventions (see 3.2 for an explanation of how these phases translated into reading instruction in the TGs). Research in emergent reading has shown that weaknesses in the areas of representation, storage and

retrieval of phonological skills lead to reading deficits (Ramus, 2003; Snowling, 2001). Programmes that focus on the instruction of phonological skills have led to increased reading accuracy (Bus and Ijzendoorn, 1999). Phoneme-grapheme correspondences (PGCs) are the sound to letter(s) correspondences. PGCs are often the basis upon which emergent reading is taught. The link between the training in PGCs and phonemic awareness is well documented (Defoir and Tudela, 1994; Hohn and Ehri, 1983; Rvachew, Nowak, and Cloutier, 2004).

Students' spelling and word reading problems are shown to have a close correlation to phonological processing (Berninger and O'Donnell, 2005). In addition, deficiencies in phonological awareness in the initial stages of learning can have implications for further spelling development (Bradley & Bryant, 1983; Schneider & Näslund, 1993; Wimmer, Landerl, Linortner, & Hummer, 1991).

There is evidence in the transparent orthographic language of Finnish that phonemic awareness and reading performance form a reciprocal relationship. Importantly, continued instruction in phonemic awareness even after students are able to decode words is linked with positive reading performance (Lerkkannen et al., 2004). In English, however, Seymore et al. (2003) found that phonological awareness and reading skills are harder to acquire compared to other languages due to its opaque orthography. This is consistent with other studies looking at reading skills of children asked to identify regular and pseudo words (Frith et al., 1998; Goswami et al., 1998).

Certainly, the view is that early phonological skills determine reading accuracy, whether the orthography is transparent or not. There are less conclusive studies on whether training in PGCs leads to reading fluency. Puolakanaho et al. (2008) proposed that reading fluency in regular languages at later grades only partly stems from early phonemic skills. Huemer (2009) points to the fact that knowledge of reading fluency and the mechanisms that hinder or aid fluency are little understood, yet there are certainly areas that warrant further investigation in English reading interventions, such as training in sub-lexical units, which has been found to have positive implications for reading skills in the transparent orthography of Finnish (Huemer, 2009).



Related to orthographic learning and word reading, but perhaps outside the scope of this study, is work in the field of psychology and the genetics of associative learning. Byrne et al. (2013), in a longitudinal study on English-speaking twins (n=2084) from pre-school to Grade 2 found a genetic correlation for decoding and orthographic learning. This research has implications for reading interventions. Once identified, children with certain genetic influences could be given extra support in key reading and pre-reading skills. Further studies on twins by Christopher et al. (2014) concluded that genetic influences are responsible for substantial variances in reading abilities between the end of the first and fourth grade of school. These studies have taken place in schools with systematic reading instruction methods in place. With regards to the current study, it would be inappropriate to devote time to the area of research outlined above as there are pressing issues that would need to be addressed before even well researched reading difficulties such as dyslexia can begin to be addressed in PNG.

When looking at the deficiencies in phonological awareness in the initial stages of learning in PNG, a study by Hopkins et al. (2005) found that students from villages and settlements made similar progress to their urban counterparts, but had lower starting levels. Crucially, students that began primary school with levels below that of their peers remained at a level below that of their peers, despite learning at the same rate.

Given the number of potential pitfalls in the acquisition of emergent reading and writing skills, an intervention that can be used by teachers in rural areas with the fewest resources and least training, covering the key reading skills in phonological awareness could be worthy of research.

### **3.2 Design of the Teacher Guides for elementary English**

Initially, a new English Syllabus was developed as a result of the recommendations in the OBE Exit Report. The Syllabus was to be the basis from which the Teacher Guides containing scripted lessons with phonics instruction were written. The writing of the Syllabus took place in a two-week workshop of CDD curriculum officers and VSO staff and volunteers in early 2014. The Syllabus contained an overview of the content to be covered and assessment benchmarks to be reached over the 3 years of the new curriculum, ensuring a logical progression towards measurable standard statements for the end of each year group. Another of the criticisms of the previous curriculum was that it was hard to assess the progress of children. One of the aims of the current approach is to allow for in-country and relevant international benchmark comparisons in the future, such as the Pacific Islands Literacy and Numeracy Assessment (PILNA). The content overview was developed with the intention of providing a simple structured framework for teachers to follow to ensure children develop the appropriate speaking, listening, reading and writing skills. Scripted lessons were recommended by the OBE Exit Report and as such it was within the project guidelines and my role to design their content and structure. Three Teacher Guides covering the first three years of formal education were produced. Each TG has four terms, each term has 10 weeks and there was one lesson for every day of every week. In total there are 420 daily scripted lesson plans.

Initially, a frame was constructed of the terms over the three years. Into this frame the phonics instruction was dropped so that by the end of the three years all the main PGCs and phonemic awareness skills were covered. The TGs' scripted, phonetically-driven content was based partly on the material developed for the Simbu arm of a phonics trial in 2012 (see Cawley et al., 2012).

Essentially, scripted lessons from this approach and an embellished version of Ehri's model for reading acquisition form the content of the TGs. The lessons are in numbered daily lesson plans: for every step, the necessary information and activities are given, such as relevant songs, games and stories (see Figure 2 below). During the three years, every term, week and day builds on the previous work. EP starts with pre-reading and pre-writing; listening to and learning English sounds. In E1, the children begin to read and write decodable texts (texts that can be read with the sounds that have been taught). In Term 3 of E1, longer, more complex weekly stories are introduced. Speaking and listening through songs, phonics games and activities in Elementary Prep provides a basis for reading decodable texts in the second year. The third year of the curriculum continues to build on phonemic awareness, with spelling patterns of more complicated PGCs, which facilitates the use of more complex texts to develop comprehension.

EP				E1				E2			
Term 1	Term 2	Term 3	Term 4	Term 1	Term 2	Term 3	Term 4	Term 1	Term 2	Term 3	Term 4
Sounds				Decodable texts				Weekly stories			

**TERM 2 WEEK 3 WEDNESDAY WHO WILL HELP ME?**

**1 SONG** optional

Lo hikipila solwara  
 Lo hikipila solwara, yu ken pu! lo canoe.  
 Lo hiway rat, yu ken roo lo PMV.  
 Lo sky antap yu ken fly lo ba!us  
 fu na go long olgeta hap.  
 On the ocean, vast and blue, you can paddle  
 in your canoe.  
 On the road, for a little fee, you can ride a PMV.  
 And in the sky you can fly in an aeroplane  
 way up high.

**3 DECODABLE TEXT** ⌚ 15 min

Mother Hen asked Pig before Dog for more help.  
 Write this text on the board and sound it out together. Get the children to read it twice in pairs and once as a whole class and to write it in their books.

**2 PHONICS & LANGUAGE** ⌚ 15 min

*I have been looking at the work you did yesterday. There is a word you should be able to read because it uses the sound you learned to write yesterday.* Write the word 'before' using four sound dots on your board and the one grapheme.

Ask the children to count the sound dots you have on the board. **There are four sounds in this word, one for each sound dot /b/ /ee/ /f/ /ore/.**

Point to the first grapheme, b. **What sound is often written this way?** Choose a child to make the sound /b/ and the action for /b/. Point to the second sound, e. **What sound can be written this way? What other ways can we write this sound?** Choose a child to make the sound, /ee/. Point to the third sound, f. **What sound is often written this way?** Choose a child to make the sound, /f/. Point to the fourth sound, ore. **What sound can be written this way?** Choose a child to make the sound, /ore/.

Blend the sounds together /b/ /ee/ /f/ /ore/ and read the word 'before' together.

**If you fall it can be sore.** Write 'sore' on your board. Ask the children to count the sounds in this word, one for each sound dot [two]. Sound out the word as above.

**before sore**  
 ••• •••

**4 STORY WORK** ⌚ 30 min

**Why do you think Dog and Rat did not help Mother Hen?**  
**How do you think that made Mother Hen feel?**

Point to the words as you read this part slowly. Ask the children to help you read the words. Do this at least twice.

**Then the corn grew and she asked Dog, "Hey can you help me harvest the corn?" Dog answered, "No, I cannot." So she went and harvested it herself. Then she asked Rat, "Hey, can you help me carry the corn to the house?" Rat answered, "No, I cannot." So she went and carried it herself.**

**CHARACTER WEB**  
 Get the children to place Mother Hen in the middle of their page. Draw lines from the character to words and phrases they have learned or can sound out which describe the character.

E2 ENGLISH TEACHER GUIDE 2015 71

FIGURE 2. Sample scripted lesson from the TGs and progression through the TGs over the 3 years

A team of 10 PNG writers were engaged to write aspects of the TGs between May and July 2014. The writers of the TGs were selected lecturers from teachers' colleges and universities who were recommended to me by VSO volunteers and CDD staff. Many had received training from the 2012-2014 Language Support Program (LSP), a DoE Teacher Education Division project based in the teachers' colleges, managed by VSO and funded by Australian Aid, which redeveloped the national teacher education units for English. The bulk of the content (sound stories, decodable texts, selection of PNG stories, speaking and listening songs, follow-up activities) were done in a two-week workshop. During the writing workshop, Ehri's model (see 3.1.2) was used as a framework for the progression of the curriculum from EP to E2. Within this framework, students begin in the pre-alphabetic phase, in which visual cues or stimuli are drawn upon with no knowledge of the alphabet used. Short sound stories, which allow students to become accustomed to sounds in English, were developed for use as the phonemes were introduced. Longer sound stories with open comprehension questions were developed in line with evidence from Read PNG EGRA, SMS Story and Westbrook et al. (2013), which found that open questioning was a key pedagogic practice leading to improved comprehension skills.

A partial alphabetic phase follows, in which students begin to use letter sound cues in words in order to encode and decode. At this point, the beginning and final sounds of words correlate with simple, high-frequency grapheme/phoneme correspondences. An example of this would be the sound /c/ at the beginning of the word 'cat'. In the TGs, flashcards are used to stimulate this phase of reading acquisition in which children identify the initial and final sounds in words. To learn to sound out and count the sounds in words, sound dots are used. These are dots that are drawn under each sound in a word. For example, 'cat' would have three sound dots: c-a-t. The word 'fish' would also have three dots, as /sh/ is one sound: f-i-sh. The children learn to blend the sounds together. The TGs give a sound action to make as the teacher says each sound. This makes the sound easier for the children to understand

and remember by engaging kinaesthetic, visual and auditory (KVA) learning styles. For example, to sign out the sound /c/, children pretend to cut a coconut, saying the sound. Each sound and sound action has a pictogram. This appears in the top right-hand corner of the scripted lessons. On the SD-card there is a short film that shows the phonics sounds and actions.

Middle sounds are harder to identify, so the EP Teacher Guide contains sequencing games that focus on positional sense in order to help students through this partial alphabetic phase. The TG introduces the learning of basic sounds with which students can begin to make words. For example, after they have learned the sounds /c/ and /a/ and /t/ they can build the word 'cat'. With a few more sounds, the children can begin to read and write simple phrases like 'cat and dog sat on the mat'. Besides the words they can sound out, the children also learn common sight words.

The full alphabetic phase is characterised by the students being able to encode and decode through their acquired grapho-phonemic awareness, which is a greater number of grapheme/phoneme correspondences than the students can draw upon from memory.

