

*Improving Learning*

# **Buk bilong Pikinini Literacy Program Evaluation 2018**

**Evaluation Report**

Education and Development

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## **4 Abbreviations and Acronyms**

ACECQA	Australian Children's Education and Care Quality Authority
AHC	Australian High Commission
BbP	Buk bilong Pikinini
DfCDR	Department for Community Development and Religion
DNPM	Department of National Planning and Monitoring
DoE	Department of Education
EC	Early childhood
ECDF	Education Capacity Development Facility
EQAP	Educational Quality and Assessment Programme
IDELA	International Development and Early Learning Assessment
MELE	Measuring Early Learning Environment
MELQO	Measuring Early Learning Quality and Outcomes
NCD	National Capital District
NIST	National School Improvement Tool
PNG	Papua New Guinea
SES	Socioeconomic status

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## **5 Executive Summary**

The evaluation of the Buk bilong Pikinini (BbP) program is timely. This is because early childhood education and care (ECEC) is a newly emerging public policy space in Papua New Guinea (PNG). The results of this evaluation have implications not only for the BbP program but also for the development of effective models for delivering ECEC programs in the PNG context. This evaluation is also relevant for the Australian Government which is exploring ways to accelerate early literacy outcomes for elementary students in PNG (Department of Foreign Affairs and Trade, 2018).

BbP provides access to ECEC programs with a specific focus on English language literacy for children from vulnerable communities in PNG. The programs are provided at zero cost to families. The programs aim to improve literacy rates in PNG, to improve the school-aged outcomes of children, and to “improve the livelihood, health, and well being of the citizens of (PNG)” (Buk bilong Pikinini, n.d.).

This evaluation provides evidence about the likely effectiveness of the programs relative to *best practice* and in the early childhood and school policy and program delivery context of PNG. The major methods used were literature review and critical review of BbP documentation, and stakeholder consultations, semi-structured interviews and observations of classrooms.

### **5.1 Key findings**

The key findings are that the BbP programs are well aligned with PNG education policy requirements. The programs, however, are pitched at a level equivalent of the first year of elementary school in English rather than pre-school. There are forthcoming ECEC policies that the BbP program will need to be ready to meet, including the provision of a more holistic ECEC program.

The design elements of the BbP program are consistent with good practice and the requirements for success in ECEC. In particular, the program targets a vulnerable population likely to benefit from participation. The program also explicitly enrolls children on the basis of equal representation of boys and girls. There are gaps in the program design related to differentiation and ensuring educators have the resources to ensure children of all ability levels (including those encountering English for the first time) can engage in the content.

Further, a program that explicitly targets social and emotional skills, and executive function<sup>1</sup> is likely to have a value-add to children's pre-academic skills over and above a program focused predominately on literacy.

In the field, the Evaluation Team observed a delivery context where teachers created an emotionally nurturing environment and well-organised classrooms with both educators and children highly productive and engaged. The use of very small groups (including one-on-one) was not observed, and this is a limitation of the program. There were few observations of the kind of instructional interactions that would be described as high quality, although this is to be expected as these are seldom seen, even in more developed contexts.

The assessment of growth embedded within the program is sign of a high-quality program. There is however no way to compare children's scores on the diagnostic, and two subsequent assessments. This is because there are no common items between the assessments and the assessments have not been psychometrically validated or an empirical link established. The reports of growth found in the BbP reports do not account for measurement error and so statistical inferences should not be made about the reported growth.

## **5.2 Conclusions and recommendations**

Overall the evaluation found that the BbP programs are likely to have a positive effect on the learning and development of children in PNG. The programs target a very vulnerable sub-population who are unlikely to access other programs before school. This is done through a deliberate enrolment program that screens children for key vulnerability indicators. The program also deliberately seeks gender balance in its enrolment intake. The children enrolled are unlikely to attend other programs because they are simply unavailable at present in PNG. Private sector providers are an unknown quantity (unlicensed and unregulated) that charge fees that present an insurmountable barrier to entry for these

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<sup>1</sup> Executive function is a domain-general cognitive ability that facilitates higher-order mental processes that enable us to plan, focus attention, remember instructions, and manage multiple tasks successfully. Executive function is strongly related to being prepared to function in school. In preschool-age children, executive function is typically assessed in terms of children's working memory, ability to inhibit impulses, and cognitive flexibility (Miller, Giesbrecht, Muller, McInerney, & Kerns, 2012)

families. For this reason, relative to no educational input, the BbP program is providing a service likely to have a positive effect.

It is recommended that the Australian Government should continue to support BbP to deliver the program. Additional support should be provided by the Australian Government to implement the recommendations made in this report.

There are, however, opportunities to improve the BbP programs and to increase the value-add of the programs. Primarily it is recommended that BbP pivots to focus on the delivery of high-quality ECEC programs. This would involve broadening the focus of the BbP programs to be more holistic and explicitly foster the development of the children's social and emotional and cognitive skills that are important precursors to literacy. Further, BbP should expand the early childhood literacy program. It is the most well-constructed and documented program offered by BbP. The afterschool program should be reduced in scope so that the ECEC program can be provided earlier and in a greater dose. This includes expanding provision to four-year-old children, and aligning with international evidence that suggest children benefit most when they are exposed to at least 450 hours of program per year. In the delivery context, BbP should focus on lifting the instructional quality of the program. Whilst the emotional support and classroom organisation of the program are excellent, there is an opportunity to focus on improving the instructional support. This would focus on, specifically, (1) the pedagogical strategies that support children to be creative within the curriculum and generate their own ideas through play, (2) the use of feedback loops (back-and-forth or open-ended conversations) to promote engagement with the content through encouragement, affirmation, and prompting, and (3) the modelling of higher-order language through exposure to rich conversations and advanced language, repetition, extensions, and questioning (collectively, *scaffolding*).

Finally, BbP should seek partnership with measurement and assessment experts, to review and redevelop its assessments. There is an important role for the Australian Government to play in facilitating this as the expertise likely does not exist in PNG.

### **5.3 Acknowledgement**

The evaluation team thanks all of the stakeholders who contributed their time and effort to the conduct of this evaluation. Special thanks to the BbP program staff and participating families who generously invited us into their local communities to observe their everyday routines.

## **6 Introduction**

### **6.1 Background**

The international community is united in an effort to reduce inequality and improve the lives of all children through the Sustainable Development Goal Agenda. A key element of this is improving the access to high-quality pre-primary education programs before school to ensure children are on track for learning, psychosocial development and health (United Nations, 2018). High-quality pre-primary education is recognised as an effective intervention on children's learning and development (Raikes, Yoshikawa, Britto, & Iruka, 2017) and an essential component of efforts to lift human capital formation in the developing world (Engle et al., 2011). In response, many developing countries, in partnership with civil society, have been implementing reform efforts to lift enrolment in pre-primary education and to improve the quality of programs (Global Partnership for Education, 2016; UNESCO, 2007).

#### *The early childhood context in PNG*

In PNG, there is not yet a public ECEC system and there is no entitlement to ECEC education before school. PNG does not report against UIS headline indicators for participation in ECEC programs or for learning outcomes (UNESCO Institute for Statistics, 2018). The majority of ECEC programs in PNG are provided by an unregulated private sector: In 2018, only 5 ECEC services are registered and licenced with the Department for Community Development and Religion (DfCDR)<sup>2</sup>. There are an unknown number of unregulated private providers. There are also a small number of ECEC programs provided NGOs, churches, and through aid programs (e.g., The PNG Partnerships Fund). There is no data available on the quality of these programs, including of the workforce (e.g., qualifications). It is likely that, for the most vulnerable children in PNG, there is little chance of accessing high-quality ECEC before school.

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<sup>2</sup> Personal communication, 24 October 2018

When children transition to elementary school<sup>3</sup>, they enrol in a school program that is taught in English (National Department of Education, 2015). There is a high expectation that children will engage quickly and independently in the school program (be school ready). There is a limited capacity of teachers to support children who are not ready for school. For example, elementary school teachers are only required to complete a certificate-level training (often completed on-the-job, in around 1 month) to meet standards (and only approximately 50% of teachers meet that qualification) and, particularly in Port Moresby, class sizes are large (National Department of Education, 2015). In 2018, the average elementary school class size in the National Capital District (NCD) was 63 students (National Department of Education, 2017).

There is also likely a low capacity for families to provide a high quality home learning environment, rich in the kind of cognitive stimulation likely to support literacy. Whilst some reports of adult literacy report a majority meeting literacy standards – e.g., 68% up from 56% in 2000 (Department of Education, 2016) – others report a more dire situation – e.g., direct assessments of literacy in 5 provinces estimated literacy rates of around 12% (Asia South Pacific Association for Basic and Adult Education & PNG Education Advocacy Network, 2011)

### *Buk bilong Pikinini*

BbP provides access to ECEC programs with a specific focus on English language literacy for children from vulnerable communities in PNG. This is highly relevant, given the fact that there is likely an over-representation of illiteracy in disadvantaged households and few opportunities for children within those households to be ready for a school system with English as the language of instruction. Established in 2007, BbP has been in operation for more than 10 years and has opened 17 library sites in that time. Funding is sourced from donors, and no fees are charged to parents to participate in the programs. This is because BbP screens the applicants each year and enrolls the most vulnerable children – those unlikely to be able to participate in other educational programs. The Australian Government

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<sup>3</sup> Typically at age 6, children enter the preparatory year, the first year of elementary school, which is a 3 year program. A new school structure is currently being implemented which will reduce the elementary school program to one year of prep, followed by six years each of primary and secondary school (the *1-6-6* model).

has made investment in the BbP program since 2012 through three grants (the first covering 2012-2016 plus two smaller grants since 2016) totalling approximately AUD920,000<sup>4</sup> (Education Capacity Development Facility, 2018).

The BbP programs aim to improve literacy rates in PNG, to improve the school-aged outcomes of children, and to “improve the livelihood, health, and well being of the citizens of (PNG)” (Buk bilong Pikinini, n.d.). The BbP programs are offered onsite at 17 libraries (11 of which are in the National Capital District) and service delivery is broken up across 3 broad programs:

- 2 Library-based literacy programs
  - Early Childhood literacy program
  - After-School literacy support and book lending program
- Buk bilong Komuniti program

The *Early Childhood literacy program* is the main education program run by BbP and is conducted during school days, 8.00 am - 12.30 pm (2 x 2-hour sessions) for children in the year before school (typically 5 years of age). The program runs a select-entry enrolment program assessing child vulnerability and includes children of greatest need (up to 40 children per session are enrolled, up to 80 per library, yielding a maximum reach of 1 360 pre-primary children) per year. The program has an established curriculum approach, is delivered according to daily plans, and targets phonics, speaking and listening, pre-reading and pre-writing. The afterschool program is a community support program offering book lending and unstructured literacy activities for school-age children (to support school participation). The Komuniti program is a strategic initiative designed to support donors and communities to establish their own BbP programs with BbP providing consulting services to support the program (e.g., training) (Buk bilong Pikinini, n.d.).

BbP also has two libraries for children with additional needs. One is at Port Moresby General Hospital for children hospitalised with HIV, malnutrition, and Tuberculosis, and the other at the Red Cross Special Education and Resource Centre. Both have been operating since 2008 and have their own special needs program in place.

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<sup>4</sup> This is the sum of the grants in historical (nominal) AUD, no adjustment has been made to report in constant dollars.

As the expected outcomes are increased literacy rates in PNG, the BbP program has implemented an assessment program. The key outcome is growth in English language literacy, and this is measured relative to a baseline assessment (Buk bilong Pikinini, 2018b) conducted in the first term of enrolment. Growth is measured by using two assessment across the year (test two in June and test three in October) (Buk bilong Pikinini, 2017b, 2017c). The assessments are targeted at the skills of speaking and listening, phonics, pre-reading, and pre-writing (the diagnostic assessment at program entry also measures numeracy) (Buk bilong Pikinini, 2018b). The BbP program reports that the program has been responsible for growth in literacy rates. For example, BbP reports an average of 28% increase in literacy test scores in the first half of the 2017 school year (diagnostic – to test 1) (Buk bilong Pikinini, 2018a).

### *This evaluation*

One of the key issues to be addressed in this evaluation is how likely it is that the BbP programs are effective in improving children's learning and development outcomes. Despite a long history of operation, the BbP programs have never been independently evaluated.

This evaluation will address four key research questions:

1. To what extent are the literacy programs aligned with GoPNG education policy requirements?
2. To what extent are the literacy programs' design elements consistent with good practice and requirements for success? What design changes would be required to improve the prospects of success?
3. To what extent is the delivery context conducive to the literacy programs' being effective? What delivery context changes would be required to increase effectiveness?
4. To what extent are BbP's pre and post-literacy assessments useful for gauging literacy gains and (if so) what evidence from BbP's literacy assessment data of literacy improvements?

This report will conclude by making recommendations to help maximise the sustainability of the BbP programs within the delivery context post-DFAT funding regarding

1. alignment with policy and frameworks,
2. curriculum and program design, and
3. impact of children's learning and development

The key background documents to further describe this evaluation can be found attached:

- Appendix: Terms of Reference (Education Capacity Development Facility, 2018)
- Appendix: Evaluation Plan (Cloney, Munro-Smith, Rollo, & Anderson, 2018)

## **6.2 Methods**

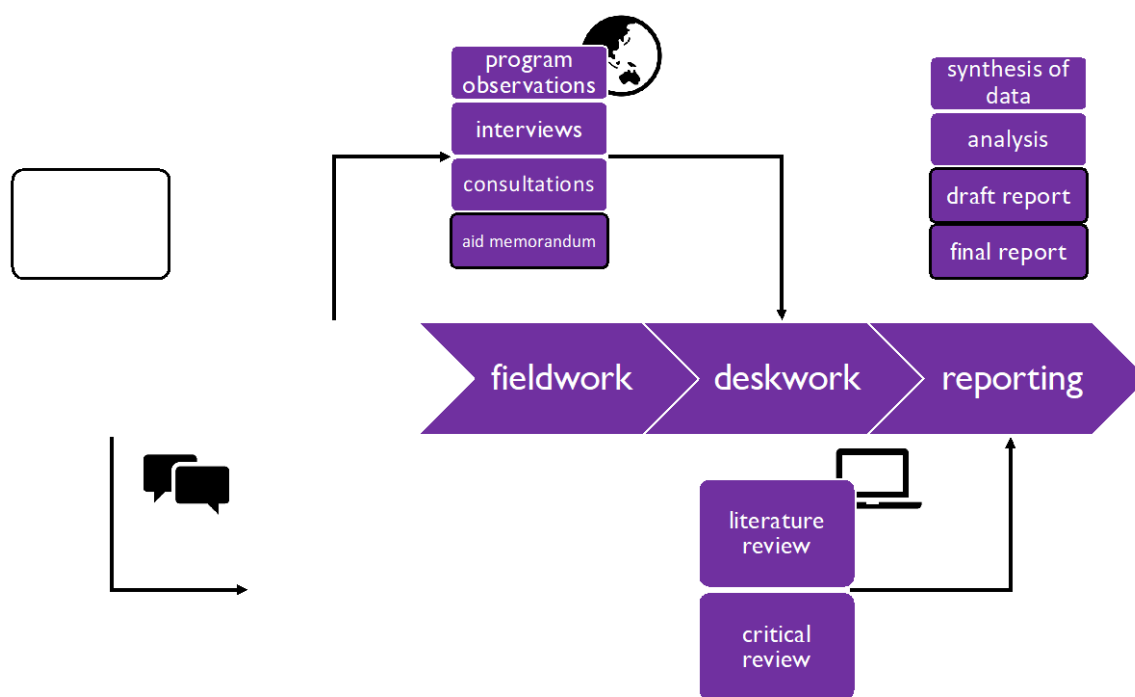
This evaluation provides evidence about the likely effectiveness of the BbP programs relative to *best practice* and in the early childhood and school policy and program delivery context of PNG. In order to do this, desk work was undertaken (literature review and critical review of BbP documentation) as well as fieldwork between 22-28 September 2018 (stakeholder consultations, semi-structured interviews and observations of classrooms). In order to limit the scope of that the evaluation team focused on, evidence was collated under the themes identified in the National School Improvement Tool (NIST) (Australian Council for Educational Research, 2012).

The deskwork involved two phases: discovery and analysis. During the discovery phase the Evaluation Team and BbP discussed the design and implementation of the programs, and the documentation required to feed into the evaluation design. During this discovery phase, the focus was on collating enough documentary evidence to produce a program logic. Because the BbP programs did not have a program logic to inform the evaluation design, the Evaluation Team developed them based on the available program documents. Following this, consultations with BbP were undertaken to seek additional documents to fill any gaps in the program logic. The analysis phase was then undertaken, using the documents to collate evidence to answer the evaluation questions.

The Evaluation Team visited five of the 17 BbP libraries (see Appendix: Final Fieldwork Itinerary) during the fieldwork. The fieldwork included observations using the Measuring Early Learning Quality and Outcomes (MELQO) Measuring Early Learning Environment (MELE) rubric – a measure of early childhood program quality embedded in theory and designed specifically for programs running in developing contexts (United Nations Educational, Scientific and Cultural Organization, 2017). In addition, semi-structured interviews were conducted with parents and educators and consultations were undertaken with key stakeholders (e.g., GoPNG).

The method is summarised in Figure 1 with deliverables drawn with a solid black border.





**Figure 1. Evaluation method summary**

### *Limitations*

Whilst the Evaluation Team has been thorough in developing a robust evaluation method, it should be noted that the methods are predominantly qualitative and, particularly the fieldwork, relied on direct observations of a subset of the BbP libraries. To mitigate this, the Evaluation Team implemented observational rubrics and interview strategies that were designed to limit observer bias. For example, to reduce observer effects (where program staff change their behaviour because they are being observed) the observations were conducted over the whole BbP program session, and established rubrics and themes were used to focus the data collected on actions and behaviours that are known to be related to children's outcomes. Despite this, the reader should be cautious about generalising the observations to all the BbP sites absolutely.

Full details are found in the method can be found in the Evaluation Plan (Cloney, Munro-Smith, et al., 2018) (see also Appendix: Evaluation Plan).

## **7 Analysis and results**

Program logics for the BbP programs can be found in Appendix: Program logics.

## **7.1 Evaluation question one**

*To what extent are the literacy programs aligned with GoPNG education policy requirements?*

BbP has a strong relationship with GoPNG, indicated by NDoE representation on the BbP board, and GoPNG (multiple departments) presence at community and theme days (Buk bilong Pikinini, 2017a). BbP is also seeking to enter into agreements with GoPNG to use its materials to replenish school libraries, as well as provide a model for ECEC program provision through the Komuniti program (Buk bilong Pikinini, 2017d). The Evaluation Team also note that during the consultation phase, the BbP programs were well known to representatives of a number of departments and held in high regard.

Four GoPNG policy documents are key to this question.

- Elementary English Syllabus 2015 (Department of Education, 2014)
- Elementary Language Syllabus 2015 (Department of Education, 2015)
- Early Childhood Education (ECE) Policy 2018 (draft) (National Department of Education, 2018)
- National Education Plan 2015-2019 (Department of Education, 2016)

Each document is considered sequentially and then the findings from each synthesised. It should be noted that for this question, the BbP program being referenced is the early childhood literacy program. The after-school program does not have curriculum or planning documents, and the Komuniti program utilises the early childhood literacy program document is supporting local areas to deploy their own BbP-like programs.

### *Elementary English Syllabus 2015*

BbP program has been designed to match the four strands of the English Syllabus of speaking and listening, phonics and reading and writing (Buk bilong Pikinini, VSO, & AVI, n.d.; Department of Education, 2014).

The BbP descriptions of working “to standard” in each of the strands are also designed to align with the English Syllabus standards. They mirror each other closely in terms of the kinds of skills addressed for Elementary Prep. (BbP also describes two levels below and one level above “to standard”. The English Syllabus just describes one level of standards.) BbP is a pre-school program, for children aged 5. The BbP “to standard” expectations, however, exceed the English Syllabus standards for elementary prep (age 6). This is summarised in Table 1.

**Table 1. Comparison of the standards of the English Syllabus and BbP**

<b>Strand</b>	<b>English Syllabus</b>	<b>BbP “to standard”</b>	<b>Comparison</b>
<b>Speaking and Listening</b>	Greet someone and introduce themselves Listen and follow simple classroom instructions in English Use and understand Year 1 common English words (130)	Express greetings and introductions, and talk about their life using simple English words. Listen to, understand and follow simple classroom instructions in English Answer simple questions, and express ideas and opinions using simple English words.	BbP has higher standards about the extent of students’ English skills, expecting them to be able to express ideas and opinions rather than just use and understand some common Year 1 words.
<b>Phonics</b>	Hear the beginning sounds in English words Read and say all Year 1 letter sounds (21) Sound out simple three letter words (e.g. p-i-g)	Read, say and do the action for most Jolly Phonics phonemes (42) Sound out, read and say simple English words Hear and identify the beginning phoneme sounds in simple English words	BbP students are expected to know most of the 42 Jolly Phonics phonemes including many double letters whereas the English Syllabus only expects students to know 21 single letter sounds that are limited to short vowels and common consonants with no double letters.
<b>Reading</b>	Read all Year 1 common words (130) Read a Year 1 story aloud in English	Read five Tricky Words Read a short story aloud in English and answer simple questions about it with some assistance. View, order and discuss a picture story, showing a basic understanding of relevant English vocabulary and narrative structure.	BbP students are expected to be able to read a short story aloud and answer simple questions with assistance, as well as discuss the narrative structure of a picture story book, whereas the English Syllabus only expects students to read the story aloud and does not include comprehension.
<b>Writing</b>	Write 26 small English letters correctly Spell Year 1 common words	Write all small English letters correctly Spell simple English words correctly Write some simple English words about a picture	BbP students are expected to be able to write some words about a picture, whereas the English Syllabus only expects students to spell some common words.

It is not clear in the documentation why BbP has higher standards, compared with the English Syllabus. Further, the English Syllabus is implemented alongside the Language Syllabus which recognises there are many students for whom English is likely to be a second, third or even fourth language. Consequently, the English Syllabus limits expectations about what students should be able to do in English in their first year of school.

There is almost no reference to English as an unfamiliar language in the BbP documents. The BbP Program Document makes one reference: “BbP literacy lessons are conducted in English; however, our curriculum recognizes the ‘English as a Second Language’ context and integrates Comprehension tasks into all four Building Blocks.” (Buk bilong Pikinini, 2017d, p. 12) It is not clear in the program documents if teachers use vernacular to support comprehension when children do not speak sufficient English or how to manage a diversity of home languages. (see Appendix: Undocumented practices)

#### *Language Syllabus 2015*

In the Language Syllabus the students’ home language is mandated as the language of instruction across the whole curriculum for the three years of elementary school. The Syllabus acknowledges that in diverse linguistic contexts, it is possible that English is the only common language across communities, even if it is not the home language of many students. The aims of the Language Syllabus of building pride in mother tongues and appreciating the diversity of PNG culture. This is partly reflected in BbP’s social awareness themes. However, the detail of these themes are left to teachers to embellish and there is no clear direction to the teachers to focus on valuing mother tongues and cultural diversity (see Appendix: Undocumented practices). There is no indication in the BbP documentation that BbP considers the indigenous languages of the communities in which the libraries are located as a key part of programming. There is a lot of potential to increase alignment, including in diversifying the daily practice in BbP settings. For example, The Language Syllabus also suggests that children should spend a lot of time out of the classroom and learning in the community and environment (Department of Education, 2015, p. 4).

#### *Early Childhood Education (ECE) Policy 2018*

A draft of the 2018 ECE policy was provided for this review. Table 2 shows the extent to which BbP aligns with key elements of ECE policy. A rating scale of High, Medium and Low is used.

**Table 2. Rating of BbP program alignment with draft ECEC standards.**

<b>Key elements of ECEC Policy</b>	<b>Alignment rating</b>	<b>Comparison</b>
<b>Policy Outcomes (A4.1-6) focus on early education that is “culturally and diversely appropriate”, with “appropriate teacher quality”, “safe, secure and healthy facilities”, “qualified teachers” and “healthy hygiene practices”.</b>	High	BbP is likely to meet outcomes A4.1-6 though the social awareness themes could focus more explicitly on celebration of the cultural diversity that is likely among the children in each site. BbP emphasises safety and health.
<b>Policy Outcome A5.8 states “The ECE curriculum must be culturally sensitive and taught in a language in common within the community. All languages, including English are included”.</b>	Low	BbP is unlikely to meet outcome A5.8 unless it can show through documentation that local language is used in addition to English. BbP recruits locally and includes local voice and perspectives in its awareness days, however how this is integrated in daily planning is not documented. The documents should reflect how BbP students’ rich cultural home lives, and cultural identity is integrated in everyday practice and how this is valued as an outcome.
<b>Policy Outcome A5.13 identifies morals, ethics and citizenship as important components of the curriculum.</b>	High	BbP social awareness themes and virtue sub-theme meet this criteria.
<b>Policy Outcomes A5.20 and A5.21 advocate child-centred approaches and a flexible curriculum.</b>	High	BbP takes this approach to learning.
<b>The key ideas that underpin the four principles (B3 a-d) of ECE are sustainability, catering for diversity, equity and quality.</b>	High	BbP policy documents align with these principles.
<b>Standard C1.2 emphasises a holistic approach to ECE including the domains of physical, language, cognitive, socio-emotional, creative and aesthetic.</b>	Medium	BbP includes all these domains but they are not all equally valued. Evaluation reports and BbP standards focus on cognitive expectations of students in the first year of school.
<b>Standards C1.3-1.6 refer to the quality of the ECE program in terms of implementation details, being underpinned by sound theories and geared towards producing literate and numerate students using child-centred approaches and supporting students with learning difficulties and special needs.</b>	Medium	BbP program may start at too advanced a stage of development in the literacy theories that underpin the program given the target audience. BbP’s is child-centred and says it caters for students with special needs and disabilities, but the program may be too challenging for some.

Overall, alignment with the draft ECEC policy is good, with clear gaps identified in terms of cultural sensitivity as a daily practice of valuing and building pride in cultural identity (See Appendix: Undocumented practices), and the breadth of the BbP program – the degree to which encourages holistic development outcomes.

*National Education Plan 2015-2019 DoE*

Table 3 uses the same method as above to rate the extent to which BbP aligns with key elements of the National Education Plan.

**Table 3. Rating of BbP program alignment with National Education Plan.**

<b>Key element of National Education Plan</b>	<b>Alignment rating</b>	<b>Comparison</b>
<b>“The NEP 2015–19 is designed to give everyone in Papua New Guinea, regardless of their ability, gender or socio-economic background, an opportunity to be educated and to transform their lives, using an holistic, inclusive and integrated approach” (p. 10).</b>	High	BbP is actively contributing to this goal by seeking to redress disadvantage and provide access to literacy to vulnerable children. The program goals are inclusive. The scope of the program is holistic and integrated, but this may not currently be fully realised given the focus on cognitive skills in the reports, standards and evaluation report.
<b>The first Education for All goal concerns early childhood care and education. “Papua New Guinea has a desire to make education available to all children from the age of three, but there is currently no formal early childhood care and education (ECCE) sector; therefore, there are no data available for monitoring progress in ECCE” (p. 22).</b>	High	Collecting quality ECCE data is a government priority. BbP could contribute.
<b>EFA Goal 5 concerns gender parity.</b>	High	BbP promotes gender parity. It deliberately enrolls similar numbers of boys and girls in its programs and monitors gender equity amongst teaching staff.

Overall BbP is strongly aligned with the National Education Plan.

**7.2 Evaluation question two**

*To what extent are the literacy programs’ design elements consistent with good practice and requirements for success? What design changes would be required to improve the prospects of success?*

Although there is not a literature describing what the best-practice in design of ECEC programs looks like in PNG specifically, there is a well-established literature that focuses on

ECEC in developing contexts (World Bank, 2015). There is specific literature about the challenges of equity (Save the Children, 2018), school readiness (Britto, 2012), and literacy (Global Education Monitoring Report, 2016; Save the Children, 2017). Across these documents, four consistent themes emerge in relation to designing high-quality programs: they should be holistic, developmentally appropriate, language sensitive, and value cultural diversity.

The BbP programs are documented in great detail, and the major components are described in:

- the Early Childhood Literacy Handbook (Buk bilong Pikinini et al., n.d.),
- Literacy Activities Guide (Buk bilong Pikinini & VSO, n.d.), and
- Assessments (Buk bilong Pikinini, 2017b, 2017c, 2018b).

As in the first research question, only the early childhood literacy programs are detailed in the documentation. The after school program is not described as it is an unstructured program supporting school programs and the special needs programs are not described as these are small specialist programs and documentation was not evident.

Table 4 takes each of the key elements of designing ECEC programs and rates the alignment of the BbP program against it.

**Table 4. Key elements of best practice of ECEC program design elements.**

<b>Key element of ECE best practice</b>	<b>Alignment rating</b>	<b>Comparison</b>
<b>Holistic</b>	Medium	Physical, socio-emotional, creative and aesthetic domains are included in the social awareness themes, but they appear not be valued to the same extent as pre-academic (particularly literacy) skills in terms of program detail, monitoring and evaluation, standards and reports.
<b>Developmentally appropriate</b>	Medium	The intention is to prepare children for school literacy, however the current standards are at the Year 1 English Curriculum level. This is likely too high, especially given the socioeconomic status (SES) of the children in the program.
<b>Language sensitive</b>	Low	There is little evidence of sensitivity to the needs of students with little or no prior knowledge of English, BbP has no explicit programming about the use of vernacular to bridge students to develop English skills.
<b>Value cultural diversity</b>	Medium	BbP does not explicitly include vernacular, though this is strongly advocated by GoPNG as a means of valuing children's heritage and building pride in culture. Some social awareness themes address cultural diversity, but there is limited guidance provided (see Appendix: Undocumented practices).

Overall, the analysis shows that there is somewhat of a mismatch between the current design elements and best practice.

### *Daily structure*

In relation to the specifics of the structural program design, there is little guidance about what an optimum ECEC program looks like in developing contexts. The BbP program is structured as a 2 hour per day, 5 day a week program operated in school terms for groups of approximately 40 children with 2 adults (1 lead, 1 assistant) facilitating the sessions. The program is for 5 year old children in the year before school. Based on a program that runs for 39 weeks a year<sup>5</sup>, children can be expected to be exposed to 390 hours of program. Based on the international literature, for very vulnerable children, there are significant differences in effects on children for programs providing more than 450 hours per year compared to 300 (Campbell et al., 2012; Reynolds, Temple, Ou, Arteaga, & White, 2011). Further, the age that children are first exposed to ECEC programs matters. An Australian study found that three year-olds who attended preschool programs before the preschool year had stronger association between attendance and learning outcomes (Coley, Lombardi, & Sims, 2014) and this is supported for low SES children in the US (Reynolds et al., 2011).

### *Curriculum and programming*

To explore the curriculum and programming design elements more closely, the NIST themes of are used *an* (1) *explicit improvement agenda*, (2) *a culture that promotes learning*, (3) *systematic curriculum delivery*, (4) *differentiated teaching and learning*, (5) *effective pedagogical practices*, and (6) *an expert teaching team*

### ***An explicit improvement agenda***

Key elements that support an explicit improvement agenda and the extent of alignment with Bbp program elements are outlined in Table 5.

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<sup>5</sup> Personal communication, 06 November 2018



**Table 5. Evidence of an explicit improvement agenda in the BbP program design.**

Key element of NIST	Alignment rating	Comparison
<b>Clearly stated goals of improving learning.</b>	High	BbP has a clear mission statement and vision of improving literacy rates in PNG.
<b>Sequenced lesson activities that build on prior learning and extend skills.</b>	High-medium	BbP activities largely do this, though clear sequences are more apparent in some building blocks than others. Text complexity also needs to be appropriately sequenced to match students' levels of skill.
<b>Flexible curriculum to support differentiated learning</b>	Medium	(see Differentiated teaching and learning)
<b>Reporting values improvement e.g. feedback identifies how students have improved</b>	Medium	Strong evidence of this in both internal evaluation documents and assessment documents. BbP standards could be couched more positively to describe what less skilled students <i>can</i> do. Most significant change stories value improvement of only one child per site.
<b>Use assessment data to monitor progress and inform teaching practices that improve learning.</b>	Medium - Low	BbP collects data but it is unclear how teachers should interpret and use these data in planning and practice.
<b>Collect evidence of student improvement and use it to provide positive feedback and reinforce achievements.</b>	Medium-Low	BbP teachers collect portfolios of student work samples that are scored. It is not documented how this is incorporated in practice to provide feedback.
<b>Clear standards that identify levels of performance couched in positive terms that focus on what students can do at each level.</b>	Medium	BbP has clear standards described at four levels, but the two lower levels are a deficit model.
<b>Appropriately challenging standards.</b>	Low	BbP standards are likely too high for much of the target audience as they are at or above the standards described in the elementary school syllabus. More holistic standards that are appropriate to pre-school development should be developed.
<b>Improving teachers.</b>	High	BbP documents and training, rating, and monitoring program to support teachers' skill development.