The penultimate stage is the consolidated alphabetic phase within which groups of less frequently used grapheme/phoneme correspondences are learned and the skills of blending and segmenting them and previous GPCs are used in order to read and write. At this point, once the children have learned a mix of sight words and decodable words, the TG begins to introduce real stories. A repeated suite of activities are used to scaffold the learning to allow for recall, such as Pair and Share, Story Boxing and Story Tagging. To be able to read simple sentences Watts and Gardner (2013) suggest that children need to learn high frequency words such as 'I', 'the', 'you' and 'go' alongside phonics instruction. These sight words appear in the TGs as they occur in the lessons. Finally, it is hoped that learners can function in the automatic alphabetic phase.

Teachers using the TGs are encouraged to use Tok Ples or Tok Pisin to aid comprehension. As open questions or given instructions are in English, teachers can bridge into the children's first language. Throughout the three years, the

TGs take a second-language approach, building on the child's home language. The lessons and resources are intended to bridge from the student's mother tongue with the EP TG having a strong focus on initial oral language skills. It is intended that this will allow for the Home language curriculum to develop emergent reading skills before they are tackled in English. The stories in E1 and E2 all have Tok Pisin translations and the readers produced as part of the ECR project also have a space for a teacher or local expert to write the story in the vernacular.

Following the workshop, around a month was spent reading and editing all the content the writers had produced and putting it into the right areas of the TGs. Once sections were finished, they were given to the graphic artist. There were areas of the phonological framework for which more content was required. The PNG teacher trainers and lecturers who had been in the workshop were contacted to work on contract remotely. After the work arrived by email, once again it was edited and slotted into the framework.

I travelled to the highlands to see two early childhood experts from the University of Goroka prior to the two-week workshop. The intention was to develop phonics songs that could accompany the TGs. Songs, rhymes and sound activities can play an essential part in emergent speaking and listening in L2 (Jones and Coffey, 2006; Kirsch 2008; Jarvis, 2013; Chou, 2012). Such activities provide a more effective methodology for teaching language to young learners. Songs are commonly used in early childhood education, and in PNG can play a role in developing English language use and acquisition. Research suggests that music and phonemic skills access the same part of the brain, termed as the 'resource sharing network' (Patel, 2007, 2011). The signs are that there is a relationship between phonemic abilities, such as encoding and decoding, and pitch or rhythm-related music skills. The cognitive processes that lead to these representations can have close ties.

The two early childhood lecturers and I had used Jolly Phonics (a popular commercial phonics package) songs with elementary teachers in the past, with the acknowledgment that a more PNG-specific context was needed. For

example, the sound for 'c' was shown with the action and a song for castanets, which means nothing to the students in PNG. Local musicians were engaged to write songs that follow the themes of the TGs. 84 songs were developed for speaking and listening activities, as well as 42 phonics songs which are introduced as the phonemes are introduced in the scripted lesson plans. The songs and videos are designed to be as inclusive as possible for non-native English speakers in PNG by being produced and presented by non-native speakers. This goes some way to address the 'nativespeakerist' element in some teaching materials used in L2 language acquisition (Jenkins, 2006). Jenkins notes that many teachers and teacher educators are increasingly aware that non-native English speakers can be marginalised by the extent to which the spread of English works in the native speakers' interest. The English accents in the original Jolly Phonics songs are a good example of this.

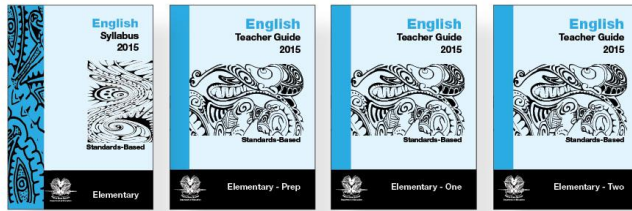
In addition to the songs sung by local artists and children, the phonics sounds and actions are on a video file as examples for teachers. The ECR project considered this resource as an integral and essential part of the curriculum. It was recommended that this audio resource goes with the TGs as an SD-card for teachers' phones. As an appropriate technology, SD-cards have an advantage over CDs and flash drives. 94.5% of the teachers in this trial owned a mobile phone, with the majority of even older and basic models having SD-card slots. There has been very little research on teacher training using mobile phones as storage devices. Training videos and songs were compressed on to files for SD-cards for this trial in much the same way as Walsh et al. (2013) described a scheme called 'trainer in your pocket' using mobile phones in Bangladesh for teachers' continued professional development.

Once the scripted lessons were complete, the focus of the project shifted to trialling the lessons in classrooms with elementary teachers. Above all, there was a need to find out how much training teachers needed in order to be able to use the TGs. The final output of the ECR project will be a comprehensive bank of reading books (in English, Tok Pisin and with a space for vernacular), songs and flashcards.

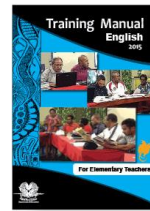


# Elementary English SBC kit

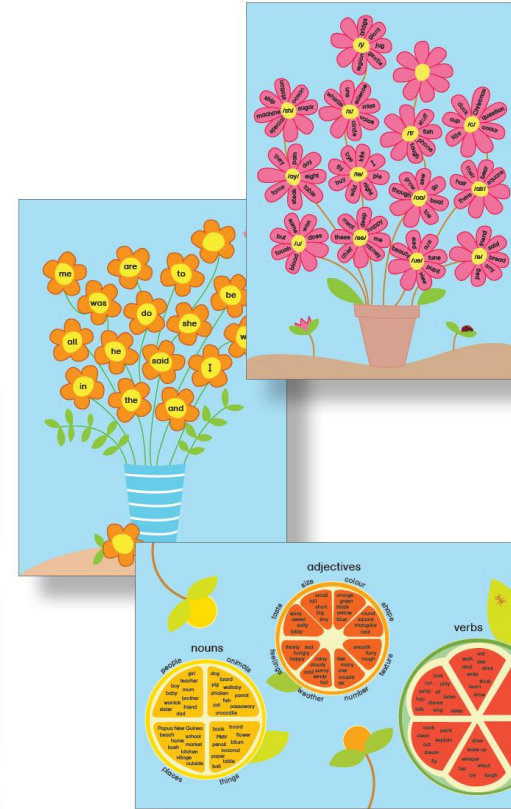
## Syllabus and 3 Teacher Guides



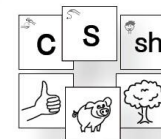
## In-Service training manual



## Resource materials 3 booklets, 23 readers, 3 A1 posters, 1 set of 142 flashcards and 1 SD-card



- 3 A1 posters  
 - Phoneme example words  
 - Sight words  
 - Nouns, adjective and verbs



Set of 142 flashcards



- SD-card  
 - Speaking and listening songs  
 - Sound songs  
 - Sound action videos  
 - Teacher training videos  
 - Singing na stori tambuna CD

FIGURE 3. The elementary English SBC kit.

## **4 RESEARCH QUESTION**

The research question:

Is there a relationship between the amount of training provided and the teachers' ability to use the Teacher Guides?

## **5 IMPLEMENTATION OF THE STUDY**

### **5.1 Approach**

The trial ran from 29 September 2014 to 5 December 2014 as per the schedule below (TABLE 1). The trial tools required teachers to reflect on their use of these activities in their classroom practice pre- and post-trial (see Appendix 3 and 4) as well as during the trial with the weekly reflective journal (see Appendix 5). The questionnaires were based on those used in the EGRA and SMS Story trials. This will allow for comparison of data at a later date if required. It also meant that the questionnaire was tried and found to be suitable in terms of the teachers being able to understand the English in it and the format. Modifications were made in order that key indicators for the TGs could be measured.

TABLE 1. Timetable for the trial of the Teacher Guides

Week	Dates	Activity
1	22-26.9.14	Pre-trial training of trainers & selection of provinces
2	29.9.14 -3.10.14	Baseline data collection in Enga
3	6-10.10.14	Baseline data collection in East Sepik Trial start in Enga
4	13-17.10.14	Trial start in East Sepik
5	20-24.10.14	
6	27-31.10.14	
7	3-7.11.14	
8	10-14.11.14	
9	17-21.11.14	
10	24-28.11.14	End-point data collection in Enga
11	1-5.12.14	End-point data collection in East Sepik
12	8-12.12.14	Data entry

Two provinces were selected for the trial, based on their Grade 8 exam results: Enga and East Sepik. Enga is a mountainous province, its provincial capital sits at almost 2300 meters above sea level. There is one major road and one large language group. East Sepik is a coastal province, with one major road and town. East Sepik is dominated by the Sepik River and has many remote schools accessible only by boat. Much like the rest of PNG, neither of these provinces is accessible by road from the capital Port Moresby.



FIGURE 4. Training groups by province and district

After discussion with local standards officers (school inspectors) and elementary trainers, three contrasting districts were selected: one urban (in the provincial capitals: Wabag and Wewak respectively), one semi-urban (with schools close to a road or township) and one rural (far from a town or road). Standards officers then selected schools within those districts that were open and operating. All teachers from selected schools were invited to a central location in their district to receive their materials and, in some cases, training.

To best replicate the reality in remote areas, teachers from this district were allocated to the 'no training' group of the trial. The cost of training and difficulty of travel mean this is the reality for remote schools in PNG.

### **5.1.1. Baseline fieldwork**

The baseline data that was collected were the pre-trial questionnaire (see Appendix 3) and the teacher biographical data form (see Appendix 1). The team that visited each province consisted of two elementary trainers, one CDD officer and one VSO international volunteer:

Kila Gana	elementary trainer, National Capital District
Ida Negesa	elementary trainer, National Capital District
Philippa Darius	acting director, elementary, CDD
Jeff Pilgram	VSO researcher, ECR

A courtesy visit was made to senior education officers in each province and officers were able to accompany the team but not have any influence on the training or instructions to teachers.

Each teacher received:

Teacher Guides	One each of EP, E1 and E2
SD-card	Phonics songs, speaking and listening songs, training videos
Flashcards	Phonics flashcards and picture cards

### The training

The training and material were delivered by the two elementary district trainers from Port Moresby who were recommended by the CDD elementary section head. As the trainers were based in Port Moresby, they were able to come to CDD over the course of a week to be briefed on the project and trained on the material that they were to deliver. The trainers collaborated on the development of the packages and tools for the 1.5 days training and the 0.5 day training. The same trainers were used for each training session to ensure consistency. As neither of the trainers was from the trial provinces, they would communicate in English and Tok Pisin with the teachers, as opposed to code switching with vernacular, ensuring further consistency in the delivery of the training. Trainers used a pre-prepared training package developed for the trial and were briefed on the Teacher Guides and other resources. The training sessions began with the distribution of materials (TGs, memory cards, flashcards) and the trial documents (Secretary of Education's letter, confidentiality form (see Appendix 2)). Teachers were shown how to access the memory card resources and reference the TGs.

The training packages for 1.5 days and 0.5 day included training on the types of activities that would appear in the TGs over the trial period. This allowed for a comparison to be made with the group receiving no training on the same types of activities as the trained groups.

The trainers delivered sessions and modelled full sequences of lessons so the implications of training across the groups could be measured.

### 1.5 days training

The first session was designed as an introduction to phonics. The trainers delivered the 'Why teach phonics?' section from the introduction of the TGs and went on to present the definitions of phonemes and graphemes. The sounds and corresponding actions using flashcards were modelled. Teachers were then asked to stand up to participate in the full body actions that would be used in the lessons. PGCs were delivered and teachers were asked to create word lists with the phonemes and then feedback. Teachers had the opportunity to ask questions at any stage. As the trainers were from PNG, any language problems or issues were dealt with in Tok Pisin if the English was not understood.