BbP has a clear literacy improvement goal and clearly sequenced lesson activities in most domains that promote improvement by building on prior skills, however the starting point for cognitive skills and comprehension is likely to be too high for many students. There are good intentions about the use of assessment data to inform learning and reporting of improvement, but teachers are likely to need more support on how to use it daily planned activities and practice.

### ***A culture that promotes learning***

Key elements that promote a culture of learning and the extent of alignment with BbP program elements are outlined in the table below.

**Table 6. Evidence of a culture that promotes learning in the BbP program design.**

<b>Key element of NIST</b>	<b>Alignment rating</b>	<b>BbP program</b>
<b>A belief that all children can learn.</b>	High	BbP selects a target audience of the most vulnerable and disadvantaged children with the vision of improving their literacy.
<b>Building and maintaining positive and caring relationships between staff, children and parents.</b>	High	BbP is strongly committed to this.
<b>Holistic</b>	Medium	BbP overemphasises pre-academic skills. (particularly literacy)
<b>Developmentally appropriate programs.</b>	Medium	BbP literacy skills tend to be school level rather than pre-school.
<b>Skills are meaningfully integrated with a strong focus on understanding rather than rote learning and memorisation.</b>	Medium-low	BbP places comprehension at the core of their design intersecting with the other four building blocks, but there are limited documented strategies or lesson plans to ensure children who do not speak English well are supported to understand. Teaching English effectively as a second language in a classroom context with few proficient speakers requires a specialist program (see Appendix: Undocumented practices). The phonics curriculum has a strong focus on memorising sounds and gestures (part of the Jolly Phonics program).
<b>Classroom activities designed so that all children can access, participate and learn from at different levels depending on their current skills.</b>	Medium	BbP activities reflect the potential for multiple levels of access in many of the activities and games. Though it is unclear how this is done in the programming documents.
<b>Opportunities for children to pursue their own interests and develop curiosity and a love of learning</b>	High	Free selection of activities and books is regularly provided for in the program documents.
<b>Celebration of learning</b>	High-medium	BbP's collection of portfolio work samples and the Most Significant Change stories celebrate learning but program documentation makes it unclear how this is shared with learners.
<b>Valuing of learning</b>	High	Regular reporting to parents to discuss children's progress
<b>Engagement of parents in students' learning.</b>	High	Encouragement of parents to borrow books and support book reading at home.
<b>Valuing parent input about student learning</b>	High	Collecting parental feedback about progress of the child deemed to have made the most significant change.
<b>Teacher learning is valued.</b>	High	BbP provides resources to support and train teachers to also learn and improve.

Generally, the BbP program promotes a strong, positive, engaging culture of learning. It would be improved by a more holistic program and developmentally appropriate approach to pre-reading and pre-writing for vulnerable students.

### ***Systematic curriculum delivery***

Key elements of systematic curriculum delivery and the extent of alignment with Bbp program elements are outlined in Table 7.

**Table 7. Evidence of systematic curriculum delivery in the BbP program design.**

<b>Key element of NIST</b>	<b>Alignment rating</b>	<b>BbP program</b>
<b>Clearly articulated program of activities.</b>	High	Handbook and Activities Guide includes detailed descriptions of each activity including scripted delivery of the phonics programs. The purpose of each activity is identified to support teachers to focus on the core skill of the lesson. The repetitive structure of the daily lesson plan is also developmentally appropriate for students and supports teachers with limited skills.
<b>Comprehensive</b>	High	BbP includes the relevant resources for all activities and ensures libraries have a good supply of books.
<b>Well organised and structured.</b>	High	Handbook and Activities Guide with a clear structure organised around the building blocks of pre-reading, pre-writing, phonics and speaking and listening. Organisation is supported by the use of consistent headings and clear cross referencing.
<b>Appropriate style and detail for intended audience.</b>	High	The provision of a high level of detail including scripted lessons for phonics is appropriate for teachers in the BbP context who have limited training (e.g., are not degree qualified). It is assumed that teachers recruited to teach in English have sufficient English skills themselves to understand the Handbook and Activities Guide.

The BbP program is comprehensive, well-structured and organised to support systematic curriculum delivery.

### ***Differentiated teaching and learning***

Key elements of differentiated teaching and learning and the extent of alignment with BbP program elements are outlined in Table 8.

**Table 8. Evidence of differentiated teaching and learning in the BbP program design.**

<b>NIST theme</b>	<b>Alignment rating</b>	<b>BbP program</b>
<b>A flexible curriculum with multiple entry points</b>	Medium	Flexibility is mainly provided through revision opportunities on Fridays and in Terms 2 and 4 and variations on activities.
<b>Open activities that can be completed at different levels of skill</b>	High	Many of BbP games and activities can be accessed by children with different levels of skill.
<b>Effective use of assessment to identify and respond to different learning needs of children</b>	Medium-low	Diagnostic assessments are used to identify learning needs at the start of the program, but teachers are likely to require clear guidelines to explain how the curriculum might be adjusted to cater for substantial differences. Teachers are also likely to need extensive guidance and support in the instructional materials to show them how to collect and use assessment data to inform learning (see Appendix: Undocumented practices).
<b>Teachers who understand how students develop and are able to identify the skills they need to learn next, based on what they can do</b>	Medium-low	It is not clear in the training materials if teachers are trained in child development. Many of the activities assume teachers are able to adjust the tasks to cater for students' learning needs.

The BbP program offers the potential for flexibility as it is possible for students to access many activities, with appropriate teacher direction and support, allowing less skilled students an opportunity to participate with limited comprehension while more skilled students are able to learn more. Some activities provide a harder and easier version of the task. Teachers can also provide individualised support to students though it is unclear in the program documentation about how this is addressed in practice and if teachers have the skills to adjust the program based on a well understood progression of literacy development.

### ***Effective pedagogical practices***

Key elements of effective pedagogical practices and the extent of alignment with BbP program elements are outlined in Table 9.

**Table 9. Evidence of effective pedagogical practices in the BbP program design.**

Key element of NIST	Alignment rating	BbP program
<b>A child-centred, play-based approach to learning</b>	High-medium	BbP adopts this pedagogy, but too heavy a focus on phonics could undermine it.
<b>Engaging, enjoyable</b>	High	Many of the games and activities likely to be fun for children.
<b>Choice of activities</b>	High	The documentation indicates that there are many opportunities for children to select books and activities they prefer which builds their motivation and engagement with learning
<b>Positive discipline</b>	High	The program documents imply that positive discipline practices are used as do the organisational values.
<b>Inclusive and respectful relationships</b>	High	The program has a goal of catering for disadvantaged students, and promotes gender-equal participation in enrolment practices. There is also a focus on a sub-theme of values.

The BbP program supports highly effective pedagogical practices for young children, however if phonics, decoding and letter writing dominate the program with a focus on giving “correct” answers, producing perfect handwriting and achieving the BbP standards much of the child-centred, play-based, engaging and enjoyable features of the pedagogy will be lost. This could also be the case if the activities are too hard.

### ***An expert teaching team***

Key elements of an expert teaching team and the extent of alignment with BbP program elements are outlined in the table below.

**Table 10. Evidence of developing expert teaching teams in the BbP program design.**

Key element of NIST	Alignment rating	BbP program
<b>Appropriately trained teachers</b>	High	BbP has developed a well targeted training program for its target staff - locals who do not have teaching degrees. The training is at a higher standard than early childhood educators in the private market.
<b>Mentoring and leadership provided for teachers.</b>	High	The program describes annual visit of a trainer and ongoing monitoring and development.
<b>Self-reflection encouraged.</b>	High	This is encouraged though isolated teachers may only have the opportunity to share reflections with their trainer.
<b>Professional development targets teachers’ needs.</b>	High	Trainers visit annually and identify teachers’ strengths and weaknesses based on an established rubric and provide training based on this.

The BbP is designed to train local educators without teaching degrees in the basics of early childhood education and the development of literacy skills which is commendable. However,

teachers' skills are likely to reflect the heavy weighting given to phonics instruction in English. A more holistic program would require more holistic training and instruction in how to teach English as an additional language.

### **7.3 Evaluation question three**

*To what extent is the delivery context conducive to the literacy programs' being effective?  
What delivery context changes would be required to increase effectiveness?*

This section follows closely from the previous. The design elements (structural) characteristics of the program are the enablers for the delivery context (interactions). This aligns strongly with learning theory, that puts interactions at the centre of pedagogical practice (causing learning), and structural elements distal to learning (prerequisites, but sufficient on their own) (Hamre, Hatfield, Pianta, & Jamil, 2014; Hamre et al., 2013).

In order to observe the delivery context, the Evaluation Team used the MELQO MELE (United Nations Educational, Scientific and Cultural Organization, 2017) observational rubric, plus existing contextual questionnaires and semi-structured interview schedules in order to conduct interviews (Cloney, Rahayu, & Anggriani, 2018; Tayler et al., 2016).

#### *Daily structure*

The BbP program is structured as a two hour per day, five day a week program operated in school terms for groups of approximately 40 children with two adults (one lead, one assistant) facilitating the sessions. The program is for 5-year-old children in the year before school.

The observations in the field show that the program tends to run for less than two hours per session. Sessions were observed to finish 10-15 minutes early in three of four sites. In all sites, strong adherence to daily plans was observed. The session commences with a full group "mat" activity, followed by breaking up into three interest centres (during the observation week reading, writing, and a phonics/matching game). It is perhaps true that an observer effect led to the session running quickly (e.g., teachers making slight quicker transitions in order to demonstrate good classroom organisation). Regardless, it was clear that when the daily plan had been run, the teachers were not in the usual practice of running a short final session/interest centre to fill out the available time.

The classrooms tended to be less full than intended. The observed class sizes ranged from 16-26 children with the average being 21 children. This is approximately half of the 40-child capacity. Through teacher interview it was clear that this is a usual pattern (though larger

than usual by recent shut down at the ATS site) and a second intake is done later in the year to backfill available spaces.

### *Safety, hygiene, and water*

In general, the physical environments were of very good quality, through some variations were noted. There were no examples of children sitting or working on the bare-earth and there was always enough room for all children inside. There were no examples of settings where there were chairs and raised work surfaces for all children. This is acceptable given the PNG context. All classrooms had at least two interest centres set up with materials accessible to children (and more were set up to facilitate group activities) and there were good examples of literacy and numeracy displays in all classrooms and these included displays produced by children. There was sometimes a lack of displays at child-level (most displays were hung above the class, or at adult eye level).

There were few physical risks to children. It was noted in some cases that rubbish fires were near to the libraries and smoke infiltrated the classrooms. Most centres were enclosed by a fence protecting children from busy streets. The ATS site is built close to a drain and there is no fence and a significant drop. This is a risk to children that was identified by parents and given as a reason why outdoor play is not part of the BbP program by teachers. This is a low risk whilst the BbP program is conducted inside the ATS building. If outdoor play or programming is introduced, a strategy should be in place to assess the level of risk and mitigate it

There were mixed findings relating to WASH. Some centres were in settlements with no running water, and so relied on rain water and buckets. In some settings no soap was present and children used the toilet without washing hands. Toilets were generally adult-size, but in good working order. Little drinking was observed at all – some children were given water by their parents before or after the program. Although drinking water was typically available (e.g., rain water from a tap on a tank), it was not part of the program to stop for a drink.

### *Materials, curriculum, and pedagogical quality*

This section addressed how the curriculum and programming design elements are implemented in the delivery context. Sub-sections of the NIST themes identified in the previous section are used where they are relevant to the delivery. In addition, the NIST

themes of targeted use of school resources, and school-community partnerships are also considered.

***A culture that promotes learning***

Key elements that promote a culture of learning and the extent to which was observed in the field is outlined in Table 11.



**Table 11. Evidence of a culture that promotes learning in the BbP delivery context.**

<b>Key element of NIST</b>	<b>Implementation rating</b>	<b>Observations of BbP program</b>
<b>Building and maintaining positive and caring relationships between staff, children and parents.</b>	High	Positive, age-appropriate practice of a good standard. This included educators providing positive affect (warmth) and an absence of punitive interactions (e.g., sarcasm or physical punishment). Educators appeared to genuinely enjoy their roles and warmly welcomed children's contributions.
<b>Skills are meaningfully integrated with a strong focus on understanding rather than rote learning and memorisation.</b>	Medium-low	Mixed. Some open-ended questions were asked where children could demonstrate their understanding. There were opportunities for children to identify letters, sound-out letters and words, and write. However, many tasks, were based on a few narrowly defined words/letters (e.g., letter of the day) and this led to observations of rote teaching practices. Some dialogic reading strategies were observed in small group activities, though this was not consistent.
<b>Classroom activities designed so that all children can access, participate and learn from at different levels depending on their current skills.</b>	Medium	See Table 13
<b>Opportunities for children to pursue their own interests and develop curiosity and a love of learning</b>	Medium	Only 2 groupings of children were observed: whole group and small group (e.g., class broken into three small groups). In all cases the activity was teacher-initiated.
<b>Engagement of parents in students' learning.</b>	Medium	Parents reported that in some sites they were invited to borrow books overnight, on one day a week. Parents reported high engagement and motivation for learning. All parents identified that early learning was important and valued the inputs of the program before their children went to school.
<b>Teacher learning is valued.</b>	Medium-low	Teachers reported being visited by a BbP staff member (not in Lae) in the last 12 months, but none identified that they had consumed professional literature, observed other educator's practice, or undertaken any training or professional learning.

Overall the BbP sites were seen to be warm and engaging sites with strong and positive relationships with both children and parents. There are opportunities to strengthen the delivery of the program in terms of differentiation (creating different entry points to content for children of different abilities), and the use of more authentic, child-initiated interactions (e.g., through dialogic reading and back-and-forth conversation). There is a need to strengthen access to professional learning in the BbP sites.

### ***Systematic curriculum delivery***

Key elements of systematic curriculum delivery and the extent and the extent they were observed in the field are presented in Table 12.

**Table 12. Evidence of systematic curriculum delivery in the BbP delivery context.**

<b>Key element of NIST</b>	<b>Implementation rating</b>	<b>Observations of BbP program</b>
<b>Clearly articulated program of activities.</b>	High	The educators had a clear understanding of the program design and implanted activities with skill.
<b>Well organised and structured.</b>	High	The educators demonstrated good skill in transitioning between activities with almost no down-time observed. Children clearly understood the daily routine and the expectations on them.

The BbP program is implemented strongly by the teaching team. They have a clear understanding of the activities they are delivering and are familiar with the required materials and lesson structure. The educators also are effective in their practice to ensure children spend a maximum amount of time on-task and learning. There were minimal examples of children waiting or drifting away from activities.

### ***Differentiated teaching and learning***

Key elements of differentiated teaching and learning and the extent they were observed in the field are presented in Table 13

**Table 13. Evidence of differentiated teaching and learning in the BbP delivery context.**

<b>Key element of NIST</b>	<b>Implementation rating</b>	<b>Observations of BbP program</b>
<b>A flexible curriculum with multiple entry points</b>	Medium	Through teacher interview it was identified that groupings were made based on baseline assessment. The activities for each group were, however, identical. Little differentiation was identified (e.g., having different entry points to activities for children of different abilities), though some extra attention was provided to children who were struggling.
<b>Open activities that can be completed at different levels of skill</b>	Medium-low	The observed activities have the potential to be accessed by children at different levels of ability, and educators did notice when children were struggling (e.g., extra attention and time given to children), though few active changes were seen in the activities that would support greater engagement of children who are ahead or behind.

***Effective pedagogical practices***

Key elements of effective pedagogical practices and the extent they were observed in the field are presented in Table 14.

**Table 14. Evidence of effective pedagogical practices in the BbP delivery context.**

<b>Key element of NIST</b>	<b>Implementation rating</b>	<b>Observations of BbP program</b>
<b>A child-centred, play-based approach to learning</b>	Medium-low	The main pedagogical practice observed was teacher-led. That is, the day was planned out and children participated in the activities as they were initiated by the educator. There was some playful interactions, particularly when dialogic reading was observed, and on the revision day (Friday) where the activities are more game like.
<b>Engaging, enjoyable</b>	High	Children were observed positively engaged and active in the activities. Children enjoyed the opportunity to contribute, particularly when called on in full-group activities. The selection of writing, reading, and speaking activities were diverse and interesting, and the transition activities, including singing and physical movement/dancing help keep the focus of the children.
<b>Choice of activities</b>	Low	Although activity centres were observed in all classrooms, they were not used except when they were within the day's plan. There were no examples of child-initiated activities.
<b>Positive discipline</b>	High	The use of discipline strategies was highly appropriate, with children being redirected by being reminded what the rules and expectations are of them. Rules and expectations were consistently implemented.
<b>Inclusive and respectful relationships</b>	High	Gender balance was observed in the classroom, both among students and teachers.