Session 2 covered oral sounds, phonemes and patterns. In this session teachers were presented with a week's lessons from start to finish. The aim of this was for the teachers to see the flow of the sections within the lessons and the sequence of lessons over the week. The trainers modelled the delivery of the scripted lessons, taking around 15 minutes for each lesson. Teachers got themselves into groups and each group member delivered one lesson from the week to the rest of the group.

In Session 3 the trainers presented an introduction to assessment. In their groups, teachers practised delivering the assessment to each other.

Session 4 introduced emergent reading and writing using the scripted lessons. The trainers modelled the delivery, taking around 15 minutes for each lesson. In groups again, teachers delivered one lesson from the week to the rest of the group. The groups then went through the assessment section for that term.

Session 5 focused on decodable texts; texts that can be read with the sounds that have been taught. The trainers delivered the Reading and Writing section from the Teacher Guide. The week's lessons were modelled. Each

teacher had half an hour to look at the decodable texts as they developed through the TGs, seeing how new words can be made as sounds are introduced. The groups then went through assessment for this stage.

In Session 6 (the final session), the trainers presented the week's lessons with the focus on full stories. The session was designed to go into more depth on questioning using higher order thinking skills, reading and comprehension of the story. Teachers were introduced to the idea that work for the week now focused on the story. The bank of repeated teaching strategies such as story-tagging, role play and story-boxing used with the stories was presented, showing how the texts were progressing in size and complexity by the end of Elementary. Teachers presented one story to the rest of the group using selected teaching strategies.

#### 0.5 day training

The half-day training was the same as the first 3 sessions of the 1.5 days training. An overview of the material and the phases that appear in the training sessions of the 1.5-day group was given.

The group given no training only received the materials and an explanation of the trial.

### **5.1.2. End-point fieldwork**

After seven weeks, a small research team visited each province. The post-trial questionnaires were distributed, the teacher journals collected and the focus groups conducted.

TABLE 2. VSO research teams for each province

Province	Research team members
Enga	Janina Clark
	Jeff Pilgram
East Sepik	Janina Clark
	Jeff Pilgram
	Amandine Goineau
	Nadine Winona Paira

## 5.2. The participants

Within the district, the sampling of schools was opportunistic (i.e. which elementary schools were functioning). Central locations were chosen as the cluster point for the elementary teachers. The slight majority of teachers (53.6 %) were male. Most of the teachers (77.7%) reported that their highest qualification was a Certificate in Elementary Education. A fifth of teachers (19.5%) indicated that they were still in training. The vast majority of teachers were Grade 10 leavers (94.2%). A similar percentage of the teachers (93.9 %) reported having had no previous experience of printed lesson plans. The findings provide a clear picture of the teacher population profile and helped in measuring the compatibility of the training groups in the two provinces.



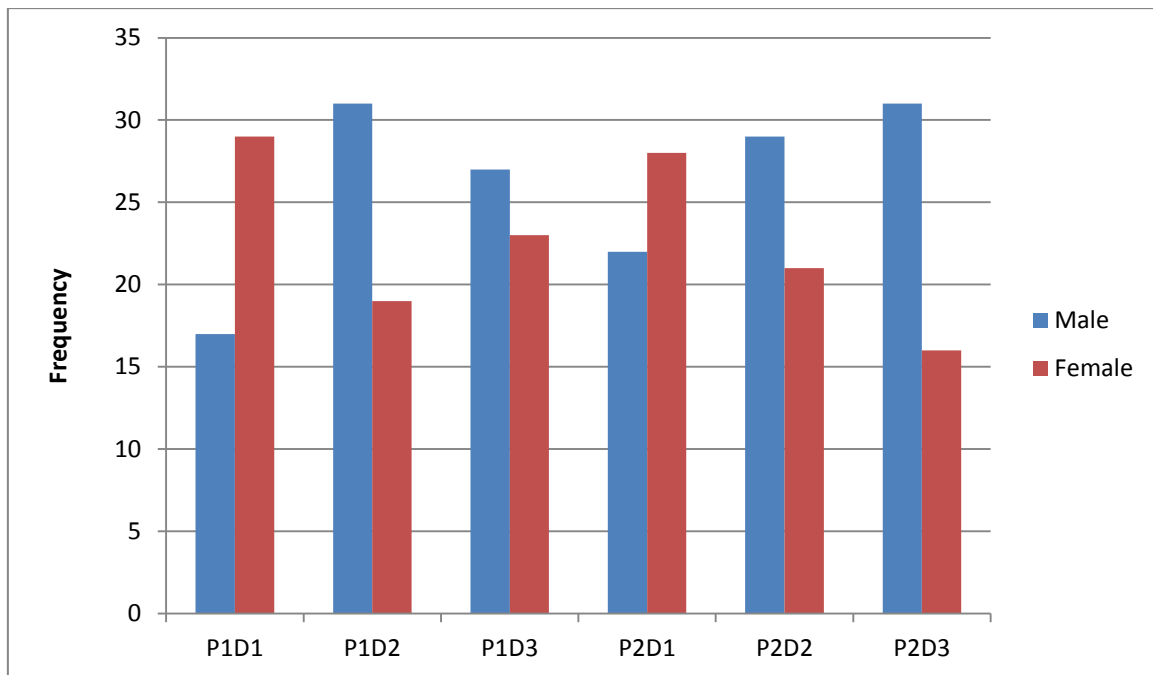


FIGURE 5. Teacher gender by province (P) and district (D)

In East Sepik the proportion of male teachers increases from urban to semi-urban to rural. The trial data shows that the more remote the school, the lower the number of female teachers. In Enga, as in East Sepik, the urban group (P1D1 and P2D1) contains more female teachers. This trait would certainly be expected for primary teachers, as teachers are not selected by their community and female teachers are often unwilling to move into remote areas. For elementary teachers it may be that in the rural areas women take on other roles within their communities. Of note is the fact that there is a fairly even spread of male and female teachers. Elementary teaching is often seen as a female profession in many countries. Traditionally in PNG, an elder was responsible for passing on knowledge and storytelling to children. Both sexes may have taken this role and as such we still see an even gender distribution.

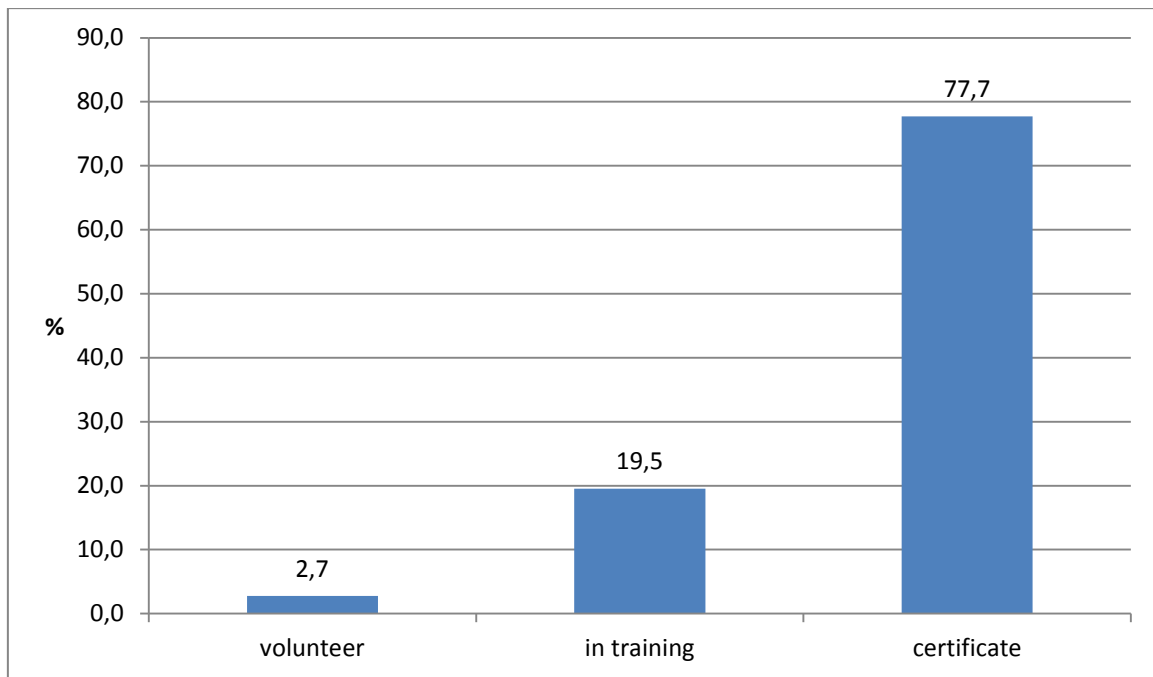


FIGURE 6. Response to the question 'What is your teaching qualification?'

Volunteer teachers are teachers who have been not been registered for training. They are often elected by the local community and are unpaid. The volunteer teachers in this trial were all from the rural group of East Sepik. Around 20% of the teachers in the trial were still in training, which is a relatively large proportion. This means that some children may go through their entire elementary schooling having never had a fully trained teacher.

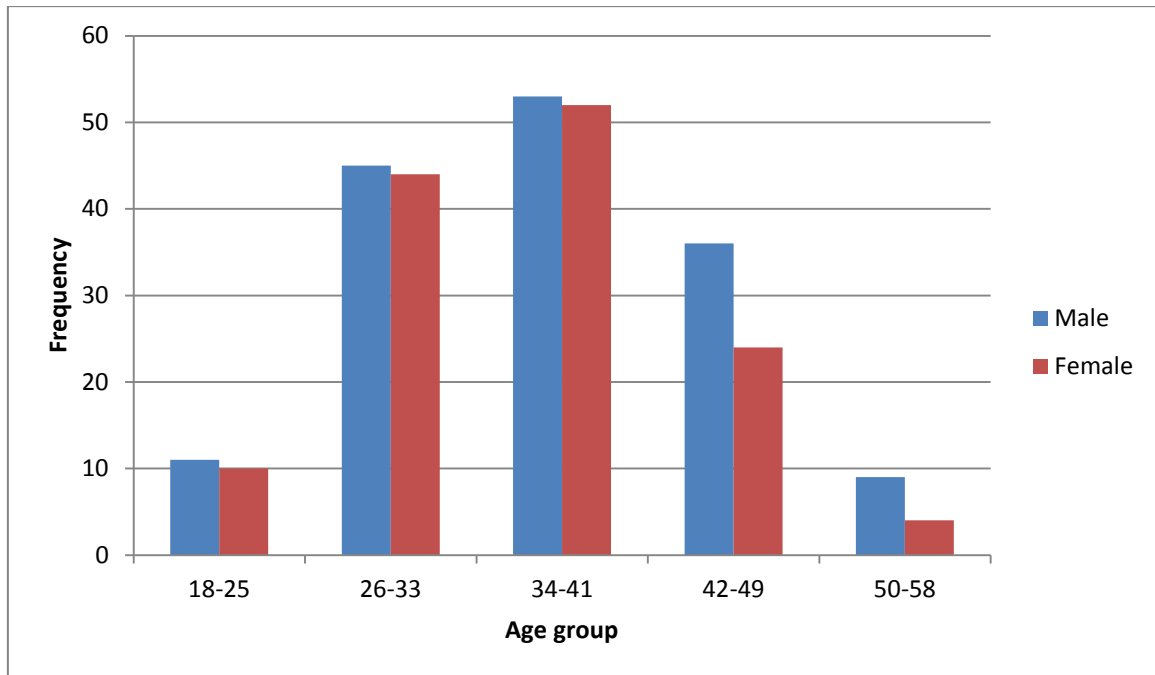


FIGURE 7. Grouped age distribution of teachers by gender

The majority of the teachers across all the districts in the trial fell into the 26-41-year-old age group. There were no significant differences in age distribution between provinces or treatment groups. There are more men teaching as age increases. It is hard to say why this is, but perhaps men's status as elementary teachers is more secure.