Good quality pedagogy was observed in all settings. There is, however, opportunity to extend this to high quality. In all settings, excellent organisation of the room (e.g., positive discipline and time on task) and emotional support (e.g., warm affect) was observed. The level of the use of instruction however was more limited. Whilst children are modelled higher-order language skills and receive feedback, the lack of open-ended conversations limits the ability to have child-initiated learning through back-and-forth conversations and feedback loops that are embedded in the child's understanding of the world (and scaffold new, higher-level understandings).

### ***An expert teaching team***

Key elements of an expert teaching team and the extent to which this was observed in the field is outlined in Table 15.

**Table 15. Evidence of developing expert teaching teams in the BbP delivery context.**

<b>Key element of NIST</b>	<b>Implementation rating</b>	<b>Observations of BbP program</b>
<b>Appropriately trained teachers</b>	High	BbP has managed to recruit educators with experience in early years education and many with vocational training in ECEC. Many of the educators have a long-term tenure with the organisation.
<b>Mentoring and leadership provided for teachers.</b>	Medium	All educators in Port Moresby reported having an annual visit for monitoring and development. No educators reported receiving specific professional learning (e.g., observing the practice of other educators, attending training programs, enrolling in formal qualification programs)

The educators in the program are typically well experienced in the ECEC sector, and often have vocation training. This is commendable. All educators in Port Moresby indicated that they have been visited annually for monitoring and training in delivery of the BbP program. Educators from outside Port Moresby indicate that the visits are less regular and that there are cost barriers preventing regular visits. No educators identified having undertaken formal professional learning outside of the annual monitoring visits.

*Targeted use of school resources*

Although financial management is outside the scope of this evaluation, it was observed that where needed, BbP staff are well directed towards learning as the primary outcome of the program. Staff who are labelled as guards and handymen have been trained to deliver support to the teaching staff and do so well.

*School-community partnerships*

As above, the financial management of BbP is beyond the scope of this evaluation. From BbP documents, it is clear there is a wide network of international and national corporate sponsors. The partnerships BbP has created, however, go beyond the provision of capital resources to build facilities and resource the classrooms. BbP is well embedded in the local communities, and the reports of parents are of a deep relationship with local communities. This includes siblings across many years participating in the programs and local people being employed into the program.

#### **7.4 Evaluation question four**

*To what extent are BbP's pre and post-literacy assessments useful for gauging literacy gains and (if so) what evidence from BbP's literacy assessment data of literacy improvements?*

The program's use of literacy assessment is reviewed here in relation to best practice in assessment and the NIST theme of *analysis and discussion of data*. The assessment instruments (Buk bilong Pikinini, 2017b, 2017c, 2018b) and their design are discussed first and then some data from the program collected using the assessments is analysed.

There is a strong literature on best practice in assessment (ACER-GEM & UIS, 2017; Masters, 2013, 2014, 2016) and a number of good practices are modelled in international assessments of early childhood such as IDELA (Save the Children, 2017) and the MELQO (United Nations Educational, Scientific and Cultural Organization, 2017) and ACER assessment expertise.

The strength of all three of the assessments (Diagnostic, Test 1, and Test 2) is that they mostly try to include the five basic building blocks of the program. However, there are flaws in the test design and many of the questions which limits the usefulness of the data.

##### *Assessment Composition*

The number of score points for a section should reflect the importance of that section. If all sections are valued equally, the score points should be similar. Currently all tests are heavily biased towards phonics Table 16. The phonics section in the Diagnostic test and Assessment 1 is only concerned with letter-sound recognition. Score points should be used to collect information about a range of related skills, rather than allocating many points to exactly the same skill. Including items that assess phonological awareness and phonemic awareness would be give a better indication of the range of students' skills.

**Table 16. Distribution of scores to sub-domains of the Diagnostic Test**

Section	Max Score	Comments
<b>Speak &amp; Listen</b>	6	Scoring is problematic
<b>Phonics</b>	26	Letter order is problematic and the test scoring is too heavily weighted on this task
<b>Pre-writing</b>	2	Scoring guide for extent of accuracy is required
<b>Comprehension, Colours, Shapes</b>	6	Giving two choice is insufficient – too much guessing is scored correct
<b>Numbers</b>	10	Scoring too heavily weighted to a minor skill

*Item quality*

Careful attention should be made to the appropriateness of the response categories and scoring given the items. For example, The Speaking and Listening task in the Diagnostic Assessment (Figure 2) has two questions, both of which would typically be answered in English with a single word response. There is no scoring option for this. Children answering in English only score 3 if they use a sentence, but they are not asked for a sentence and the task is not set up to require one. The scoring criteria should be revised so that a single word answer receives the top score, or so that the question asks the child to respond in a complete sentence or using more than one word.

**SECTION A: Speaking and Listening**

Read the following questions to the child and give their responses a mark using the table below.

Questions	Responses			
	Complete sentence in English only 3	Part English and part Pidgin/Motu 2	Only Pidgin/Motu 1	No answer 0
1. Hello what's your name?				
2. How old are you?				
<b>Total Marks</b>	<b>/6</b>			

**Figure 2. Example speaking and listening item from Diagnostic Assessment.**

Careful attention should be given to the sequencing within items. For example, In the phonics task in the Diagnostic assessment (Figure 3) presenting letters in alphabetic order is problematic as many children learn to recite the English alphabet by heart with no understanding of the letter sound correspondence. This may make this item much easier than the underlying skill being assessed.

SECTION B: PHONICS												
Show the child the single letter sounds and ask them to name them. Place a ✓ for a correct answer and an (X) for an incorrect answer.												
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
<b>Total: /26</b>												

**Figure 3. Example phonics item from Diagnostic Assessment.**

Items should have sufficient response categories as to reduce the impact of guessing. For example, the comprehension, colours and shapes task in the Diagnostic Assessment needs to offer children three choices as a minimum so that the chance of them correctly guessing is reduced. These are vocabulary questions rather than comprehension. If children do not know the meaning of “girl” and “happy” and cannot name two colours then it is also likely that they do not have sufficient English to understand the instructions of the test and are likely guessing what they have to do.

Additional item base feedback is provided in Appendix: Feedback on items from BbP assessments.

#### *Administration of assessments*

The Diagnostic assessment is administered at the start of the program and used to group children according to learning needs, but the criteria that are used as the basis for grouping are not provided.

An external invigilator was also used for consistency. It would appear that external invigilators continue to administer the tests, but teachers may also administer the assessments if the invigilators are unavailable. It is not clear how the issue of consistency is resolved if teachers do administer the tests.

The dates of administration are not recorded in the data (though they are recorded on the Assessment forms). This is essential information. It is also preferable that the tests are administered at a similar time – either the same time of year or the same age (e.g., in the same week or month, or in the month when children turn 5.5 years). Without this, more complex statistical modelling is required to account for variation in ages and the duration between assessments.



### *Breadth of assessments*

The need to reflect a holistic approach in the assessment and reporting has been noted previously. If social awareness and social and emotional skills are an important aspect of BbP, they need to be explicitly identified as a part of Monitoring and Evaluation Log Frame (Buk bilong Pikinini, no date) and included in assessments and reports about student achievement.

It is implied that improved social awareness and personal empowerment will positively contribute to improved literacy achievement. The Most Significant Change testimonies provide some evidence of this, but these testimonies are limited to a single child per site, nominated as having improved the most. Nonetheless the testimonies indicate what the program is capable of achieving with some children. Empowerment is frequently mentioned in the testimonies, in terms of children's increased confidence and self-esteem and willingness to practice new skills at home. Improved manners, being respectful and obedient are also frequently mentioned, but children's improved knowledge about health is rarely mentioned.

Teacher observation checklists of children's behaviour are possible instruments. If the instrument described a few levels or stages in the development of skills in positive terms of what children can do, it would also support teachers to recognise different levels of learning needs.

### *Difficulty of assessments*

The first step in the analysis of data should investigate the match between the difficulty of the test questions and students' skills for each test. The test should include some questions that even the weakest students can answer, and a few questions that only the most able students can answer with the remaining questions ranging in difficulty from easy through to harder. If there are too many hard questions, these should be removed and replaced with easier questions. Similarly questions almost every student can answer might be made a little more difficult.

The Assessments are likely very hard for many students. The June 2017 Evaluation reports show that the average raw test score (shown as a percentage in the table below the graph p.13) of students on Test 1 is well below 50 per cent correct. Only 4 of the 14 sites had scores of 50 per cent or higher. The highest score was 60 per cent. Test 1 was too hard for most students at mid-year and they were not ready to proceed with learning even more

advanced phonics and decoding skills (Buk bilong Pikinini, 2018a). The sample data provided from three sites also indicates many students found the tests very hard.

### *Data processing*

There appears to be some issues with data cleaning. This is not documented and so it is unclear how data goes from collection to reporting and what processes are followed. For example, in the Diagnostic data for Tatana Library, the total scores per section in the data spreadsheet do not match the scores on the Diagnostic test. Speaking and Listening is scored out of 6 in the test, but recorded out of 12 in the data, Writing is scored out of 2 in the assessment form and reported as having a maximum score of 26 in the data with one student receiving 3 and another 1 point and all other students zero. The scores for comprehension, colours, shape and numeracy also seem to be doubled in the data.

The data also indicates that the targeting of the assessment is off: the assessment is too difficult. For example, in the data for BOP Test 1, the average percentage score is 38% for session 1 and 20% for session 2. The tasks are developmentally inappropriate for over half the children in session 1 and all the children in session 2, all of whom are reported as working below expectations. This reinforces the earlier finding for evaluation question one and two that the standard expectations are inappropriate.

### *Data Interpretation*

Assessment data is used to allocate students to a standard, based on their assessment data is not described, but can be inferred from the sample tests provided. Students' total test score, including work samples is calculated as a percentage and then graded as follows:

- 90-100% = A
- 51-89% = B
- 21-50% = C
- 0-20% = D

It is not clear why the intervals between the different grades are so uneven. Clearly there is a large difference in the ability of a student with an overall score of 51 compared with 89, but they are both graded as B. Grouping so many students into one grade limits the usefulness of interpretations of this grade. Describing the key knowledge skills and abilities for each of the four building blocks represented within each grade would help teachers understand the learning progression they are facilitating. It is also noted that the coding rubric for the work

sample is not documented. There is a risk that the work sample data could be highly unreliable and over- or under-estimate children's true ability.

It is clear that the focus of the Evaluation reports is on improvement. However, it is also useful to report the data in ways that support teachers and trainers to use the data to inform improvements to their teaching and student learning. Reporting the final, overall test score is not helpful for this purpose as it is impossible to identify whether the average students' performance was consistently low across all sections, or varied. It is very important to be able to identify areas of strength, to build on skills and areas of weakness to support development.

Given many teachers are likely to have limited understanding of percentages, reporting in average raw scores is recommended. This also reduces the extent of calculations required and the potential for errors. It would be preferable to report average raw scores by section so teachers can easily see how many of the questions in each section were answered correctly by test site. Where there are substantial differences in the average scores of the two sessions, consideration should be given to reporting these separately.

## **8 Recommendations and Conclusions**

This section makes recommendations regarding (i) alignment with policy and frameworks, (ii) curriculum and program design, and (iii) impact on children's learning and development. A focus is given to making recommendations to help maximise the sustainability within the delivery context post-DFAT funding.

### **8.1 Recommendations**

Overall, it is recommended that the Australian Government continue to support the BbP program in two ways. The first is to provide support for the ongoing running of the BbP programs. The second is to provide support to implement the recommendations of this report. Support to implement the recommendations of this report may include financial support as well as facilitating access to networks and other resources as described below. Such support is strongly aligned with the Australian Government's strategy for work with the PNG education sector, including finding ways to accelerate literacy outcomes (Department of Foreign Affairs and Trade, 2018).

The recommendations listed below are aimed to support BbP to pivot to focus on the delivery of high-quality ECEC programs. This will ensure that children are exposed to the

aspects of BbP programs that are most likely to impact learning and development. That is, the systematic, well-documented, and well-implemented literacy programs provided to children before they attend school.

The Evaluation Team's recommendations for BbP are (and recommendation for the Australian Government are given as sub-points):

1. Broaden the focus of the BbP programs to be more holistic and foster the social and emotional and cognitive skills that are important precursors to literacy. This will ensure that BbP is strongly aligned with the forthcoming ECEC policy, and will continue to lead the development programs for very vulnerable children in the PNG ECEC sector. This is key to the sustainability of the program because it is likely that BbP will be required to be registered under and meet the new standards within the policy.
2. Expand the early childhood literacy program. It is the most well-constructed and documented program offered by BbP. The afterschool program should be reduced in scope so that the ECEC program can be provided earlier and in a greater dose. This should include introducing a 4-year-old program and ensuring children in the current 5-year-old program get exposed to a minimum of 450 hours per year. The program should be reviewed to ensure differentiation strategies are clearly documented and that teachers understand the learning progression they are facilitating. This program will support sustainability through the Komuniti program that could support the expansion of pre-primary education in PNG, which is an inevitable policy focus of the future, by providing a model to support scaling up.
3. BbP should focus on lifting the instructional quality of the program. Whilst the emotional support and classroom organisation of the program are excellent, there is an opportunity to focus on improving the instructional support. This would focus on, specifically, (1) the pedagogical strategies that support children to be creative within the curriculum and generate their own ideas through play, (2) the use of feedback loops (back-and-forth or open-ended conversations) to promote engagement with the content through encouragement, affirmation, and prompting, and (3) the modelling of higher-order language through exposure to rich conversations and advanced language, repetition, extensions, and questioning (collectively, scaffolding).
  - a. To assist in implementing the last recommendation, the Australian Government should support BbP to create new partnerships with vocational training organisations, universities, and civil society organisations as required.

Where this is not available, support should be provided to visit and observe high-functioning ECEC centres in contexts of high language diversity (e.g., in Australia) in order to co-develop new programming materials. The Australian Government should also seek agreement to provide BbP with training materials available to Australian ECEC services, including, for example, videos of high-quality programming collated by The Australian Children's Education and Care Quality Authority (ACECQA).

4. BbP should seek partnership with measurement and assessment experts, to review and redevelop its assessments. The development of high-quality assessment appropriate for children in the years before school would support the sustainability of the program through the generation of reliable and valid data of the value-add of the program and would be a contribution to PNG more broadly (e.g., to support SDG 4.2 reporting).
  - a. To assist in implementing the last recommendation, the Australian Government should support BbP to access this expertise as it does not exist in PNG, but it does exist in the region (e.g., Educational Quality and Assessment Programme (EQAP)).

Specific recommendations are made in detail in Appendix: Specific recommendations of the Evaluation Team in relation to each evaluation question.

## **8.2 Concluding remarks**

Overall, BbP has put in place a well-documented program, in good alignment with PNG policy and the implementation in the field is strong. BbP is a leader in ECEC in PNG because they are operating in a context where there is no established ECEC sector and only an emerging policy and regulatory framework. BbP provides programs to children from the most vulnerable backgrounds and strongly demonstrates gender inclusion. The children in the BbP programs are those most likely to benefit from participating in ECEC programs and also the children least likely to get any access to ECEC in PNG. Without BbP many of these children are at severe risk of school failure as they transition into a school system that has English as its language of instruction and tends to have overcrowded elementary school classrooms and underqualified elementary school teachers. BbP provides a program that is essential to the growth and development of PNG and there is significant scope to use BbP as a model program for the provision of pre-primary education if it is expanded in the country.

## **9 REFERENCES**

- ACER-GEM, & UIS. (2017). *Principles of Good Practice in Learning Assessment*. Melbourne: Australian Council for Educational Research Centre for Global Education Monitoring and UNESCO Institute for Statistics. Retrieved from <http://uis.unesco.org/sites/default/files/documents/principles-good-practice-learning-assessments-2017-en.pdf>
- Agino, N. (2018). *I am Noah*. Yarralumla, ACT: Buk bilong Pikinini.
- Asia South Pacific Association for Basic and Adult Education, & PNG Education Advocacy Network. (2011). *PNG Education Experience Survey and Literacy Assessment*. ASPBAE.
- Australian Council for Educational Research. (2012). *National school improvement tool*. Camberwell, Vic: Australian Council for Educational Research.
- Britto, P. R. (2012). *School Readiness: a conceptual framework*. New York, New York: United Nations Children's Fund. Retrieved from [https://www.unicef.org/earlychildhood/files/Child2Child\\_ConceptualFramework\\_FINAL\(1\).pdf](https://www.unicef.org/earlychildhood/files/Child2Child_ConceptualFramework_FINAL(1).pdf)
- Buk bilong Pikinini. (no date). *Buk bilong Pikinini education program monitoring and evaluation log frame*.
- Buk bilong Pikinini. (2014). *Our Village: Tatana Island*. Clifton Hill, Vic: Wild Dog and Buk bilong Pikinini.
- Buk bilong Pikinini. (2015). *Buk bilong Koki Market*. Clifton Hill, Vic: Wild Dog and Buk bilong Pikinini.
- Buk bilong Pikinini. (2017a). *Buk bilong Pikinini: Bi-Annual Report 2014 through 2015*. Canberra.

Buk bilong Pikinini. (2017b). *Buk Bilong Pikinini- Children's Assessment Term 1-2017 AP1- Test # 1*.

Buk bilong Pikinini. (2017c). *Buk Bilong Pikinini Children's Assessment Term 3-2017 AP2- Test # 2*.

Buk bilong Pikinini. (2017d). *Business Plan for 2018-2020*. Canberra.

Buk bilong Pikinini. (2018a). *Buk bilong Pikinini Evaluation Report June 2017*. Papua New Guinea.

Buk bilong Pikinini. (2018b). *Early Childhood Development Assessment Diagnostic Test - 2018*.

Buk bilong Pikinini. (n.d.). *Buk bilong Pikinini Library Learning Centres - draft transition plan for 2018-2020*. Buk bilong Pikinini.

Buk bilong Pikinini, & VSO. (n.d.). *Literacy Activities Guide*.

Buk bilong Pikinini, VSO, & AVI. (n.d.). *Early Childhood Literacy Program Handbook*.

Campbell, F. A., Pungello, E. P., Burchinal, M., Kainz, K., Pan, Y., Wasik, B. H., ... Ramey, C. T. (2012). Adult Outcomes as a Function of an Early Childhood Educational Program: An Abecedarian Project Follow-Up. *Developmental Psychology*, 48(4), 1033–1043. <https://doi.org/10.1037/a0026644>

Cloney, D. (2018). Breaking the link between disadvantage and development in early childhood settings in Australia. In *Teaching practices that make a difference: Insights from research*. Sydney, Australia: ACER. Retrieved from [https://research.acer.edu.au/cgi/viewcontent.cgi?article=1328&context=research\\_conference](https://research.acer.edu.au/cgi/viewcontent.cgi?article=1328&context=research_conference)

Cloney, D., & Hollingsworth, H. (2018). Using measures of pedagogical quality to provide feedback and improve practice. In J. Lodge, J. Cooney Horvath, & L. Corrin (Eds.),

*Learning Analytics in the Classroom Translating Learning Analytics Research for Teachers*. Routledge.

Cloney, D., Munro-Smith, P., Rollo, G., & Anderson, P. (2018). *Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan*. Melbourne: Australian Council for Educational Research.

Cloney, D., Rahayu, B., & Anggriani, F. (2018). *Improving access to pre-primary education for all in Indonesia*. Camberwell, Vic: ACER. Retrieved from <https://rd.acer.org/article/improving-access-to-pre-primary-education-for-all-in-indonesia>

Coley, R. L., Lombardi, C. M., & Sims, J. (2014). Long-Term Implications of Early Education and Care Programs for Australian Children. *Journal of Educational Psychology*. <https://doi.org/10.1037/a0037456>

Department of Education. (2014). *English Elementary Syllabus 2015*. Papua New Guinea: Department of Education.

Department of Education. (2015). *Language Syllabus: Elementary*. Papua New Guinea: Department of Education.

Department of Education. (2016). *National Education Plan 2015-2019: Quality learning for all*. Papua New Guinea: Department of Education.

Department of Foreign Affairs and Trade. (2018). *Australia partnering with Papua New Guinea through education and leadership: Supporting growth, stability and prosperity*. Canberra, Australia: DFAT. Retrieved from <https://dfat.gov.au/about-us/publications/Pages/australia-partnering-with-png-through-education-leadership-supporting-growth-stability-prosperity.aspx>



- Education Capacity Development Facility. (2018). *Buk bilong Pikinini Literacy Program Evaluation 2018: Terms of Reference*. Papua New Guinea: Education Capacity Development Facility.
- Engle, P. L., Fernald, L. C., Alderman, H., Behrman, J., O’Gara, C., Yousafzai, A., ... Iltus, S. (2011). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. *The Lancet*, 378(9799), 1339–1353. [https://doi.org/10.1016/S0140-6736\(11\)60889-1](https://doi.org/10.1016/S0140-6736(11)60889-1)
- Evans, J. J., Floyd, R. G., McGrew, K. S., & Leforgee, M. H. (2002). The relations between measures of Cattell-Horn-Carroll (CHC) cognitive abilities and reading achievement during childhood and adolescence. *School Psychology Review*, 31(2), 246–262.
- Global Education Monitoring Report. (2016). *If you don’t understand, how can you learn?* (No. Policy Paper 24). Paris, France: UNESCO.
- Global Partnership for Education. (2016). *GPE 2020: Improving learning and equity through stronger education systems*. Washington DC: Global Partnership for Education.
- Gove, A., & Black, M. M. (2016). Measurement of Early Childhood Development and Learning under the Sustainable Development Goals. *Journal of Human Development and Capabilities*, 17(4), 599–605. <https://doi.org/10.1080/19452829.2016.1243520>
- Hamre, B., Hatfield, B., Pianta, R., & Jamil, F. (2014). Evidence for General and Domain-Specific Elements of Teacher-Child Interactions: Associations With Preschool Children’s Development. *Child Development*, 85(3), 1257–1274. <https://doi.org/10.1111/cdev.12184>
- Hamre, B., Pianta, R. C., Jason, T. D., DeCoster, J., Mashburn, A. J., Jones, S. M., ... Hamagami, A. (2013). Teaching through Interactions: Testing a Developmental Framework of Teacher Effectiveness in over 4,000 Classrooms. *The Elementary School Journal*, 113(4), 461–487. <https://doi.org/10.1086/669616>

- Kaufman, S. B., Reynolds, M. R., Liu, X., Kaufman, A. S., & McGrew, K. S. (2012). Are cognitive g and academic achievement g one and the same g? An exploration on the Woodcock–Johnson and Kaufman tests. *Intelligence, 40*, 123–138.  
<https://doi.org/10.1016/j.intell.2012.01.009>
- Masters, G. N. (2013). *Reforming Educational Assessment: Imperatives, principles and challenges*. Camberwell, Vic: ACER.
- Masters, G. N. (2014). *Assessment: getting to the essence*. ACER Centre for Strategic Education.
- Masters, G. N. (2016). *Is there another way to think about schooling?* Camberwell, Vic: ACER.
- Miller, M. R., Giesbrecht, G. F., Muller, U., McInerney, R. J., & Kerns, K. A. (2012). A Latent Variable Approach to Determining the Structure of Executive Function in Preschool Children. *Journal of Cognition and Development, 13*(3), 395–423.
- National Department of Education. (2015). *Education for All 2015 National Review Report: Papua New Guinea*. Papua New Guinea: National Department of Education.  
Retrieved from <http://unesdoc.unesco.org/images/0023/002316/231679e.pdf>
- National Department of Education. (2017). *NSC 2017*. Papua New Guinea: National Department of Education.
- National Department of Education. (2018). *Early Childhood Education Development Policy (DRAFT)*. Papua New Guinea: National Department of Education.
- Pyle, A., & Danniels, E. (2017). A Continuum of Play-Based Learning: The Role of the Teacher in Play-Based Pedagogy and the Fear of Hijacking Play. *Early Education and Development, 28*(3), 274–289. <https://doi.org/10.1080/10409289.2016.1220771>

- Raikes, A., Yoshikawa, H., Britto, P. R., & Iruka, I. (2017). Children, youth and developmental science in the 2015–2030 global Sustainable Development Goals. *Social Policy Report*, 30(3).
- Reynolds, A. J., Temple, J. A., Ou, S.-R., Arteaga, I. A., & White, B. A. B. (2011). School-based early childhood education and age-28 well-being: effects by timing, dosage, and subgroups. *Science*, (6040), 360–364. <https://doi.org/10.1126/science.1203618>
- Save the Children. (2017). *IDELA: Fostering Common Solutions for Young Children*. Save the Children.
- Save the Children. (2018). *Beyond Access: Exploring Equity in Early Childhood Development*. Save the Children. Retrieved from <https://idela-network.org/wp-content/uploads/2018/06/IDELA-Report-2018-4WEB.pdf>
- Sparling, J. (2011). *A Working Document on the Abecedarian Educational Program and its Probable Relationships to Child Outcome Behaviors*. Human Capital and Economic Opportunity Working Group. Retrieved from <https://ideas.repec.org/p/hka/wpaper/2011-042.html>
- Taylor, C., Cloney, D., Adams, R. J., Ishimine, K., Thorpe, K., & Nguyen, C. (2016). Assessing the effectiveness of Australian early childhood education and care experiences: study protocol. *BMC Public Health*, 16(1), 1–12. <https://doi.org/10.1186/s12889-016-2985-1>
- Tusing, M. E., & Ford, L. (2004). Examining Preschool Cognitive Abilities Using a CHC Framework. *International Journal of Testing*, 4(2), 91–114. [https://doi.org/10.1207/s15327574ijt0402\\_1](https://doi.org/10.1207/s15327574ijt0402_1)
- UNESCO. (2007). *Strong foundations: Early childhood care and education* (EFA Global Monitoring Report). Paris, France: UNESCO Publishing.

UNESCO Institute for Statistics. (2018). UNESCO Institute for Statistics (UIS) database.

Retrieved from <http://data.uis.unesco.org>

United Nations. (2018). *The Sustainable Development Goals Report 2018*. United Nations.

Retrieved from

<https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018.pdf>

United Nations Educational, Scientific and Cultural Organization. (2017). *Overview:*

*Measuring Early Learning Quality and Outcomes*. Paris France: UNESCO, UNICEF, Brookings Institution, World Bank. Retrieved from

<http://unesdoc.unesco.org/images/0024/002480/248053e.pdf>

Wanma, I. (2016). *Oa the grasshopper & Kaipia the caterpillar*. Papua New Guinea: Wild Dog.

World Bank. (2015). *World Development Report 2015: Mind, Society, and Behavior*.

Washington, DC: World Bank. Retrieved from <http://dx.doi.org/10.1596/978-1-4648-0342-0>

Wright, B. D., & Masters, G. N. (1982). *Rating scale analysis. Rasch measurement*.

Chicago, IL: MESA Press.

Wright, B. D., & Stone, M. H. (1999). *Measurement Essentials* (2nd ed.). Wilmington,

Delaware.: Wide Range, Inc.



## **10 Appendix: Terms of Reference**

Buk bilong Pikinini Literacy Program Evaluation 2018

## Terms of Reference

Title:	Evaluation of Buk bilong Pikinini (BbP)'s literacy programs	Team members:	<ul style="list-style-type: none"> <li>• Early Childhood Evaluation Specialist</li> <li>• Literacy Specialist</li> <li>• PNG Education Adviser</li> </ul>
Reports to:	Director, PNG Human Development and Infrastructure Section (Canberra)	Project:	Education Capacity Development Facility (ECDF)
Dates:	August-September 2018	Authorised by:	DFAT - PNG Infrastructure and Human Development Section

### Background

#### Buk bilong Pikinini

Buk bilong Pikinini's mission is to foster a love of reading and learning through the establishment and restoration of libraries, and by providing teacher training and Early Childhood Literacy programs to increase literacy rates in Papua New Guinea. Buk bilong Pikinini (BbP) has developed in-house literacy programs to suit PNG children, standards and culture, as follows:

Library based literacy programs provide children with access to books and an Early Childhood Literacy program at libraries built in partnership with donors in locations across PNG.

Early Childhood literacy programs include a curriculum framework and literacy lesson activities. BbP has a teacher-librarian training program, including in-classroom training support programs.

After-School literacy support program and book lending operates weekday afternoons, providing a library support program for children enrolled in elementary and primary schools.

Buk bilong Kommuniti program builds on BbP's existing programs and resources to assist schools and communities with the re-establishment of school libraries and enable the communities to set up literacy programs to support the children's education.

#### Australian Government funding to Buk bilong Pikinini

The current funding to BbP is a AUD200,000 grant through the Education Capacity Development Facility (ECDF) managed by Palladium that ends in December 2018 for the operation of libraries and early childhood literacy programs and support for head office operational costs.

Previous grants include:

- PGK492,776 grant through ECDF managed by Palladium, 2016-2017, for Buk bilong Kommuniti program; and
- PGK1,100,000 grant through the Strongim Pipol, Strongim Nation program managed by URS, 2015-16 to support BbP to form a strategic partnership with the Department of Education,

#### Buk bilong Pikinini Literacy Program Evaluation 2018

strengthen BbP's capacity and to improve ECCE programs through high-quality training and resource provision.

#### Purpose

To evaluate the quality of the design of the BbP's literacy programs and their likelihood of success given the delivery context.

The information from this evaluation will be used by DFAT to inform future funding decisions.

#### Evaluation Questions

The purpose of the evaluation will be met by addressing the following evaluation questions.

1. To what extent are the literacy programs aligned with GoPNG education policy requirements?
2. To what extent are the literacy programs' design elements consistent with good practice and requirements for success? What design changes would be required to improve the prospects of success?
3. To what extent is the delivery context conducive to the literacy programs' being effective? What delivery context changes would be required to increase effectiveness?
4. To what extent are BbP's pre and post-literacy assessments useful for gauging literacy gains and (if so) what evidence from BbP's literacy assessment data of literacy improvements?
5. What recommendations regarding (i) alignment with policy and frameworks, (ii) curriculum and program design, and (iii) impact of children's learning and development can be made to help maximise the sustainability within the delivery context post-DFAT funding?

#### Scope of the assignment

The following parameters will be applied to ensure the evaluation is tightly focused on achieving its intended purpose and is evaluable.

DAC Evaluation Criteria: The evaluation is focused on the relevance of the literacy programs' and whether BbP's is able to efficiently manage the literacy programs. The evaluation will not consider other aspects of efficiency (for example, value for money). Given the time and resources available, the evaluation will only consider effectiveness (not impact) in terms of improvements shown in BbP's literacy assessment data, and only if this data (and their assessment tool) is shown to be sufficiently robust and BbP provide access to this information. The assessment will consider the extent to which the literacy programs are likely to deliver benefits to children with barriers to education (refer: gender, disabilities and learning difficulties, and other vulnerable children) and meet child protection requirements. The evaluation will not include assessments of children's literacy ability.

Literacy programs: the evaluation will focus on the four literacy programs and their implementation within the library context. No assessment will be undertaken regarding BbP's other work or BbP's organisational capacity. All recommendations from the evaluation will focus on improving the programs including how DFAT should focus future funding.

Locations: the evaluation fieldwork will examine of the context for the implementation literacy program through data collection at least three of the nine BbP libraries. The three sites visited will



#### Buk bilong Pikinini Literacy Program Evaluation 2018

be three of the 11 libraries in the National Provincial District (BbP has seven libraries in other Provinces). The evaluation team will select the sites in consultation with BbP. Any interviewing of parents and the community will be used to anecdotally understand how the community interacts with the sites and not to form findings with regards to community needs nor the effectiveness of interaction due to representativeness.

Best practice: the evaluation team will present their proposed comparative framework for assessing 'best practice', and contextual, management and sustainability requirements as part of their evaluation plan.

Context-capacity to deliver: to understand the delivery context the evaluation team will need to assess the capacity of librarians and teachers to deliver the literacy programs. The framework for assessing capacity will be proposed through the evaluation plan. The team will only have a few days in the field to undertake the work, and they should work with BbP to ensure a reasonable representation of librarians and teachers are available in advance so the capacity assessment can be generalisable with regards to the nine rollout sites.

Context-past funding: ECDF will provide a one-page summary suitable for publishing of past DFAT funding for BbP meaning the evaluation team will not need to assess funding information.

Resources: the evaluation will be given to three team members with defined roles (see below) with a maximum of 5 full days in the field in Papua New Guinea (with *per diems* and expenses, as agreed in-advance). BbP will support the visits through liaising in-advance with the local evaluation team member, and in-turn arranging site visits and the availability to BbP and library staff as requested. The ECDF will provide logistical and administrative support to the Evaluation Team. This will include payment of pre-approved operational costs, arranging accommodation, providing transport (including arranging international travel), providing security briefings and monitoring services, and managing performance-related issues of other team members.