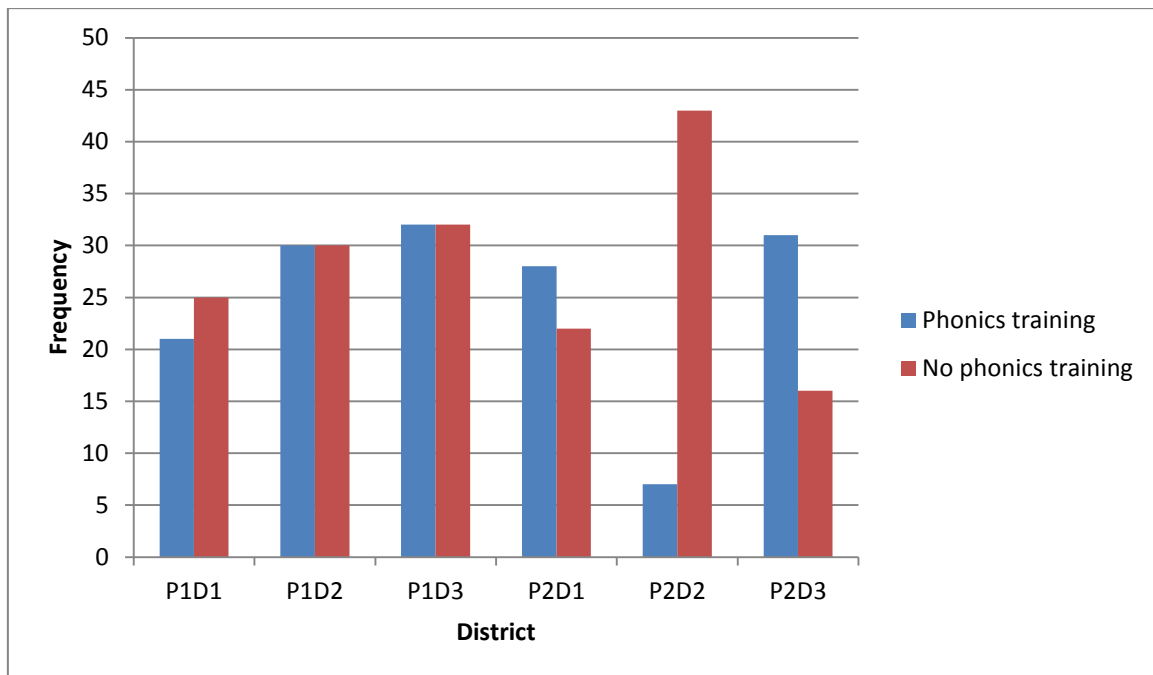


FIGURE 8. Reported previous phonics training by province (P) and district (D)

There were mixed findings on whether teachers had received previous phonics training. The training that had been received was on Creative Phonics and from private schools (such as the Accelerated Christian Education church schools). This was focused in certain districts and clusters of schools. As can be seen from P2D2, which is the East Sepik 0.5 day training group, this area did not receive phonics training. Both Enga and East Sepik are provinces that have had Creative Phonics workshops delivered by the DoE. There may have been administrative issues with the delivery of the programme to that area. It would be interesting to address this with the elementary trainer for that area. The implications of this one area not having had phonics instruction can be considered in the interpretation of the results section.

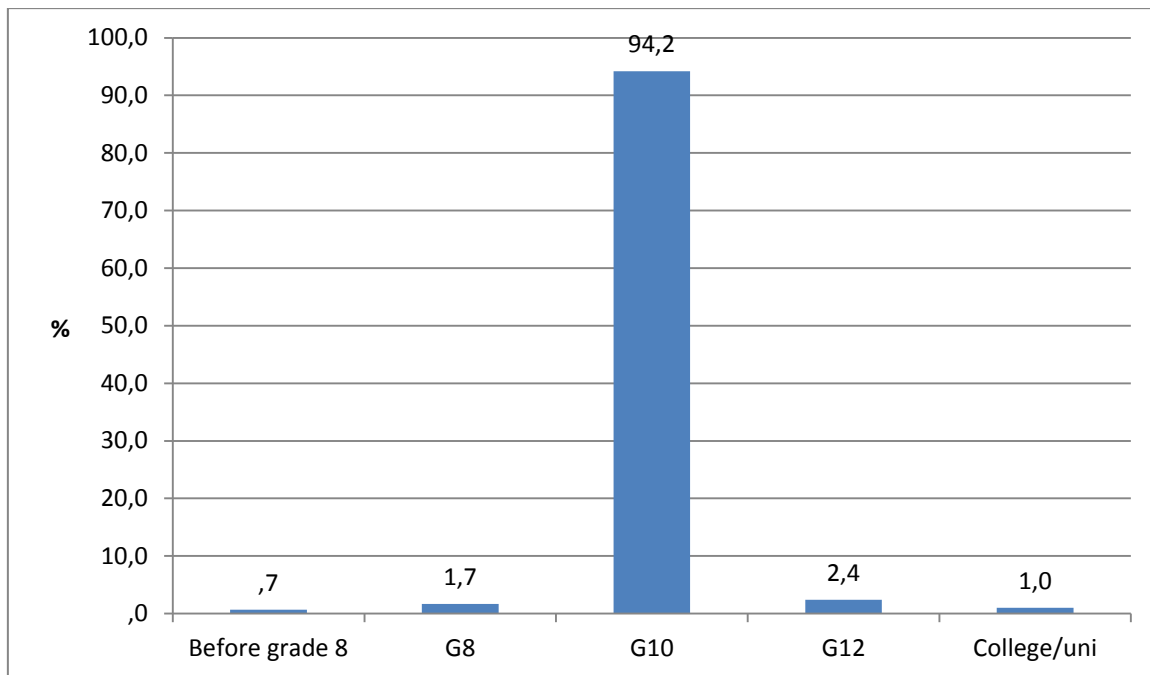


FIGURE 9. Level of teacher education by graduation qualification

Grade 10 is halfway through secondary school. Grades 8 and 12 are the final years of formal primary and secondary education respectively. In PNG there is often a mix of ages within the classroom, and it is not uncommon for students to leave grade 10 at the age of 18. This could go some way to explaining the 2-year gap between leaving school and starting to teach at 18 that we see in FIGURE 7. It may also be the case that students take time to be selected by their community as having the right attributes to become a teacher.

### 5.3. Reliability and validity

Cronbach's alpha was used to test the reliability of the data, a level of  $\alpha=0.866$  was found, suggesting a very good level of internal reliability. With regards to validity, the pre- and post-trial questionnaire is based on an adaptation of the EGRA teacher questionnaire instrument. EGRA instruments have been used in over 50 countries to date. The content and the construct of the EGRA adapted

instrument has been tested for validity in two previous trials in PNG, as part of the EGRA Read PNG and SMS Story projects.

There were a number of limitations evident in the trial baseline:

#### 1. Influence of the presence of a CDD officer

Teachers were very curious about the new curriculum, so the presence of a CDD officer meant that managing the messaging and information during the training and materials distribution was difficult. Although the project had clear protocols for ensuring a consistent message about the TGs, interest from the teachers meant that sessions could deviate from the key messages. However, the training in the sessions remained the same, so it is not thought this significantly alters the findings.

#### 2. Definitions of urban, semi-urban and remote

Recent research into the relative disadvantage of schools has given more clarity about the definitions of remoteness (NEFC, 2013) but there are concerns that the trial school and province selection may not have produced a representative sample of schools and teachers. Within the scope of the project budget and the knowledge available to CDD, every effort was made to have a representative sample of schools and teachers. However, it should be acknowledged this is a challenge for all education trials of this nature in PNG.

#### 3. Limited timeframe and sample frame

The trial ran for seven weeks, whereas the TGs have an entire year of lesson plans for each of the elementary grades. Teachers were told to teach the Prep lesson plans from Term 1. It could be that other terms, other lengths of time and other grades might have produced different results. In addition, the teachers did not receive the full kit of readers.

The limitations in the post-trial data collection were as follows:

#### 1. Early school closures

Despite the formal term ending on Friday, 12 December, the end-point research team found many elementary schools had closed, especially in East Sepik province. Where possible, teachers were contacted by phone or SMS to bring in the journals and take part in the focus groups. However, teacher numbers were sharply lower at the end point. This was unavoidable due to the time constraints of the project and the curriculum development cycle.

#### 2. Fighting in Enga

In addition to the problem of early school closure, Wabag in Enga province was severely impacted by serious violence and rioting during the data collection period. The majority of data collection was able to proceed, although some teachers were not able to attend the focus groups as they were unable to pass through tribal land involved in the dispute.

#### 3. Self-instructional units (SIU) in Enga

During weeks 5 to 8 of the trial many of the teachers in Enga unexpectedly attended training conducted by district elementary trainers. This meant that although the questionnaires were, for the most part, handed in, the last three weeks were not filled in. When analysing the teacher journal data for statistically significant differences between the training groups over time, only fully complete teacher journals were compared (n=148).

#### 4. Focus group methods

It was due to time and capacity restraints that it was decided that Janina Clark and I would facilitate the focus groups. This was not a decision taken lightly; we had already ensured we were not part of the training and tried as much as possible to restrict the access of the CDD head of section, and the local district

trainers to the sessions. Ideally we would have had local researchers available for this aspect of the study (see section 5.5 for further discussion on our role as facilitators with regards to ethical considerations). Janina had previously worked as a journalist so had experience of interviewing and I had some limited experience of focus-group methodology

#### **5.4. Qualitative data research method**

Once the draft of the TGs was complete, the qualitative data aspect of the research was designed. Two qualitative data sets were collected and analysed for the study: focus group interviews and weekly teacher reflections in the teacher journals. The objective of the qualitative data was to understand more fully the teacher experience of participating in the trial with reference to the research question.

The focus groups were designed as a constructive evaluation that would allow us to elicit information or trends that might not come out of the quantitative questionnaires. The interviews were conducted at the end of the trial in groups of around 10, with one facilitator and one note-taker. Sessions were audiotaped. The focus group research was undertaken on completion of the post-trial questionnaires and handing in of the teacher journals. At least two focus group interviews took place for each of the three training groups in each of the two provinces. Each focus group lasted around 45 minutes. The sessions were all summarised on completion.

The principles of thematic analysis were used to analyse the data. Thematic analysis allows for the identification of patterns in data and therefore suits the focus groups and the qualitative section of the teacher journals. According to Creswell (2014), thematic analysis begins as a comparison of responses, a comparison of responses with emergent themes then takes place,



and finally there is a comparison of themes with other themes. Braun and Clarke (2006, 2013) proposed a six-phase, nonlinear model for thematic analysis:

- 1) Familiarisation
- 2) Coding
- 3) Identification of themes
- 4) Review of themes
- 5) Definition and naming of themes
- 6) Writing up

Initially, time was spent getting to know exactly what was going on in each of the focus group sessions. Following the focus groups, written summaries were saved into files for the different training groups. In addition to the written summaries, discussions were held with the scribes and the interviewers; Janina, Amandine, Nadine and myself. Any points of interest that were important for feedback and learning in the data were marked and quoted from the recordings. This is known as the dialogic reliability check (Åkerlind, 2012), both similarities and initial outliers from the quantitative data set began to be identified. Codes were applied to the data sets.

In addition to the codes for the focus groups a sample of 50 of the journals were read and 20 recurring statements were found. The statements were numbered and all the journal entries read and a corresponding number applied to each statement. Themes began to form from the grouping of the statements and focus group summaries. The themes were on the most part similar to the initial findings in the quantitative data, but some interesting and unexpected teacher reflections gave further insight into the research question (see section 6.2).

## **5.5. Ethical considerations**

Research methodology, management and documentation were approved by the assistant secretary, CDD and the VSO education programme manager.

Permission for the trial was given by provincial education advisers. All participating teachers completed a consent form, which clearly stated the trial purpose and confidentiality. No children were involved in the trial although all researchers had child-protection clearance. Teacher responses were coded for anonymity. Data was stored securely and only used for the trial purpose. No ethical problems were reported by trial participants.

Michael Crossley (1990) uses the South Pacific as a focus when looking to shed light on issues in educational research and argues for an emphasis on ethnographic studies of school processes. Crossley highlights some advantages of doing this, namely that it can be of use to policymakers, that it can be understood easily due to its simple representation and that relationships can be established as a result. The opportunity to carry out mixed methods data collection on the trial has opened up further areas of possible study and allowed for reflection on the successes and pitfalls of such work.

As VSO volunteers, we were advised on a variety of techniques that come in the form of tool kits. These tool kits contain an array of so called participatory-method techniques. These are used to carry out needs analysis and conduct human rights-based approach baseline surveys, orientation and facilitation of meetings. One of the most common approaches is the Participatory Rural Appraisal (PRA). Robert Chambers developed this approach with a view to 'putting the last first' in order to empower the subaltern. Critics of the approach argue that it is naïve to believe that the subaltern's voice can be heard so as to allow development organisations to represent their interests and desires (Kapoor, 2004). The problem of how the voice is represented, for whom, and why arises. Kapoor thinks very little of the development organisation's belief that they can hear and represent the 'pure, unmediated subaltern voice' (Kapoor, 2004). We had to take into account the impartial status of the facilitator in focus groups and our inherent positions as white, VSO and DoE-affiliated workers.

Although I don't see my time with VSO as volunteer tourism per se, I am aware of the current interpretations and misunderstandings related to this field. I agree with Raymond and Hall's research findings which suggest that:

'the development of cross-cultural understanding should be perceived as a goal of volunteer tourism rather than a natural result of sending volunteers overseas' (Raymond & Hall, 2008, p.538)

I would suggest that this applied to the VSO education team, as we tried to be mindful that the flow of information is often one way, and as mediators we could fall into the trap of rejecting popular knowledge of the people on the ground in favour of the technical competence of the project. This was especially the case in reviewing our questioning style in the focus groups as we listened back to the first interviews. De Sardan (2008) suggests the development agent is in the tricky position of having to: defend own personal interests, defend the interests of the institution, and mediate between various actors' interests. Certainly, there was much for us to consider and be reflexive about with regards to ethical considerations.

There was a certain amount of consideration that had to be paid to the upward linkages of the project, to the project managers, the senior managers and the donors, each of whom required the project in their own form of development language. Mosse (2004) suggests the multi-layered and complex nature of the social logics of development projects leaves the development agent to work hard in order to continue to hold up their interpretation of authorised policy; they must translate the meaning of the project into the institutional language of its stakeholders. The varying and often contradictory needs shaped the coherence and stability of the ECR project. The various forms of appropriation resulted in small discrepancies between the project on paper and in practice. An example of this was the interference of an education officer while delivering the TG trial material (see point 1 in section 5.3).

## 6. RESULTS

### 6.1. Quantitative data

The aim of the quantitative data analysis was to establish whether there was a relationship between the amount of training the teachers received and their subsequent ability to use the TG's. The amount of training depended on the teachers location: urban groups received a comprehensive 1.5 days training, semi urban received 0.5 day training and rural groups received no training. The teachers ability to use the TG's was measured by the reported use of activities from the lessons followed during the trial period. Data was gathered from questionnaires given to the teachers pre- and post-trial and a teacher journal which was filled in during the course of the trial. Baseline quantitative data was collected in the form of a biographical data questionnaire.

Questionnaires were completed by 293 teachers in the two provinces of Enga and East Sepik.

TABLE 3. Number of returned questionnaires and teacher journals at trial end-point.

District	Enga		East Sepik	
	Post-trial questionnaire	Teacher journal	Post-trial questionnaire	Teacher journal
Urban	31	28	33	33
Semi-urban	34	32	42	42
Remote	43	45	45	45
Total	108	105	120	120

At the end-point data collection for Enga for the post-trial questionnaire (n=108) and teacher journal (n=105), the percentages returned were 74% and 72% respectively. At the end-point data collection for East Sepik for the post-trial questionnaire (n=120) and teacher journal (n= 120), the percentage returned was

82% for both. In total, 228 post-trial questionnaires were collected and 225 teacher journals. Not all questionnaires were returned due to the district training the teachers had to take part in from week 5 in Enga, and also as a result of teachers closing schools early for holidays (see section 5.3).

No statistically significant difference was found between the provinces of Enga and East Sepik. Teachers in East Sepik and Enga responded to the questions about the key activities in the TG with similar answers. Consequently, for further analysis, the results for the training groups in both provinces were combined. The results for District 1 in Enga were combined with those from District 1 in East Sepik. The same was done for District 2 and District 3.

Statistical analysis was carried out in SPSS using the pre- and post-trial questionnaires and the teacher journals. Multivariate analysis of variance (MANOVA) was used, as there were multiple dependant variables and independent variables. MANOVA allowed for the determination of whether a number of degrees of independent variables acting alone or in combination would have an influence on the dependent variable. The response rates of the teachers to key indicators over the trial period can be seen in Table 4. Table 4 provides data about the number of responses to questions in the teacher journals over the seven weeks of the trial. Weeks 5, 6 and 7 had fewer completed responses for the reasons outlined in the next section.

TABLE 4. Number of responses to questions in teacher journals

Indicators	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Writing easy to follow	218	215	211	215	201	186	166
Lessons made sense	219	218	211	215	202	189	167
Lessons were successful	230	219	212	214	201	188	164
Children able to sing song	220	216	211	214	199	188	164
Children able to do activity	231	210	210	213	198	185	161
Children able to do sounds and actions	220	217	209	214	201	187	165

The pre- and post-trial questionnaire and the teacher journal results allowed for use of statistical analysis that answered the research question. The scripted lessons contained the listed activities below, which were covered during the trial period. Teachers' reported use related to these activities are taken as key indicators of the teachers' ability to carry out the activity. The pre- and post-trial questionnaire and teacher journal were used as an indication of reported use.

Teachers were asked to indicate how often they used the activities in their last week of teaching. Teachers could respond by indicating how often they used the teaching strategy or activity on a four-point scale: never, one or two days, three or four days, and every day. The activities and strategies upon which the teachers reflected were as follows:

1. You taught the students a new English sound
2. You taught the students new English words
3. You used flashcards to teach a new sound or word
4. You played the students an English song
5. Students learned an English song
6. You taught students the meaning of new English words
7. You asked comprehension questions in English
8. You got the children to work in pairs in English

In Table 5, the results of the pre- and post-questionnaire responses are presented. Around a third of teachers reported never using flashcards or playing the students an English song previously. This dropped to 5.8% and 2.2% respectively in the post-trial reflection. The activities reported by the teachers as being used most often on an everyday basis post-trial were the teaching of new sounds and the playing and learning of English songs. The difference between pre- and post-trial responses to whether the teachers taught a new English word every day was comparatively small, with an increase of around 10%. This would suggest that teachers used their existing planning or knowledge of English to be able to teach new English words. Over 70% reported teaching English sounds every day post-trial. Pre-trial, over a third of teachers reported that they taught sounds on 1 or 2 days and on 3 or 4 days. It is evident that although some teachers received training on phonics before the trial, most teachers had limited if any knowledge of phonics. Some of the qualitative data discussed in section 6.2 confirms this and it is possible that the sounds that teachers reported having taught were in fact letters. This gives some insight into new areas of classroom practice that can be most attributed to the TGs and SD-cards.

TABLE 5. Responses of teachers to activities taught pre- and post-trial (%)

Indicator	Never		On 1 or 2 days		On 3 or 4 days		Every day	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Taught new sound	5.6	1.4	23.4	6.4	35.3	20.5	35.7	71.7
Taught new words	4.8	2.2	19.5	9.6	33.4	35.7	42.3	52.6
Used flashcards	33	5.8	28.1	16.4	26.4	37.2	12.5	40.7
Played song	27.2	2.2	34.1	6.1	24.4	17.1	14.3	74.6
Learned song	13.7	0.9	37.9	7.0	30.4	25.1	17.7	67
Taught word meaning	2.8	0.4	21.2	11.2	36.5	37.1	39.6	51.3
Asked comprehension questions	10.2	2.2	32.5	17.9	30	39.9	27.2	39.9
Children worked in pairs	9.2	3.6	27	16.7	37.5	39.8	26.3	39.8

Repeated measures MANOVAs revealed that the amount of training teachers received did not have a significant impact on the teachers' use of the activities pre- and post-trial (Table 6). There was a significant increase in the use of the activities measured over time across all training groups and provinces. There was no significant difference in the way the different training groups employed the activities in the teacher guides.



TABLE 6. Relationship between the amount of training provided to teachers on the TGs and their ability to use them: repeated measures MANOVAs. Group refers the training group, and time refers to the duration of the trial.

Indicator	Group × time			Time effect			Group effect		
	( <i>df</i> <sub>1</sub> , <i>df</i> <sub>2</sub> )	F-value	p	( <i>df</i> <sub>1</sub> , <i>df</i> <sub>2</sub> )	F-value	p	( <i>df</i> <sub>1</sub> , <i>df</i> <sub>2</sub> )	F-value	p
Taught new sound	(2, 211)	2.036	0.133	(1, 211)	65.988	0.000	(2,211 )	1,373	0.256
Taught new words	(2, 227)	0.285	0.752	(1, 227)	8.713	0.03	(2, 227)	0.873	0.419
Used flashcards	(2, 218)	2.260	0.107	(1, 218)	127.479	0.000	(2, 218)	1.370	0.256
Played song	(2, 220)	0.57	0.567	(1, 220)	259.422	0.000	(2, 220)	1.868	0.157
Learned song	(2, 224)	0.29	0.971	(1, 224)	194.142	0.000	(2, 224)	1.68	0.189
Taught word meaning	(2, 216)	0.239	0.788	(1,216)	13.151	0.000	(2,216)	2.428	0.091
Asked comprehension q's	(2, 211)	0.779	0.460	(1, 211)	37.412	0.000	(2, 211)	0.601	0.549
Children worked in pairs	(2, 218)	1.438	0.240	(1, 218)	32.907	0.000	(2, 218)	0.946	0.390

The p values in Column 1 (Group x time) in Table 6 show that no significant differences were found in the reported ability to use the TGs and materials over the time of the trial. This shows that District 1 (full training of 1.5 days), District 2 (partial training of 0.5 days) and District 3 (no training) were all able to carry out the activities in the TGs irrespective of the level of training given. During the research period, teachers in the three different training groups used the same practices and with the same frequency.

In looking at the main effect of group in the last column, it can be seen that the teachers did not significantly differ from each other in the general level of use of the activities. The between-groups test again indicates that the variable (amount of training) is not significant. The teachers used the same teaching activities from the TGs in all three of the training groups.