#### Methodology

The design for the evaluation and research should be developed by the evaluation team and submitted as an evaluation plan. The Plan will meet the purpose and key questions for the evaluation identified in this terms of reference, and it will identify the information, processes and tools required to provide evidence-based findings, conclusions and recommendations (required) for this evaluation. The Plan will also identify how the content of the final report will be organised (sections and subsections). The work will be underpinned by the key principles of independence and transparency.

The Plan will identify how the evaluation's information needs will be met through current documentation (including undertaking documentary analysis), and what information gaps will need to be filled through fieldwork including the in-country visit. The range of information gathering required to fill gaps and the data collection methods required.

The evaluation plan should address but not be limited to covering the following questions and topics:

- What information will be needed to answer each of the specific evaluation questions?
- What are the most appropriate methods for data/information collection to address each of the questions? For example, will qualitative and/or quantitative methods be used and why? How will study participants be selected? What specific methods will be used? How will any sampling

#### Buk bilong Pikinini Literacy Program Evaluation 2018

be selected, and appropriate sample size be decided, and what analysis will be used to allow judgments on the reliability of results?

- From whom will information be collected to answer each of the questions and how will the evaluation team ensure that the opinions of all appropriate stakeholders (for example, women and men, young and old, powerful and less powerful) be included?
- What questions will be asked in questionnaires or interviews?
- How will information gathered be cross checked?
- What procedures will be used for data analysis including how qualitative data will be analysed?
- How will the findings be fed back and discussed with appropriate stakeholders during the process, and how will this be incorporated into the report?
- What risks, limitations or constraints are there likely to be and how can these be mitigated?
- How will ethical issues be addressed? For example how will participants be informed of the purpose and use of the information that they provide? How will sensitivity to gender and culture be ensured during the evaluation? Is informed consent required from participants, if so how will this be obtained? How will confidentiality of participants be ensured and how will confidential material be stored? What potential harm to participants is there and how will potential harm be minimised?
- How will the relevant DFAT Monitoring and Evaluation Standards be incorporated into this work? See: <http://dfat.gov.au/about-us/publications/Documents/monitoring-evaluation-standards.pdf>.

The Plan will be considered by DFAT Canberra and PNG AHC, and approved by ECDF as contract manager.

#### Governance

The evaluation will be governed DFAT Canberra and the ECDF Deputy Facility Director (DFD), who will ensure the evaluation is fit-for-purpose and is delivered as agreed in these terms of reference and the approved evaluation plan. The DFAT Canberra and ECDF DFD will approve the evaluation plan and final evaluation report. The DFAT Canberra and ECDF DFD will facilitate the input of BbP, PNG AHC and ECDF Monitoring and Evaluation Specialist (and any other technical expertise as required) for input and comment of the evaluation plan, draft and final reports.

#### Deliverables

All deliverables must be written to a standard and sensitivity appropriate for a publish audience and suitable for publishing (not currently intended). Any content not appropriate for publishing will be provided to DFAT-ECDF as a separate memorandum. In addition, the evaluation report will:

- Include practical and actionable recommendations
- Be evidence-based with a clear line-of-sight between recommendations, conclusions and findings
- Conclusions and recommendations must be presented in a way that allows the reader to form their own views on the validity and reliability
- Include an annexed evaluative rubric summarising key findings
- Where there is conflicting evidence or interpretations, the report should note the differences and justify the findings

#### Buk bilong Pikinini Literacy Program Evaluation 2018

- The body (i.e. excluding appendices) of the evaluation report should be no more than twenty-five pages in length (1.5 spacing and 11pt font).

All deliverables will be submitted to the contract manager, ECDF, for distribution to, and facilitation of input from, DFAT Canberra, PNG AHC and BbP (as agreed with AHC). Source and primary research data should not be submitted to ECDF but should be retained for up to seven years (statutory requirement) and available on request.

The timing of the deliverables should be proposed through the draft evaluation plan; however, the evaluation report must be finalised by 15 October 2018. To meet the report deadline, in-country fieldwork is expected to occur in August with the draft evaluation report being available for review by 30 September. The indicative turnarounds timeframes are provided before in Table 1 and must be met by the evaluation team.

Table 1: Deliverables, Due Dates and Payment Ratios

Deliverable	Due Date	Payment ratios
1. Draft Evaluation Plan	10 working days after contract signed	0 Percent
2. Final Evaluation Plan	5 working days after formal comments received	10 Percent
3. Aid memorandum (3-5 pages)	Last day of in-country fieldwork	30 Percent
4. Draft Evaluation Report	15 work days after fieldwork	0 Percent
5. Final Evaluation Report	15 work days after formal comments on the draft report provided	60 Percent

#### Evaluation Team Composition and Roles

The team will be composed of the three roles specified in the Table 2. The contract for each team member will be output-based with contracted payments calculated based on the number of agreed days for each member (see Table 2) and *pro-rated* by the payment ratios in Table 1 (see far-right column).

Table 2: Team Members, Contribution, Contract Days and ARF Level

Team member	Unique Contribution	Contracted days and ARF Level
Evaluation Team Lead and Early Childhood Specialist	Lead the evaluation including managing the team including their contributions to outputs; lead the writing of all the outputs; ensure the TOR are met; lead communication with, and ensure productive relationships with stakeholders	19 days, C4
Literacy Specialist	Contribute literacy expertise to the evaluations design, fieldwork and reporting. Contribute to the writing of deliverables as agreed with the team leader	TBC, C4

Buk bilong Pikinini Literacy Program Evaluation 2018

PNG Education Adviser	Contribute a strong understanding of the education sector, and the cultural, social and political economy of PNG to the work. Contribute to the evaluation plan, in-country planning, logistics, data collection and data interpretation as agreed with the team leader	12 days, C3
-----------------------	---	-------------

Required Skills and Experience

The Early Childhood/Evaluation Specialist and Literacy Specialists must have the following skills and experience:

- Advanced degree in Education/Learning or related field
- Proven prior experience in conducting assessments of learning systems
- Prior work in developing contexts
- Proven track record of providing high quality report to client specifications.

The Papua New Guinean Education Adviser must have the following skills and experience:

- Experience with early childhood development and education
- Prior experience in completion of educational evaluations in Papua New Guinea
- Fluent in both English and *Tok Pigin*
- Demonstrable highly developed written communication and report preparation.

Roles of DFAT, AHC and ECDF

The Evaluation is being commission by DFAT Canberra, Human Development and Infrastructure Team. DFAT Canberra will be responsible for ensuring the terms of reference and deliverables are aligned to DFAT Canberra and PNG AHC information needs. DFAT Canberra will:

- Ensure the terms of reference are aligned to DFAT’s information needs
- Facilitating the involvement and contribution of PNG AHC
- Review the draft evaluation plan and provide comments (within three working days) to ECDF for collation
- Provide an endorsement of the proposed final Evaluation Plan
- Review the draft evaluation report and provide consolidated (DFAT) comments within five working days to ECDF for additional collation
- Provide verbal input on evaluation plan and reports as agreed with ECDF
- Provide an endorsement of the proposed final Evaluation Report
- Decimate report findings.

ECDF is the Contract Manager for the evaluation and is therefore responsible for the deliverables meeting the contracted requirements as specified in the terms of reference and as agreed through the evaluation plan. As such, it is a contract requirement that ECDF be the lead contact point and all deliverables be directed through ECDF therefore ensuring ECDF can manage the contract effectively). ECDF will also provide mobilisation logistical support. ECDF will:

#### Buk bilong Pikinini Literacy Program Evaluation 2018

- Prepare the terms of reference and facilitate approval
- Manage all contract deliverables
- Provide mobilisation logistical support – does not include setting up fieldwork, data collection meetings and liaising with BbP (direct with evaluation team)
- Assisting the evaluation team with problem-solving
- Circulate all deliverables to DFAT Canberra and BbP within 24 hours of working-day receipt
- Review the draft evaluation plan, prepare comments (within three working days), and collate DFAT-BbP-ECDF comments into priority changes and revert to the evaluation team within five working days
- Approve of the final Evaluation Plan
- Review the draft evaluation report, prepare comments within five working days, and collate DFAT-BbP-AHC comments into priority changes and revert to the evaluation team within seven working days
- Approve the final Evaluation Report
- Execute contracted requirements as agreed.

BbP's contribution to the evaluation will be:

- Provision of relevant information on BbP's service delivery, curriculum and teaching and learning materials
- Briefing of the evaluation team as required, including interviews and field visits
- Arranging fieldwork data collection and site visits as requested by the evaluation team
- Facilitating and assisting on-site visits
- Providing comment on the evaluation plan and draft evaluation report.

#### Proposed Reading List

- Literacy Programme
- Annual Reports post 2012
- Curriculum
- Documents used within the libraries (Daily plans, individual plans, training materials, WHS, Prof. Development Materials)
- Means of documenting children's learning (e.g., work samples, other reporting, assessment outcomes)
- Administrative data and summaries, including evidence of enrollments, and other outputs (e.g., books, loans, etc).
- Future planning (strategic planning)
- Integration with PNG education framework and PNG M&E Framework
- BbP Monitoring and Evaluation Qualitative Report: September 2013- April 2018.



## **11 Appendix: Evaluation Plan**

Improving Learning

## **Buk bilong Pikinini Literacy Program Evaluation 2018**

Evaluation Plan

to Palladium International Pty Ltd

Education and Development

11 September 2018

Dan Cloney  
Pam Munro-Smith  
Greta Rollo  
Prue Anderson





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#### **4 ABBREVIATIONS AND ACRONYMS**

<b>BbP</b>	<b>Buk bilong Pikinini</b>
<b>ECD</b>	<b>Early childhood development</b>
<b>PNG</b>	<b>Papua New Guinea</b>
<b>NSIT</b>	<b>ACER National School Improvement Tool</b>

*Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan*

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## 5 BACKGROUND

Buk bilong Pikinini (BbP) roughly translates as *books for children*.

BbP was established in 2007 with a mission to increase literacy rates in Papua New Guinea (PNG) by setting up community-based children's libraries. Each library has more than 2000 high-quality children's books as well as educational toys and craft materials. In 2017, BbP had 16 libraries in PNG, with more than 39 147 visits per month and 11 991 books loaned during the school term February to June (Buk bilong Pikinini, 2018a).

The BbP programs can be summarised as:

- **Library based literacy program**
  - provides children and adults with access to books and an Early Childhood Literacy program and other activities (e.g., awareness programs) at libraries built in partnership with donors in locations across PNG.
- **Early Childhood literacy program**
  - Provides a literacy-based early childhood development program to children typically aged 5, in the year before school. The program includes a curriculum framework and literacy lesson activities. BbP has a teacher-librarian training program, including in-classroom training support programs. Two sessions are run each weekday morning (8am to 10am, and 10.30am to 12.30pm)
- **After-School literacy support and book lending program**
  - Provides a library support program for children enrolled in elementary and primary schools. Operates weekday afternoons, typically 1.30-3.00pm.
- **Buk bilong Kommuniti program**
  - builds on BbP's existing programs and resources to assist schools and communities with the re-establishment of school libraries and enable the communities to set up literacy programs to support the children's education. Provides a training and monitoring program to skill local people up in the BbP approach.

The libraries have been established where vulnerable children tend to congregate and BbP seeks to include all children. This includes children with disabilities and illnesses.

BbP's vision and mission is stated in its bi-annual reporting is stated in Figure 1.

<p><b>BbP Vision</b> Literacy for all. Buk bilong Pikinini envisions a Papua New Guinea where all children have access to educational opportunities and high quality literacy materials, which will help them achieve a better education. Catering for sick, disabled, disadvantaged and healthy children alike is a vital part of BbP's vision.</p> <p><b>BbP Mission</b> BbP aims to foster a love of reading and learning, raise children's aspirations through the establishment of libraries and to increase literacy rates in Papua New Guinea.</p>
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Figure 1. Buk bilong Pikinini vision and mission statement

(Buk bilong Pikinini, 2017a, p. 8)

## 5.1 This document

This document describes the plan for the evaluation. This document will identify and justify:

- The scope of the evaluation
- The evaluation plan, including,
  - o The theoretical framework to be used,
  - o the key sources of information,
  - o the methods to be utilised,
  - o the plan to deliver the evaluation in a timely fashion,
  - o instrumentation to be used
  - o risks, limitations, and mitigation strategies,
  - o ethics and the integration of DFAT Monitoring and Evaluation Standards

## 6 SCOPE OF EVALUATION

This program of work is an evaluation of the BbP literacy programs and particularly their likely effectiveness (the ability of the program, given its implementation, to achieve the intended outcomes). Other aspects, including governance, organisational capacity, efficiency (e.g., value for money) are out of scope. Full details of the program of work are given in the Terms of Reference (Education Capacity Development Facility, 2018). See Appendix: Appendix: Terms of Reference.

The evaluation will limit fieldwork to three sites in the National Provincial District plus one site in L.ae. All sites will be selected in consultation with BbP.

The evaluation will provide findings and recommendations about the program relative to *best practice* and in the *relative context* of the early childhood and school policy and program delivery context of PNG.

### 6.1 Evaluation Questions

The purpose of the evaluation will be met by addressing the following evaluation questions.

1. To what extent are the literacy programs aligned with GoPNG education policy requirements?
2. To what extent are the literacy programs' design elements consistent with good practice and requirements for success? What design changes would be required to improve the prospects of success?
3. To what extent is the delivery context conducive to the literacy programs' being effective? What delivery context changes would be required to increase effectiveness?
4. To what extent are BbP's pre and post-literacy assessments useful for gauging literacy gains and (if so) what evidence from BbP's literacy assessment data of literacy improvements?
5. What recommendations regarding (i) alignment with policy and frameworks, (ii) curriculum and program design, and (iii) impact of children's learning and development can be made to help maximise the sustainability within the delivery context post-DFAT funding?

## 7 PROGRAM LOGIC AND EVALUATION PLAN

### 7.1 Development of a program logic

BbP don't have a published program logic that would normally form a structure for a program evaluation. As a first step, ACER will develop a draft program logic and present this to BbP for their input. A critical review phase will be undertaken where feedback is sought from BbP and documentary

*Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan*

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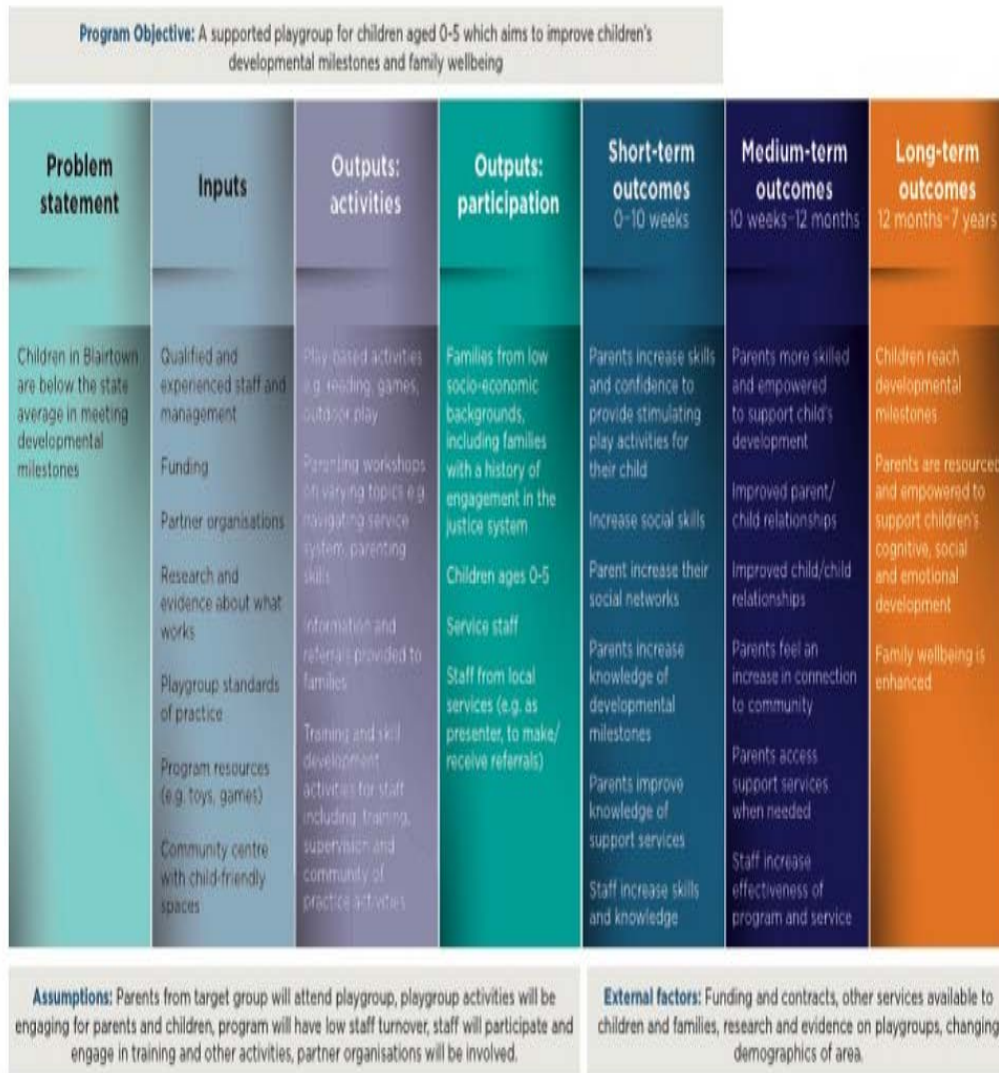
evidence requested where substantial changes are made. This program logic will be developed in the following steps:

- ACER will use an established framework for program logics (also known as theory of change) (Lawton, Brandon, Cicchinelli, & Kekahio, 2014) that identify:
  - statement of problem the program is seeking to address,
  - inputs,
  - outputs (activities, participants),
  - outcomes (short, medium, and long term)
- ACER will request any documents from BbP that identify an implicit theory of change.
- ACER will develop a program logic for each of the 4 BbP programs based on the provided documents and lists the source for each identified program element. ACER identifies any key gaps and provides BbP an opportunity to provide additional documentation, or otherwise gaps become an element of the fieldwork (e.g., elements to be observed or described through interviews).
- The evaluation will use the agreed program logic as the basis for the evaluation.