What is significant is the main effect of time in the second column. Teacher response and use of the indicators increased from pre to post among all teachers (in the whole sample). All the teachers used the teaching activities more in the last week of the trial than they had in their normal classroom practice in the week before the trial took place. There is a significant time effect, as all the values for the activities in column 2 have p values of less than 0.05. The activities the teachers reported using with their students in language lessons in the week before the trial increased when asked about the use of the same activities in the last week of the trial. The results show that the TGs and materials increased key classroom practices related to language acquisition. The scripted lessons in the TGs contain instructions for these key activities. The key activities therefore give an insight into the efficacy or reported use of the activities from pre to post. In practical terms, it means reported use of key language acquisition activities increased significantly over a relatively short period of time regardless of training.

### The teacher reflective journal

At the end of each week of the trial, the teachers were asked to fill in their teacher journal (see Appendix 5). The responses to the following questions were used as key indicators of teacher efficacy and success rate. Indicators 1-3 below were measured on a 3-point scale and indicators 4-6 with yes or no.

- 1 Was the writing easy to follow?
- 2 Did the lessons make sense to you?
- 3 Do you think the lessons were successful?
- 4 Speaking and listening/ sound songs: were the children able to sing the songs?
- 5 Follow-up activities: were the children able to do these successfully?
- 6 Phonics and language: were the children able to make the sounds and actions?

Table 7 below shows the mean scores and their standard deviation over the seven weeks of the trial. The mean scores were high for all the indicators, across the three training groups. In general it can be seen that the mean scores for the group that received training were marginally higher for responses to whether they thought the lessons were easy to follow, made sense and successful. The partial and no-training groups outperformed the full training groups in some instances. In week 4 for the indicator 'Made sense' the group with no training reported a mean of 1.9, partial training 1.89 and full training 1.87. However, these differences are so small that they are not statistically significant and it would be difficult to make any generalisations.

TABLE 7. Mean scores and standard deviation for the three training groups in response to the indicators over the 7-week trial period, scale of responses 2 = yes, 1 = partly, 0 = no (n=148)

Indicator	of		Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Writing easy to follow	teacher efficacy	<b>1.5 days training</b>	1.89 (0.676)	1.89 (0.323)	1.91 (0.284)	1.97 (0.169)	2.00 (0.000)	1.97 (0.169)	1.97 (0.169)
		<b>0.5 day training</b>	1.92 (0.269)	1.87 (0.345)	1.92 (0.269)	1.88 (0.323)	1.94 (0.235)	1.90 (0.298)	1.92 (0.269)
		<b>No training</b>	1.82 (0.428)	1.85 (0.358)	1.85 (0.401)	1.84 (0.373)	1.84 (0.373)	1.92 (0.331)	1.9 (0.300)
Lessons made sense		<b>1.5 days training</b>	2.00 (0.569)	1.95 (0.226)	1.87 (0.414)	1.92 (0.273)	2.00 (0.000)	1.95 (0.226)	1.97 (0.162)
		<b>0.5 day training</b>	1.95 (0.227)	1.93 (0.260)	1.89 (0.312)	1.95 (0.227)	1.88 (0.334)	1.93 (0.260)	1.95 (0.227)
		<b>No training</b>	1.87 (0.343)	1.92 (0.530)	1.90 (0.303)	1.83 (0.376)	1.83 (0.376)	1.92 (0.279)	1.93 (0.252)
Lessons were successful		<b>1.5 days training</b>	1.86 (0.723)	1.83 (0.378)	1.81 (0.401)	1.89 (0.319)	1.94 (0.232)	1.94 (0.232)	1.94 (0.232)
		<b>0.5 day training</b>	1.72 (0.452)	1.78 (0.420)	1.80 (0.407)	1.80 (0.407)	1.89 (0.317)	1.87 (0.339)	1.83 (0.423)
		<b>No training</b>	1.81 (0.601)	1.69 (0.500)	1.76 (0.468)	1.71 (0.527)	1.76 (0.468)	1.76 (0.503)	1.92 (0.281)

Table 8 below shows the percentage of positive responses over the seven weeks of the trial. The scale of the responses to the questions was 1 = yes, 0 = no (see Table 6 for response rate over the trial). Again the responses were positive, with little variation for all the indicators across the three training groups.

TABLE 8. Teachers' evaluation (% of positive responses) of students' ability to carry out 3 key indicators over the 7-week trial period for the 3 training groups.

Indicator		Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Children able to sing song	<b>1.5 days training</b>	93.3	91.8	81.5	83.6	85.5	87.8	88.6
	<b>0.5 day training</b>	91.9	90.3	87.7	86.3	91.3	87.3	91.1
	<b>No training</b>	89.5	88	84.5	85	88	89.5	92.2
Children able to do activity	<b>1.5 days training</b>	85.5	91.1	94.3	90.2	85.7	91.7	95.3
	<b>0.5 day training</b>	82.9	87.5	90.4	84.9	92.5	90.6	92.9
	<b>No training</b>	74.2	80.5	85.7	93.7	90.7	91.8	91.9
Children able to do sounds and actions	<b>1.5 days training</b>	90	98.3	98.1	96.7	94.6	95.9	90.9
	<b>0.5 day training</b>	94.6	95.9	97.2	95.9	98.6	96.8	100
	<b>No training</b>	91.9	89.3	90.5	92.5	92.1	93.3	96.9

The chi square test showed no significant difference between the groups. This means that a high number of teachers, irrespective of the amount of training they received, reported that their students were able to sing the songs, to do the follow-up activities and to do the sounds and actions. In week 4 the teachers in the full-training and no-training groups reported their lowest percentage of positive responses to the question of whether the students were able to sing the song or not. The groups with the half-day training reported their second lowest positive response to the question. This may have been due to the songs that were in the lessons that week. Longer songs with more words or complicated structures would be possible reasons for this. The songs for this week were higher in tempo and the speed of the songs could mean they are harder to learn. When looking at the reported ability of the students to carry out the follow-up activities, there is a general rise in the percentage of positive responses over the seven weeks of the trial. Every training group reports a lower positive response in the first week that in any other week during the trial. The no-training group started at 74.2 %, the lowest response, but maintained an increase week-on-week for the first four weeks of the trial. The other groups increased their percentages for the first three weeks of the trial. This would suggest that the follow-on activity was a component of the lesson that took time to get used to for all the groups, with the no-training group taking an extra week to get up to similar levels of positive response in comparison to those that had received training. The percentage of positive response for the reported ability of the students to do the sounds and actions was the highest of the indicators. All of the results were at 90% or over, showing that the teachers felt that this activity was well achieved. The sounds and actions are generally well liked by the children as they are asked to get up, make an action and a sound. A high rate of class participation and enjoyment of this part of the lesson could result in teachers reporting the highest success rates.

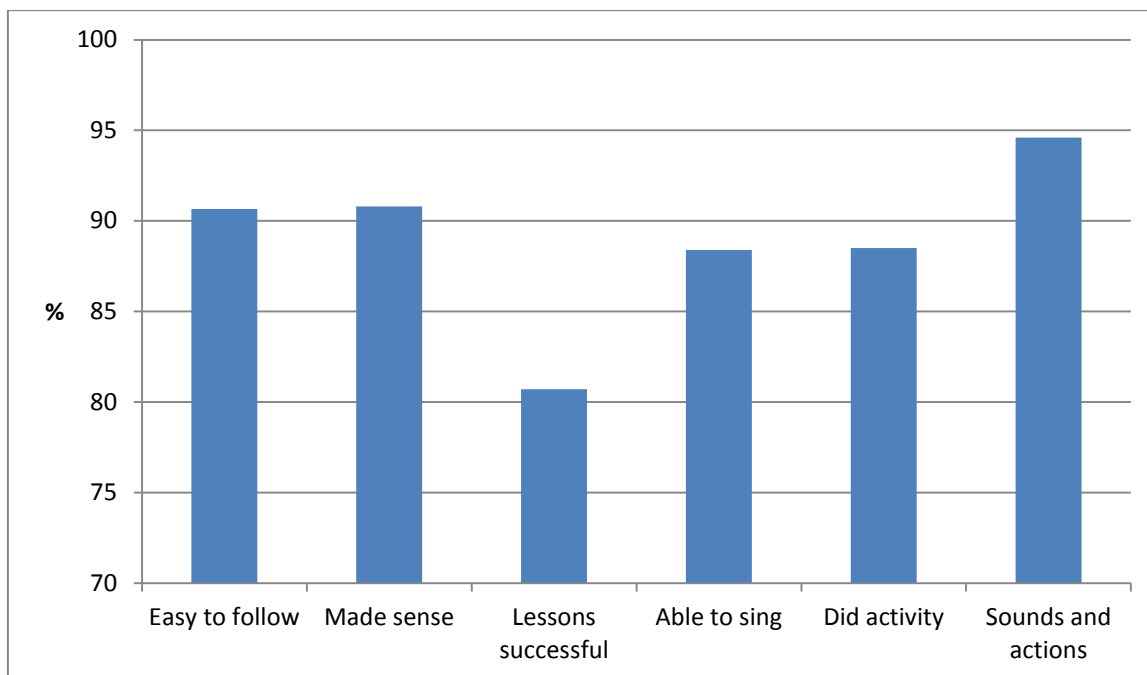


FIGURE 10. Combined teacher responses to the 6 indicators in the teacher journal for the whole trial (%)

Valid percentages were created from Table 6 (number of responses to questions in teacher journals) and combined to show the relative responses to the questions in the TG over the seven weeks. All responses were over 80%, with the teachers' response on the children's ability to do the sounds and actions the highest at almost 95%. The response to whether the lesson was successful or not was the lowest. Any perceived lack in one or more of the five components would have a knock-on effect on the perceived success of the whole lesson; a teacher would prefer all of the parts of the lesson to go well in order to think it was successful.

## 6.2 Qualitative data

The focus groups and teacher journal reflections confirmed the findings of the quantitative data of the trial. There were similar responses to the material across the training groups on issues related to the key indicators. Interesting themes to

come out of the qualitative data were those related to ease of use, teachers' learning and motivation and status in the community. As phonics is a new concept for many of the teachers, the reflective journals shed light on how the teachers were using and understanding the TG and what it meant for phonological awareness. As the TG was based on a phonetically driven backbone, the phonics and language was an important section on which to receive feedback:

1. Taught alphabet before, didn't teach sounds before, that is new. Children learning more with phonics sounds and actions. East Sepik, 1.5 days training

2. For the weeks journal I would like to say that the lessons for the weeks [were] well prepared in sequences for the students' educational development especially in the English phonics language. Enga, 0.5 day training

3. It's easy to follow up and plan my lessons. I was so excited and was looking forward of teaching it every day. My teaching for this week was a new style, being enjoyed by the children and they loved to hear the sounds of the letters very much. ... Most of the actions and sounds are done with the teacher demonstrating so there are some actions children do with the sounds of the letters. These children are keen learners and they are learning as much as possible. They love the SBC activities very much. East Sepik, no training

As excerpts 1-3 show, it seemed that the sounds matched to actions was an important part of the lesson that the teachers used. In addition, flashcards reinforced phonemic awareness as excerpt 4 shows:

4. The children were excited about this week's lessons because of the pictures or flashcards that I showed them. I have already learned them about the sounds and their actions so when I showed them the flashcards they already knew the sound of that particular word and the action of it. The lesson was very interesting and they told me teacher it's powerful. Enga, 0.5 day training.

Through using the sounds and actions the teachers said that the students were able to identify the position of sounds (excerpt 5). Encoding and blending skills were reported (see excerpt 6):



5. This lesson was successful because the children can identify initial sounds and identify sounds within a word. East Sepik, no training
  
6. In this week's lesson I taught, the children learned many new things. The children can blend and sound out graphemes with action, the lesson are becoming more interesting to teach and the children are learning many new words and reaching new words by themselves. East Sepik, no training

### **Ease of use**

It became clear that the introduction helped and that the SD-card was a useful reference tool. The phrase 'everything was in the book' or words to that effect occurred in all the training groups. Crucially for the research question, the groups which did not receive training reported that they would have liked it, but they could still follow the TG without it as in excerpt 7 below:

7. Introduction was given so we just followed the book. Training in phonics, sounds and actions would help but don't really need it. East Sepik, no training

One of the strengths of the TGs that the teachers reported was that their planning and workload had decreased as a result of the material and the ease of use (excerpt 8, 9 and 10).

8. Some almost wanted to leave teaching but this is very easy because it provides resources. Enga, 1.5 days training
  
9. Under OBE a lot of teachers were losing interest and leaving. This is better for teacher and children because it shows you how to teach and the progression. We found it hard to plan and make lessons with OBE, now more confident. If we follow this the children's learning will be effective, faster, speaking and listening, pronunciation. If I start in EP up to E2 I will produce some good students. Enga, 0.5 day training

10. OBE system was too complicated for us. It was hard for teachers to make a programme and a lesson plan. Now the new system is very nice. Enga, no training

Only one teacher reported preferring to work from their own planning.

## Learning

It was also evident that one of the strengths of the TGs was that teachers were learning at the same time as teaching (excerpt 11 and 12). This gives some insight into new areas of classroom practice that can be most attributed to the TGs and SD-cards. The activities reported by the teachers as being used most often on an everyday basis post-trial in the questionnaire were the teaching of new sounds (71.7 %) and the playing and learning of English songs (74.6% and 67% respectively).

11. Very helpful TG compared to OBE where it was hard for the children to pick up - it confused them. This is easier for them. Teachers learning too. I am learning. With OBE we never did songs and actions. Enga, no training
12. My eyes and ears and the children's have been opened to new things. Now at the same time the teachers are learning. Enga, 0.5 day training

There were some notable shifts in teaching style as excerpts 12, 13 and 14 highlight below. For the trained groups this may have been due to watching the trainers' delivery of the materials:

13. My teaching changed. I changed the way I taught other subjects, like maths, involving ideas, actions and getting the children to give answers. Enga, 1.5 days training
14. Learnt making of sounds, flexibility and moving around as we teach. I took more movement back to class and got a boom box. Enga, 0.5 day training

15. Very good, were helpful, like the writing strategies that gave us ideas and seeing the actions. Enga, 0.5 day training

As excerpt 16 shows, the groups without training also reported using new strategies to teach:

16. The children learned lots of songs. In the past they never learned songs in English. The parents were very happy. They knew the system of teaching in the classroom had changed and they wanted it to continue. Enga, no training

The teachers who watched the videos on their phones reported aspects of learning from them. One of the videos showed the sounds and actions from the introduction to the TGs. For those that had not received training, the videos provided a reference point (excerpt 17). Teachers also showed the training videos to the children in their class. Teachers cited the fact that the children could see other classroom situations as a model for their own as in excerpt 18:

17. Some sound I don't know I watch video. East Sepik, no training

18. They want to become like the kid on video. East Sepik, 0.5 day training

This was unexpected, as the videos were designed to be for teachers only. There were a number of responses in both provinces and across the training groups that showed that teachers were training their fellow colleagues who had not been involved in the trial. A typical example of this is excerpt 19 below. Teachers also reported sharing the music and video files: (excerpt 20):

19. We gave the other two Teacher Guides to colleagues and they were happy, we trained our other teachers when we gave them the Teacher Guides. Enga, no training

20. I explained the text book to them and gave them the memory card via Bluetooth. Enga, no training

The sharing of the SD card files extended to primary school colleagues and there had also been requests from parents to have the music files.

### **Motivation and status within the community**

Participants in the focus groups were asked what kind of reaction, if any, they had received from parents. Most participants in all groups reported positive feedback from parents and went further in saying that the wider community had also responded positively. Many teachers took the materials back to their communities and conducted awareness talks about the trial and SBC. Teachers said positive feedback on their classroom practice had an effect on their status within the community and consequently a positive effect on their self-esteem and motivation. What we have seen from the focus groups is that there is certainly interest from home and the community at large, which has brought the spheres of home and school closer together as can be seen from the following excerpt:

21. Children enjoy, learn more, play, sing the songs and share what they have learned after school. Children have a favourite song for the week 'number one song', they sing it in the village and do the actions. East Sepik, 1.5 days training

Parents also began to take an active interest in what was going on in the classroom. Teachers talked about parents watching the classes (excerpt 22 and 23):

22. Teachers and students from other classes came to look. East Sepik, 1.5 days training
  
23. The students sang so loudly other children came to listen. The students wanted SD card to share songs with other children and parents. Parents impressed by children singing songs and doing actions. Every afternoon parents came to the school to watch. East Sepik, 0.5 day training

Participants felt that the students enjoyed the songs. The songs and actions were something new for the teachers and students. Teachers saw that the songs began to be sung outside the classroom and parents' feedback to the teachers was that the songs were being sung at home.

### **Reported drawbacks**

Some teachers felt the songs were too long and that there were too many to learn in one week. This is something that was reflected in the teacher journals. When asked how long it took to teach the lesson, 50.7% reported that they had taken over an hour. This dropped slightly over the course of the trial to 43.5%. The drop in time taken to teach the lessons over the seven weeks of the trial could be attributed to the teachers becoming more familiar with using the songs in the lessons. Teachers also noted that when the songs were played on some mobile phones they were not loud enough to be heard by the students. Many of the teachers brought their own sound systems to school to improve this. Some teachers-in-charge (head teachers) bought sound systems (boom boxes). One of the reported drawbacks of the sound systems was that the files could not be navigated through as easily as on the phones. Teachers also requested more revision days, as they felt that if they were absent from school it would be difficult to catch up (reinforcing other findings about teacher and student absenteeism).

## 7. DISCUSSION

This study sought to provide insight into the creation and trialling of the new national curriculum for English as a subject for elementary level in Papua New Guinea. The new curriculum material aims to offer an intervention to address initial English literacy learning within the multilingual setting of PNG. The purpose of the research was to establish whether there was a relationship between the amount of training provided to elementary teachers on the new Teacher Guides for English and their subsequent ability to use them.

The findings revealed that the amount of training given to the teachers on the Teacher Guides was shown to have no significant effect on teachers reported adherence to or use of the teaching strategies in the scripted lessons within the timeframe of the study. All groups, regardless of the amount of training they received, reported being able to use the TGs. There was a significant positive effect on the indicators between the pre- and post-trial questionnaires, which showed the teachers increasingly using the teaching strategies in the TGs over time. The method and frequency with which the teachers employed the TG activities did not vary across the training groups. Responses in the teacher journals also showed no statistical difference in the teachers' reported ability to use the TGs across the training groups. All groups reported strong positive responses to the questions used as indicators of the teachers' ability to use the TGs.

The mixed methods approach confirmed that teachers were able to use the materials without training and furthermore revealed that the resources had positive impacts on their use of teaching strategies, motivation and status in the community. The focus groups and teacher journal data showed that many

teachers were beginning to adopt new teaching styles and use activities that they had not employed before.

Scripted lessons are often criticised for being restrictive and limiting in terms of professionalism. Yet in the context of PNG the teachers reported that scripted lessons were a source of new knowledge. It is conceivable that based on this intervention a space could open up for the internalisation of knowledge which would facilitate teacher's conceptual understanding of pedagogies. Taking the behaviourist view upon which scripted lessons are based it could be said that the condition was the process by which the TG came about from inception to production to implementation to trial. The response to the stimuli was that the teachers were able to use the TG.

A positive feedback loop between home and the classroom was identified as a result of the qualitative data. As the parents and community began to give feedback to the teachers this had the effect of empowering the teachers and increasing their motivation. Mel (1995) argues that when it comes to the cultivation of a culturally relevant education in PNG there should be a direct link between the home and the learning environment of the school. There may be implications that warrant further study here and this certainly connects to the study by Hopkins et al. (2005) regarding the degrees of differences in emergent reading and writing and the ties to effective teacher education programmes that link home, school and class contexts in PNG.

The main recommendation that can be made as a result of the findings in this trial is that teachers should still receive the TGs if there are delays in the delivery of training on the material. This study suggests that if teachers receive the materials they will be able to use them regardless of whether they receive training on the new SBC curriculum or not. This is an important finding as there are no guarantees that all teachers will receive training on the SBC curriculum in the future. Those that do will receive varying degrees and quality of training due to standardisation issues as it is interpreted through the linkages of the DoE. It is likely that a well delivered training module on the new lessons will receive the same amount and quality as the 1.5 days training group in this

trial. However, it may be the case that some rural teachers may not receive any training at all due to their remoteness. A further recommendation relates to the data that showed the TG's increased the use of effective teaching strategies. The recommendation is that scripted lessons containing context specific teaching strategies should continue to be developed for other subjects within the Elementary and Primary curriculum in Papua New Guinea. More specific details on these recommendation made to CDD can be found in a report of this trial made to the PNG DoE forthcoming.

The major limitation of this study was the short time span of project. Only seven weeks of a three year teaching programme were reflected upon by the teachers. This meant it was difficult to see whether any reported weaknesses would have continued over time. The main weakness reported by teachers in the trial was the amount of time spent on learning the songs and the impact this had on the timing of the lessons. The scale of the study meant that the nature of the side-tracking that will inevitably take place in the delivery of the material by teachers to students was not revealed. Another important limitation in this study is that it was based on teachers reported use and impressions only. It may be that in some cases teachers will have reported overly positive responses in order to show that they felt they understood the material well and had followed it. This may in part be due to the public nature of the trial and a desire to do well in the eyes of their peers and education officers coupled with the customary reciprocal culture in PNG. Lastly regarding limitations, the instruments in this study, although having been used by EGRA beforehand and modified for this research, could have been simplified and tested further on Elementary teachers. Time constraints in the construction of the study did not allow for testing that would have provided increased validity of the tools for this study.

There is a considerable void within the research fields of language, literacy and international development. As stated by Riddell in 2008, there is very little evidence to show that the complex country specific contexts of educational quality in developing countries are understood. A literature review by



Kleinhenz and Reid (2015) for PNGs major bilateral aid donor, the Australian Department of Foreign Affairs and trade (DFAT), found a need for evaluating and reporting the evidence on education interventions. As yet there are no monitoring and evaluation, or longitudinal studies planned for the new curriculum by the DoE in PNG. Due to this trial on one aspect of the new curriculum being of limited scope and scale there are suggestions for further research. This trial was based solely on teachers reported use and impressions of the TGs. Accordingly, a drawback of this study is that it does not address children's learning or the bigger picture of L1 to L2 language acquisition. Further research in the form of a Randomised Control Trial (RCT) on students would track the TG's over a longer time period in order to monitor teaching and learning and allow for an understanding of how to improve emergent literacy skills in this context.