An extended validation of the program logic with external stakeholders, as per the DFAT monitoring and evaluation standards (Department of Foreign Affairs and Trade, 2017) will not be undertaken given the constraints on the evaluation. This is a fit-for-purpose decision given the size and scope of the program. An example program logic is given in Figure 2. Note that this does not cover all of the features covered in the standards, for example the logic does not explicitly explain the causal mechanism(s). This will be covered, rather, in the evaluation itself where the second research question evaluates the quality of the design of program in terms of best-practice.



Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan



(Australian Institute of Family Studies, 2018)

Figure 2. Example of a completed program logic



## 7.2 Evaluation plan

As a result of developing this program logic, ACER will identify any key gaps in specifying the program that require immediate attention for the evaluation to continue. These gaps will be addressed through a semi-structured interview with BbP (Anne-Sophie Hermann, and Leanne Resson) prior to the fieldwork and deskwork commencing.

### *Theoretical framework*

ACER will then conduct deskwork and fieldwork to undertake the evaluation, given the agreed program logic. To structure the evaluation, ACER will take the perspective that successful educational programs must be considered holistically with the goal of improving children's learning and development outcomes. To do this, ACER will adapt the themes identified in the ACER National School Improvement Tool (NSIT) (Australian Council for Educational Research, 2012). The NSIT provides a scope that focuses on the practices that are most directly related to program improvements, and thus outcomes for children. This does not mean that the NSIT describes all the elements of successful educational programs, but rather that it provides a limited scope of focus that can inform the specific needs of this evaluation. The themes to be addressed are:

- An explicit improvement agenda
  - BbP have established and are driving a strong improvement agenda, grounded in evidence from research and practice and expressed in terms of improvements in measurable children's outcomes
- Analysis and discussion of data
  - BbP give high priority to the analysis and discussion of systematically collected data, including academic, attendance, and behavioural outcomes, and student wellbeing. Data analyses consider overall performance as well as the performances from identified priority groups
- A culture that promotes learning
  - BbP demonstrate the belief that every child is capable of successful learning. A high priority is given to building and maintaining positive and caring relationships between staff, children and parents.
- Targeted use of school resources
  - BbP applies its resources (staff time, expertise, funds, facilities, materials) in a targeted manner to meet the learning and wellbeing needs of all students
- An expert teaching team
  - BbP develops a culture of continuous professional improvement that includes classroom-based learning, mentoring, and coaching arrangements.
- Systematic curriculum delivery
  - BbP has a coherent, sequenced plan for curriculum delivery with reference to PNG curriculum and/or ECD frameworks
- Differentiated teaching and learning
  - BbP librarians identify and address the learning needs of individual children and tailor their practice to levels of readiness and need
- Effective pedagogical practices
  - BbP librarians understand and use effective teaching methods – including explicit instruction – to maximise learning
- School-community partnerships
  - BbP actively seeks ways to enhance learning and wellbeing by partnering with parents and families, other education and training institutions, local businesses and community organisations and government.

(adapted from Australian Council for Educational Research, 2012)

These themes will be used, as appropriate within each of the evaluation questions, to structure the final report. This will involve considering these themes from the perspective of best practice, as informed from the academic literature, as well as how BbP fits within the PNG context. Data will be collected as needed to inform analysis within these themes to answer the evaluation questions and to make recommendations regarding BbP program improvement and sustainability.

### **7.3 Evaluation Methods**

The following method has been informed by the DFAT Monitoring and Evaluation Standards (Department of Foreign Affairs and Trade, 2017).

Each evaluation question will require attending to all or some of the program logic (from problem statement to long term outcomes) and all or some of the NIST themes. As required a range of methods will be used to collect evidence to inform the analysis including desk work (literature review and critical review) and fieldwork (semi-structured interviews and observations of classrooms).

The fieldwork will be conducted from 22-28 September 2018 and an itinerary is given in Appendix: Fieldwork .

Deskwork will be conducted from the time that the Evaluation Plan (this document) is endorsed, through to the delivery of the final report (October 2018).

#### *Reliability and triangulation of data*

For all research questions, an approach is implemented to ensure the data collected are reliable, and that multiple sources of information are collected to triangulate the results.

For example, where appropriate, existing measures are being used. The Measuring Early Learning and Quality Outcomes (MELQO) Measure of Early Learning Environments (MELE) (United Nations Educational, Scientific and Cultural Organization, 2017) is primarily developed to be used in developing contexts and is based on cutting edge research into early childhood program effectiveness (Gordon, Fujimoto, Kaestner, Korenman, & Abner, 2013; Pianta, La Paro, & Hamre, 2008). The lead investigator has also used the measure in other developing contexts and, in quantitative analysis good reliability has been established. In qualitative analysis, the evaluation team will require sighting of complete BbP documents for them to be included in the documentary analysis.

As to triangulation, this study implements multiple methods of accessing data: documentary analysis, direct observation, and interview. Where collected data is incongruent, this will be noted in the results of the evaluation. This may in fact be as expected, for example the program may specify high fidelity implementation of the daily lesson plans, yet in the field varying levels of implementation may be observed. Where possible such patterns will be followed up (e.g., in the interviews).

#### *Stakeholder feedback*

BbP is a key stakeholder in this evaluation, and in the interests of transparency, their input is being sought at key junctures. For example, BbP will have ongoing input and a right of response to the developed program logic (e.g., based on ACER's reading of the program documentation and other documentary evidence). A number of follow up phone discussions have been scheduled to hear feedback on the emerging findings.

As part of the fieldwork itinerary, a debrief will be held, facilitated by the Australian High Commission. This will provide an opportunity for key stakeholders (e.g., GoPNG Departments) to hear preliminary judgement being formulated by the evaluation team and to have input into the final structure of the report.

*Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan*

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The following sections section identified key methods and instruments to be used to answer each research question.

*Evaluation question one*

To what extent are the literacy programs aligned with GoPNG education policy requirements?

To answer this question, the alignment of the BbP programs to the PNG ECD and school policy will be considered. This brings in the NIST themes of *systematic curriculum delivery*.

The methods used to answer this question will include:

- Critical review of BbP documents to produce a program logic to identify key components of the program.
- A literature review of ECD (e.g., Department of Community Development, 2007) and school policy and curriculum (e.g., Department of Education, 2014) in PNG and an analysis of the BbP program alignment with GoPNG education policy
- Semi structured interviews with government and civil society as relevant (e.g., with UNICEF who supported the multi-sectoral ECCD policy document (Department of Community Development, 2007) and to understand the progress of ECD policy in PNG. This is necessary as there remains no endorsed ECD policy, or curriculum or development framework, though there is ongoing discussion and progress toward this goal (Department of Community Development, 2007)

*Evaluation question two:*

To what extent are the literacy programs' design elements consistent with good practice and requirements for success? What design changes would be required to improve the prospects of success?

For this question, "design elements" is taken to mean the formal and manualised aspects of the program (e.g., the intended program implementation given in the program logic). This is distinct from the implementation of the program in the field which is addressed in the next evaluation question. By implication, the analysis undertaken here is limited to deskwork. All of the NIST themes will be considered in this section in relation to how they and included in the design of the BbP programs.

The methods used to answer this question will include:

- Critical review of BbP documents to produce a program logic to identify design elements of the programs.
- Review of the BbP design elements in relation to the NIST themes identifying alignment and gaps with best practices. These alignments and gaps will be assessed in the context of the international literature.

Key BbP documents for this section will include the program specification, including the Early Childhood Literacy Handbook (Buk bilong Pikinini, VSO, & AVI, n.d.), Literacy Activities Guide (Buk bilong Pikinini & VSO, n.d.), and Assessments (Buk bilong Pikinini, 2017b, 2017c, 2018b).

Recommendations will be made regarding how the design elements could be reasonably improved and aligned with best practice given the local contextual constraints.

*Evaluation question three*

To what extent is the delivery context conducive to the literacy programs' being effective? What delivery context changes would be required to increase effectiveness?

*Buk bilong Pikinini Literacy Program Evaluation 2018: Evaluation Plan*

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For this question, “delivery context” is taken to mean the implementation of the programs given the design elements. This includes the fidelity of implementation, or the quality of the practice of the BbP staff in the enactment of the programs.

Key methods used to capture aspects of the fidelity of implementation are observation and interview. This question will bring particular focus to the NIST themes of *effective pedagogical practices*, and *an expert teaching team*.

The methods used to answer this question will include:

- Semi structured interviews with BbP librarians to understand the context of program delivery, including any barriers including the qualification and training of staff, retaining staff, professional learning, the availability of specialist services for children with particular needs (e.g., clinical referral services).
- Observational rubrics regarding the presence and use of curriculum materials, the implementation of quality adult-child interactions (including inclusive practice and play-based pedagogies), and evidence of safe health and hygiene practices (e.g., WASH).

The selected observation rubric is the MELQO MELE (United Nations Educational, Scientific and Cultural Organization, 2017). The rubric captures elements of materials, curriculum, and pedagogical quality (e.g., Child-Teacher interactions and classroom management, and Individualised and inclusive environment) and safety, hygiene, and water (e.g., Water Sanitation & Hygiene Conditions). The measure was developed in particular to be used in developing contexts and ACER has used the instrument with success in regional areas of Indonesia (report forthcoming). An example of the rubric is given in Appendix: Observational Rubric.

*Evaluation question four*

To what extent are BbP’s pre and post-literacy assessments useful for gauging literacy gains and (if so) what evidence from BbP’s literacy assessment data of literacy improvements?

For this question, a critical review will be taken of the content, use, analysis and reporting of the assessments used in the BbP programs. If the assessments are fit for purpose, this will include a critical review of the data and reported results (e.g., an assessment of the value and of the program). It will not be possible to make a judgement about the usefulness of the data until it is established that the instrument is valid and reliable, that the assessment practices in the field are consistent with good practice in assessment (e.g., inter-rater consistency and reliability), and that data processing is of a high quality (e.g., that the data could be used to estimate growth over time, adequate conditioning and contextual variables are available to control for selection/bias, and that an appropriate method (e.g., norm-references, instrumental variables, comparator groups) could be identified to estimate value-add). A useful framework for this evaluation is found in the Principles of Good Practice in Learning Assessment (ACER-GEM, 2017)

Key methods used to capture information about the assessments will be predominately found in the desk work. This question will bring particular focus to the NIST themes of *an explicit improvement agenda*, *analysis and discussion of data*, and *differentiated teaching and learning*.

The methods used to answer this question will include:

- Critical review of BbP documents to produce a program logic to identify elements of assessment.
- Review of the BbP assessments and associated data and reporting.
- If possible (e.g., if it is naturally happening during the visit) during the fieldwork, an assessment will be observed for evidence of best practice in assessment administration with preschool age children.

Key documents to be reviewed here are both the assessments themselves (Buk bilong Pikinini, 2017c, 2017b, 2018b), as well as the reporting of the learning and development of children in evaluation and other reporting (Buk bilong Pikinini, 2017a, 2018a)

*Evaluation question five*

What recommendations regarding (i) alignment with policy and frameworks, (ii) curriculum and program design, and (iii) impact of children's learning and development can be made to help maximise the sustainability within the delivery context post-DFAT funding?

For this question, a focus on sustainability is key. This question will be a synthesis of the analysis above with particular focus on the NIST theme of *school-community partnerships*.

In the context of post-DFAT funding, it will be necessary for BbP to demonstrate a trajectory towards best-practice in order to attract support for a suite of fully subsidised literacy programs. This may involve leading the development of ECD policy and frameworks and alignment with Elementary school policy in order to attract government support. Certainly, demonstrating convincing evidence of impact through a high-quality program that is robustly implemented is essential to secure ongoing support in partner organisations, both international and domestic.

#### **7.4 Ethical issues**

Fieldwork consists of direct observation, of the BbP literacy programs and of semi-structured interviews. The team consider there is a negligible risk of any negative consequences of participation. Regardless, informed consent, consistent with the National Statement on Ethical Conduct in Human Research (National Health and Medical Research Council, Australian Research Council, & Universities Australia, 2007) will be sought from each participant in the fieldwork. That is, a head librarian will consent to the observational work, and each interviewee will provide consent to participating. This will include completing a consent form (in writing or verbally depending on literacy levels) that establishes that:

- Their participation is voluntary and solely for the purpose of the evaluation.
- Their identity will not be revealed in the reporting of our results (their participation is confidential).
- They are free to stop participating at any time.
- That information we collect, e.g., field notes, will be stored securely by ACER

The fieldwork team will not collect any pictures of participants or of the BbP program while in the field. Although the fieldwork does not include any direct interaction with the children participating in the program (rather, direct observations of the program running in-situ), the conduct of the fieldwork team will be guided by the International Charter for Ethical Research Involving Children ("International Charter for Ethical Research Involving Children," n.d.) and appropriate risk minimisation strategies put into place (e.g., no fieldworker will be required to be alone with any children)

The lead investigator in the field has a strong history of the ethical conduct of research (including current projects), and has reviewed for Human Research Ethics Committees in the past. The lead investigator will also carry their Australian Working With Children Check whilst in the field.

#### **7.5 Limitations and constraints**

The current evaluation is required to be completed by October 2018, and in turn a suitable scope has been developed in the TOR to guide the development of this evaluation plan. For example, the key priority is to establish if the BbP programs are likely to have a positive impact on children's literacy given a critical evaluation of the program in terms of best-practice and the local contextual situation.

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Quantitative causal methods are not being used in this study, but rather the expert judgement of the team will collect documentary and observational evidence to form positions based on the research literature.

There are no limitations foreseen in terms of addressing gender equality issues and/or reaching representatives of special beneficiary sub-groups. This is due, in part, to the design of the BbP program which promotes gender equality and that includes children with disabilities and illnesses. Similarly, the BbP workforce is predominately female. The evaluation will seek input of key stakeholders (e.g., head librarians) rather than evoking convenience sampling.