The proposal by the PNG government to have the language of instruction at Elementary level as English requires deliberation. It seems that language proficiency skills in English of elementary teachers and their use of codeswitching indicate that English will not be the sole language of instruction in all but a few regions of the country. In Africa the effects of English as a common language of instruction before literacy in L1 is achieved has been related to poor literacy results (Ouane and Glanz, 2010). For languages with transparent orthographies such as those in PNG, decoding skills can be learned in 3 to 4 months. For the non-transparent orthography of English this may take between 2 and 3 years (Seymour et al., 2003; Abadzi, 2013). Fluency in a language requires much more than decoding skills. Ball (2010) suggests that it takes 6 -8 years to become proficient in a language to a level at which academic work can be undertaken. The scale of the task is considerable, though there is evidence from PNG (see Siegel, 1997) and the East New Britain EGRA diagnostic results report (2014) that shows the acquisition of English has been improved by initial language instruction in mother tongue. One of the main recommendations from the East New Britain EGRA study was for the use of longitudinal data to profile progression through a bilingual reading

programme. The new home language curriculum sets out guidelines as to how vernacular mapping can be carried out with the aim of achieving bilingual settings, although it is highly probable that the help of linguists will be required in this process. Monitoring and evaluation on the effectiveness of this mapping will be needed if vernacular instruction is to be effective and aid the acquisition of English. The use of a learning intervention game, namely Graphogame (GG) as part of a RCT would allow for further insight into the new curriculum and its effectiveness. Graphogame is a learning tool developed at the University of Jyväskylä (see Lytinen et al. 2009) and has been used in many countries to help children improve literacy levels in their vernacular. Developed originally as a learning game for the prevention for dyslexia in Finland, the use of GG has expanded to include providing initial reading skill support in mother tongues in Zambia, Kenya, Tanzania and Namibia (Ojanen et al., 2015). In PNG a multi arm trial including variables of GG would allow for the comparison of rates of reading acquisition in control and intervention schools. One area in which a GG trial would be scalable would be Enga. Enga has the largest language group in PNG with over 230,000 speakers. The province has a teacher training college and as such may offer a basis from which vernacular literacy teaching using GG can be researched. There is potential for collaboration on this with SIL in terms of orthographical mapping of the language which may extend to other provinces. Such research has the capacity to add to evidence based policies with the required long term foresight needed to map PNGs languages for literacy in order to access L2 in English.

Should an RCT trial be set up, the use of an EGRA tool to test students in EP is an issue that would need to be considered. An English EGRA tool was piloted in the capital district of PNG with grade 1 students and floor effects were found as many students struggled. A simplified version of the tool to measure things like basic print awareness, listening comprehension and phonemic awareness could offer an alternative in investigating oral bridging from L1 to L2. A final point to consider with regards to research is that keeping a control group in an RCT may prove problematic as the ideal situation for the

DoE is that all teachers will receive the new SBC material at the same time as opposed to phased in by region. However, there are likely to be distribution issues which may provide windows to be able to employ a control.

There has been much focus in recent years for governments in developing countries to adopt learner centred education interventions from donors and institutions that are ill suited to their needs (Schweisfurth, 2015). Efforts to implement learner centred teaching practices have not served PNG or many other countries in critical phases of educational reform well. As Neofa (2011) and Hahambu (2012) have shown, the language and teaching strategies put forward by the last curriculum, learner centred as it was, were not compatible with the capacities of teachers lacking in training and resources. PNG faces a number of issues in addressing low levels of literacy including high numbers of children in schools, a high number of teachers without training or poorly trained, and very few readily available resources in mother tongue. The government of PNG aims to improve literacy through a new curriculum based upon needs analysis and recommendations that include easy to follow scripted lessons containing phonics. It has been shown that for developing countries with inadequate teacher training and few resources, scripted lessons offer an alternative for improving learning outcomes (Grossen and Kelly, 1992; Kremer and Holla, 2009; Murnane and Ganimian, 2014; Schweisfurth 2011; Van Staden, 2011). This study suggests that the TG scripted lessons were able to provide structure where teachers had struggled with curriculum planning, provide resources where there were few, and deliver key concepts in easy to follow English which may go some way to addressing a lack of training in pedagogical skills. The data showed that the teachers reported they were able to use the TGs regardless of whether they had been trained on the material or not. Thus, based on this research, lack of training on the new SBC curriculum should not be seen as an impediment to the delivery of the English teaching materials to Elementary teachers in PNG.

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# APPENDICES

## Appendix 1. Teacher biographical data

Department of Education Curriculum Development & Assessment Division SBC English Trial

**1. Teacher Biographical Data** TEACHER RESEARCH CODE: \_\_\_\_\_

1. Your name															
2. Sex	M / F														
3. Your age	years														
4. The school you teach in															
5. The district you teach in															
6. Which grade/s do you teach?															
7. How many years have you been teaching?	years														
8. What is your teaching qualification?	None or observer teacher														
	Still in training														
	Certificate														
	Diploma														
	Other (please state)														
9. Which grade did you graduate from school?	Before G8	G8	G10	G12	College/Uni										
10. Have you used printed lesson plan programs before (e.g. Oxford University Press or Melanesian Series)?	Yes No														
10. Have you received any training on English or phonics in the last year?	Yes, what, who, when?														
	No														
10. Do you have a mobile phone?	Yes No														
11. If yes, does your phone take a memory card?	Yes No														
12. What is your phone number?	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>														
13. What is your postal address?															

## Appendix 2. Confidentiality form

<b>Department of Education Curriculum Development &amp; Assessment Division SBC Research: English trial</b>	
Philippa Darius 7222 9668 Principal Curriculum Officer Elementary	Jeff Pilgram 7222 8240 Education Researcher
<b>Teacher Consent Form</b>	
How do scripted lessons address the needs of elementary teachers in PNG?	

### **Description**

This research is trialling the new elementary English Teacher Guides and is being undertaken by the Curriculum Development and Assessment Division of the Department of Education. It is funded by Australian Aid.

The trial will be testing how teachers use the new Teacher Guides and how the training they receive changes the way they use the lesson plans.

This trial will help improve the new standards-based curriculum to be implemented in 2015.

### **Participation**

Your participation in this project/research is voluntary. If you do agree to participate, you can withdraw from the study at any time during the project without comment or penalty. Your decision to participate will in no way impact upon your current or future relationship with the Department of Education.

Your participation may involve training, using new Teacher Guides and allowing the research team to conduct random classroom visits. You will have to complete questionnaires and may be interviewed individually or in a focus group.

Researchers will also interview your students in groups.

### **Confidentiality**

No names will be used during the research or reporting. Your comments will be anonymous.

Some activities will be recorded using an audio recorder, camera or video camera. These recordings will not be used for any other purpose than the research trial. This data will be stored securely, and will only be accessed by the people conducting this research.

### **Questions / further information about the project**

Please contact the research team members named above if you have any questions about the research.

### **Concerns / complaints regarding the conduct of the project**

Department of Education is committed to ethical conduct of research projects. If you do have any concerns or complaints about the ethical conduct of the project you may contact Mr Steven Tandale, Director, CDAD on 325 7555.



## Appendix 3. Teacher pre-trial questionnaire

Department of Education Curriculum Development & Assessment Division SBC English Trial

### 3. Teacher Pre-Trial Questionnaire

Name: \_\_\_\_\_ School \_\_\_\_\_ Teacher Research Code: \_\_\_\_\_

Below are different activities you might do with your students in Language lessons. Think about last week and indicate how often you used these activities.

		Never	On 1 or 2 days	On 3 or 4 days	Every day
1	You wrote a short story on the chalkboard for the children to read.	0	1	2	3
2	You read a short story to the whole class.	0	1	2	3
3	The whole class read aloud a short story from the chalkboard.	0	1	2	3
4	Students read aloud individually to you.	0	1	2	3
5	Students read aloud individually to another student.	0	1	2	3
6	Students did speaking and listening role plays in English.	0	1	2	3
7	You taught the students a new English sound.	0	1	2	3
8	You taught students new English words.	0	1	2	3
9	You used flashcards to teach a new sound or word.	0	1	2	3
10	You played the students an English song	0	1	2	3
11	Students learnt an English song.	0	1	2	3
12	You taught students the meaning of new English words.	0	1	2	3
13	You asked comprehension questions in English.	0	1	2	3
14	Students copied down writing from the chalkboard.	0	1	2	3
15	Students wrote a story or song or poem.	0	1	2	3
16	You wrote a lesson plan for language.	0	1	2	3
17	You followed a written lesson plan for each language lesson.	0	1	2	3
18	You got the children to work in pairs in English.	0	1	2	3
19	You used a checklist to assess children's progress in English.	0	1	2	3
20	You put up a display of new English words.	0	1	2	3

21. Which language/s do you teach in? (tick one)

1. Mostly Tok Ples	2. Mostly Tok Pisin	3. Mostly English	4. Mix of Tok Ples and Tok Pisin	5. Mix of Tok Ples and English	6. Mix of Tok Ples, Tok Pisin and English
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## Appendix 4. Teacher post-trial questionnaire

Department of Education Curriculum Development & Assessment Division SBC English Trial

### 3. Teacher Post-Trial Questionnaire

Name: \_\_\_\_\_ School \_\_\_\_\_ Teacher Research Code: \_\_\_\_\_

Below are different activities you might do with your students in Language lessons. Think about last week and indicate how often you used these activities.

		Never	On 1 or 2 days	On 3 or 4 days	Every day
1	You wrote a short story on the chalkboard for the children to read.	0	1	2	3
2	You read a short story to the whole class.	0	1	2	3
3	The whole class read aloud a short story from the chalkboard.	0	1	2	3
4	Students read aloud individually to you.	0	1	2	3
5	Students read aloud individually to another student.	0	1	2	3
6	Students did speaking and listening role plays in English.	0	1	2	3
7	You taught the students a new English sound.	0	1	2	3
8	You taught students new English words.	0	1	2	3
9	You used flashcards to teach a new sound or word.	0	1	2	3
10	You played the students an English song	0	1	2	3
11	Students learnt an English song.	0	1	2	3
12	You taught students the meaning of new English words.	0	1	2	3
13	You asked comprehension questions in English.	0	1	2	3
14	Students copied down writing from the chalkboard.	0	1	2	3
15	Students wrote a story or song or poem.	0	1	2	3
16	You wrote a lesson plan for language.	0	1	2	3
17	You followed a written lesson plan for each language lesson.	0	1	2	3
18	You got the children to work in pairs in English.	0	1	2	3
19	You used a checklist to assess children's progress in English.	0	1	2	3
20	You put up a display of new English words.	0	1	2	3

21. Which language/s do you teach in? (tick one)

1. Mostly Tok Ples	2. Mostly Tok Pisin	3. Mostly English	4. Mix of Tok Ples and Tok Pisin	5. Mix of Tok Ples and English	6. Mix of Tok Ples, Tok Pisin and English
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Appendix 5. Weekly journal example

**Weekly journal**

**Term 1 Week 2**

1. How many of the lessons did you teach this week?  
5  4  3  2  1  0
  
2. On average, how long did it take you to teach each lesson?  
1 hour  More than 1 hour  Less than 1 hour
  
3. Was the writing easy for you to follow?  
Yes  Sometimes  No
  
4. Did the lessons make sense to you?  
Yes  Sometimes  No
  
5. Do you think the lessons were:  
Successful  Partly successful  Unsuccessful
  
6. Did you change any of the lessons?  
Yes  No
  
7. Speaking & Listening/Sound Songs. Were the children able to sing the song(s)?  
Yes  No
  
8. Follow-Up Activity. Were the children able to do these successfully?  
Yes  No
  
9. Phonics & Language. Were the children able to make the sounds and do the actions?  
Yes  No

**Please make additional comments about this week's lesson in the space below.**

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