## **8 REFERENCES**

- ACER-GEM. (2017). *Principles of Good Practice in Learning Assessment*. Melbourne: Australian Council for Educational Research.
- Australian Council for Educational Research. (2012). *National school improvement tool*. Camberwell, Vic: Australian Council for Educational Research.
- Buk bilong Pikinini. (2017a). *Buk bilong Pikinini: Bi-Annual Report 2014 through 2015*. Canberra.
- Buk bilong Pikinini. (2017b). *Buk Bilong Pikinini- Children's Assessment Term 1-2017 AP1-Test # 1*.
- Buk bilong Pikinini. (2017c). *Buk Bilong Pikinini Children's Assessment Term 3-2017 AP2- Test # 2*.
- Buk bilong Pikinini. (2018a). *Buk bilong Pikinini Evaluation Report June 2017*. Papua New Guinea.
- Buk bilong Pikinini. (2018b). *Early Childhood Development Assessment Diagnostic Test - 2018*.
- Buk bilong Pikinini, & VSO. (n.d.). *Literacy Activities Guide*.
- Buk bilong Pikinini, VSO, & AVI. (n.d.). *Early Childhood Literacy Program Handbook*.
- Department of Community Development. (2007). *National Early Childhood Care and Development Policy*. Papua New Guinea.
- Department of Education. (2014). *English Elementary Syllabus 2015*. Papua New Guinea: Department of Education.
- Department of Foreign Affairs and Trade. (2017). *DFAT monitoring and evaluation standards*. Canberra: DFAT.
- Education Capacity Development Facility. (2018). *Buk bilong Pikinini Literacy Program Evaluation 2018: Terms of Reference*. Papua New Guinea: Education Capacity Development Facility.
- Gordon, R. A., Fujimoto, K., Kaestner, R., Korenman, S., & Abner, K. (2013). An assessment of the validity of the ECERS-R with implications for measures of child care quality and relations to child development. *Developmental Psychology*, 49(1), 146–160. <https://doi.org/10.1037/a0027899>
- International Charter for Ethical Research Involving Children. (n.d.). Retrieved from <https://childethics.com/charter/>



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Lawton, B., Brandon, P. R., Cicchinelli, L., & Kekahio, W. (2014). *Logic models: A tool for designing and monitoring program evaluations*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific.

National Health and Medical Research Council, Australian Research Council, & Universities Australia. (2007). *National Statement on Ethical Conduct in Human Research*. Canberra: Commonwealth of Australia.

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom assessment scoring system manual: Preschool (pre-k) version*. Baltimore, MD: Brookes. Retrieved from <https://ezp.lib.unimelb.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsref&AN=CASSMPPV.PIANTA.BROOKES.BJJH&site=eds-live>

United Nations Educational, Scientific and Cultural Organization. (2017). *Overview: Measuring Early Learning Quality and Outcomes*. Paris France: UNESCO, UNICEF, Brookings Institution, World Bank. Retrieved from <http://unesdoc.unesco.org/images/0024/002480/248053e.pdf>



## **12 Appendix: Program logics**

Program logic - Early Childhood literacy programs

Program Objective: Vision:

Literacy for all (Buk bilong Pikinini, 2017a)

“increase literacy rates across PNG in order to improve the livelihood, health and general wellbeing of the citizens of Papua New Guinea - starting with the very youngest” (Buk bilong Pikinini, 2017d)

“five year old children will acquire the skills speaking and listening, phonics, reading and writing” (Buk bilong Pikinini, no date)

“...to foster a love of reading and learning through establishment and restoration of libraries, and by providing teacher training and Early Childhood Literacy programs to increase

literacy rates in Papua New Guinea

...” (Buk bilong Pikinini, 2017d, p. 11)

Problem statement	Inputs	Outputs: Activities	Outputs: Participation	Short-term outcomes (0-10 weeks)	Medium-term outcomes	Long-term outcomes
<p>"In August 2012, James Agigio (Manager for research and data analysis at the National Department of Education (NDoE)) said that "half of all secondary school students in PNG fully abandon their studies". As a result, literacy levels seem to be decreasing at an alarming rate and do not come anywhere near the officially claimed level of 52% adult literacy. A 2011 survey by the Asia South Pacific Association for Basic Adult Education (ASPBAE) has measured adult literacy rates in</p>	<p>The BbP Early Childhood literacy programs' resources:</p> <p>Physical locations: - 17 libraries, 11 in NCD</p> <p>Staff: 17 Head Teacher-Librarians, 19 Assistant Teacher-Librarians &amp; 2 Guard/Handymen. (employed full time). Plus central office staff.</p> <p>- Program resources: Curriculum (Building Blocks), Syllabus (Daily Phoneme, Daily Word, Tricky Word, Theme, Subtheme, Virtues, Book reading suggestions),</p>	<p>Early Childhood literacy program: Runs daily (term dates), for 1 year for each child. The program runs 2 x 1hr 45 minute sessions each week day (Buk bilong Pikinini et al., n.d.)</p> <p>Training for BbP staff</p> <p>Rating of BbP library staff and against monitoring and evaluation rubric (In-library training reports) (Buk bilong Pikinini, no date)</p>	<p>800-900 children per year, 15 children to 1 teacher in classrooms (Buk bilong Pikinini, no date)</p> <p>47 librarians participate in monitoring and evaluation program (Buk bilong Pikinini, no date)</p>	<p>Change in skills: Measured by assessment in English (Test one within three weeks of program entry). Program covers "The four Building Blocks of Phonics, Speaking &amp; Listening, Pre-Reading and Pre-Writing", and the assessment covers domains of Speaking and Listening, Phonics, Pre-Writing, naming facility/picture vocab (naming colours, shapes), Numeracy (Buk bilong Pikinini, 2018b)</p>	<p>"900 five year old vulnerable children will have acquired the skills of... speaking and listening, phonics, reading and writing" (Buk bilong Pikinini, no date)</p> <p>Change in skills: Measured by assessment, growth within-child in English (test two in June and test three in October) Assessment covers domains of Speaking and Listening, Phonics, Pre-reading (includes naming facility/picture vocab and some inferencing) (Buk bilong Pikinini, 2017b, 2017c)</p>	

<p>five provinces of PNG and found the following: the National Capital District at 11.5%, Provinces; Chimbu at 14.5%, Sandaun at 11.4% and Gulf at a mere 4.4% and New Ireland at the somewhat higher percentage of 25%. The survey report also states that “of those who did attend formal schooling even basic functional literacy is not assured”, which is most likely due to teacher/pupil ratios, poor teacher qualifications and lack of access to books and appropriate literacy materials.” (Buk bilong Pikinini, 2017d)</p>	<p>Curriculum materials (Jolly Phonics), daily lesson plans (Buk bilong Pikinini et al., n.d.) Literacy activities (Pre-writing, Pre-reading, and Speaking and listening activities, Pre-reading Speaking and listening Resource Sheets) (Buk bilong Pikinini &amp; VSO, n.d.) Building Blocks curriculum framework guides development of lessons. Delivered in English. (Buk bilong Pikinini, 2017a)  - Assessments 1x diagnostic test (~50 items) (Buk bilong Pikinini, 2018b), 1x term 1 and 2 (~50 items) (Buk</p>					
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	<p>bilong Pikinini, 2017b), 1 x term 3 and 4 (~50 items) (Buk bilong Pikinini, 2017c)</p> <p>Teacher-Librarian training and rating materials</p> <p>Student reporting ("Student Report cards with attainment level based on the Elementary Preparatory Content Standard") (Buk bilong Pikinini, 2017a, p. 13).</p> <p>Materials: Up to 3000 books per site. Access to shipping containers with additional books (for restocking)</p> <p>Community and other networks:</p>					
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	- funding (grants, donations, fundraising) (Buk bilong Pikinini, 2017a)					
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<p>Assumptions: Participating in EC literacy programs, all other factors held constant, can impact children's learning and development. The quality, and intensity of the program is sufficient to have an impact on learning and development. Families have sufficient resources for children to attend programs (e.g., time, transport, the program fits with work requirements)</p>	<p>External Factors: Child level factors (e.g., physical health, nutrition, wasting etc) Home level factors: Home-language context (adult English language literacy rates) Home learning environment (e.g., books at home, cognitively stimulating activities) Family level factors: SES (e.g., capacity to pay for ECD programs, parental education and employment/occupational prestige) ECD context: Limited ECD policy (no quality, or child learning and development frameworks), most provision by private market Community context Adequate supply of ECD programs? What is the demand for ECD programs?</p>
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Program logic – After-School literacy support program

Program Objective:

Literacy for all (Buk bilong Pikinini, 2017a)

“increase literacy rates across PNG in order to improve the livelihood, health and general wellbeing of the citizens of Papua New Guinea - starting with the very youngest” (Buk bilong Pikinini, 2017d)

“five year old children will acquire the skills speaking and listening, phonics, reading and writing” (Buk bilong Pikinini, no date)

“...to foster a love of reading and learning through establishment and restoration of libraries, and by providing teacher training and Early Childhood Literacy programs to increase

literacy rates in Papua New Guinea

...” (Buk bilong Pikinini, 2017d, p. 11)

Problem statement	Inputs	Outputs: Activities	Outputs: Participation	Short-term outcomes (0-10 weeks)	Medium-term outcomes	Long-term outcomes
<p>"In August 2012, James Agigio (Manager for research and data analysis at the National Department of Education (NDoE)) said that "half of all secondary school students in PNG fully abandon their studies". As a result, literacy levels seem to be decreasing at an alarming rate and do not come anywhere near the officially claimed level of 52% adult literacy. A 2011 survey by the Asia South Pacific Association for Basic Adult Education (ASPBAE) has measured adult literacy rates in</p>	<p>The BbP After-School literacy support program resources:</p> <p>Physical locations: - 17 libraries, 11 in NCD</p> <p>Staff: 17 Head Teacher-Librarians, 19 Assistant Teacher-Librarians &amp; 2 Guard/Handymen. (employed full time). Plus central office staff.</p> <p>- Program resources: Curriculum (Building Blocks), Syllabus (Daily Phoneme, Daily Word, Tricky Word, Theme, Subtheme, Virtues, Book reading suggestions),</p>	<p>BbP After-School literacy support program and book lending operates weekday afternoons (between 1:30 and 3:30pm), providing an After-school Literacy support program for children enrolled in elementary and primary schools. The program is a sein-structured program where children access and borrow books, complete assignments and gain one-on-one reading time with library staff (Buk bilong Pikinini, Bi-Annual Report 2014-2015).</p>	<p>Librarians provide the numbers of books borrowed, returned and damaged each month to head office via a report (Buk bilong Pikinini, Bi-Annual Report 2014-2015) ?</p>	<p>Children "get assistance with homework, reading skills and the ability to consult and borrow high quality books to support their education"</p>		

<p>five provinces of PNG and found the following: the National Capital District at 11.5%, Provinces; Chimbu at 14.5%, Sandaun at 11.4% and Gulf at a mere 4.4% and New Ireland at the somewhat higher percentage of 25%. The survey report also states that “of those who did attend formal schooling even basic functional literacy is not assured”, which is most likely due to teacher/pupil ratios, poor teacher qualifications and lack of access to books and appropriate literacy materials.” (Buk bilong Pikinini, 2017d)</p>	<p>Curriculum materials (Jolly Phonics), daily lesson plans (Buk bilong Pikinini et al., n.d.) Literacy activities (Pre-writing, Pre-reading, and Speaking and listening activities, Pre-reading Speaking and listening Resource Sheets) (Buk bilong Pikinini &amp; VSO, n.d.) Building Blocks curriculum framework guides development of lessons. Delivered in English. (Buk bilong Pikinini, 2017a)  - Assessments 1x diagnostic test (~50 items) (Buk bilong Pikinini, 2018b), 1x term 1 and 2 (~50 items) (Buk</p>					
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	<p>bilong Pikinini, 2017b), 1 x term 3 and 4 (~50 items) (Buk bilong Pikinini, 2017c)</p> <p>Teacher-Librarian training and rating materials</p> <p>Student reporting ("Student Report cards with attainment level based on the Elementary Preparatory Content Standard") (Buk bilong Pikinini, 2017a, p. 13).</p> <p>Materials: Up to 3000 books per site. Access to shipping containers with additional books (for restocking)</p> <p>Community and other networks:</p>					
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	- funding (grants, donations, fundraising) (Buk bilong Pikinini, 2017a),					
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<p>Assumptions:                  After-school support, all other factors held constant, can impact children's learning and development.                  The quality, and intensity of the program is sufficient to have an impact on learning and development.                  Families have sufficient resources for children to attend programs (e.g., time, transport, the program fits with work requirements)</p>	<p>External Factors:                  Child level factors (e.g., physical health, nutrition, wasting etc)                  Home level factors:                  Home-language context (adult English language literacy rates)                  Home learning environment (e.g., books at home, cognitively stimulating activities)                  Family level factors:                  SES (e.g., capacity to pay for ECD programs, parental education and employment/occupational prestige)                  ECD context:                  Limited ECD policy (no quality, or child learning and development frameworks), most provision by private market                  Community context                  Adequate supply of ECD programs? What is the demand for ECD programs?</p>
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## 13 Appendix: Final Fieldwork Itinerary

### BbP Evaluation – fieldwork itinerary

MONDAY 24 SEPTEMBER – FRIDAY 28 SEPTEMBER 2018

Date	Time/Activity	Personnel	Location
Monday 24 September	Brief Meet Time: 8.00am to 9.00am (1 hour)	<ul style="list-style-type: none"> <li>Evaluation Team</li> <li>Leanne – BbP</li> </ul>	Holiday Inn Cafeteria
	Meeting – AHC, DFAT Time: 9.30am to 10.30am (1 hour)	<ul style="list-style-type: none"> <li>Evaluation Team</li> <li>Personnel DFAT</li> </ul>	AHC Waigani
	Meeting – DNPM Time: 11.00am to 12.00pm (1 hour)	<ul style="list-style-type: none"> <li>Evaluation Team</li> <li>Officers DNPM</li> </ul>	DNPM Office Waigani
	Meeting – ECDF Time: 1.00pm to 2.00pm (1 hour)	<ul style="list-style-type: none"> <li>Evaluation Team</li> <li>ECDF Team</li> </ul>	ECDF Office Ground Floor Holiday Inn
	Meeting – BbP Staff Time 2.30pm to 3.30pm (1 hour)	<ul style="list-style-type: none"> <li>Evaluation Team</li> <li>Leanne – BbP</li> <li>BbP Staff</li> </ul>	Burns Philip Haus Ground Floor CBD – Port Moresby
	Meeting – ECDF Security Briefing	<ul style="list-style-type: none"> <li>Dan Cloney</li> </ul>	ECDF Office Ground Floor

	Time 4.00pm to 5.00pm		Holiday Inn
Tuesday 25 September	T & L Observation – EC literacy program  Time: 9.30am to 12.00noon (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> <li>• Officer – DFAT</li> </ul>	6 Mile BbP Library Learning Centre
	Interviews – head librarian, teacher librarian, parents of current & former students and local community members  Time: 12.30pm to 1.30pm (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> <li>• Officer – DFAT</li> </ul>	6 Mile BbP Library Learning Centre
	Airport check-in: 2.00pm Pom – Lae (Nadzab)  Departure Time: 4.10pm (2 hours prior to departure)  Arrival Time: 5.00pm	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Jacksons Airport  Accommodation: Lae International Hotel  Nadzab Airport
Wednesday 26 September	T & L Observation – EC literacy program  Time: 8.00am to 9.00am (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Lae Showground BbP Literacy Learning Centre
	Interviews – head librarian, teacher librarian, parents of current & former students and local community members  Time: 9.15pm to 10.15pm	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Lae Showground BbP Literacy Learning Centre

	(1 hour)		
	Airport check-in: 11.25am Lae – Pom (Jacksons) Departure Time: 1.25pm (2 hours prior to departure) Arrival Time: 2.45pm	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Nadzab Airport         Jacksons Airport
Thursday 27 September	<b>Cancelled</b> <i>Meeting with Department of Community Development</i> <i>Time: 9.00am to 10.00am</i> <i>(1 hour)</i>	<ul style="list-style-type: none"> <li>• <del>Evaluation Team</del></li> <li>• <del>Officer – DFAT</del></li> </ul>	<i>DFCD Waigani</i>
	T & L Observation – EC literacy program Time: 10.30am to 12.00noon (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Tatana BbP Library Learning Centre
	Interviews – head librarian, teacher librarian, parents of current & former students and local community members Time: 12.30pm to 2.00pm (1 ½ hours)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> </ul>	Tatana BbP Library Learning Centre
	Meeting – National Department of Education Time: 2.30pm to 4.00pm (1 ½ hours)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Officer – DFAT</li> </ul>	PNGEI, Curriculum Development

			Division conference room
Friday 28 September	Meeting – AHC Time: 9.00am to 9.30am (½ hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Personnel DFAT</li> </ul>	AHC Waigani
	T & L Observation – EC literacy program Time: 10.30am to 12.00noon (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> <li>• Officer – DFAT</li> </ul>	ATS BbP Library Learning Centre
	Interviews – head librarian, teacher librarian, parents of current & former students and local community members Time: 12.30pm to 2.00pm (1 ½ hours)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• Leanne – BbP</li> <li>• Officer – DFAT</li> </ul>	ATS BbP Library Learning Centre
	Debrief Time: 2.30pm to 3.30pm (1 hour)	<ul style="list-style-type: none"> <li>• Evaluation Team</li> <li>• AHC</li> <li>• ECDF</li> <li>• BbP</li> <li>• DNPM</li> <li>• NDoE</li> <li>• DfCDR</li> </ul>	Holiday Inn Board Room

## 14 Appendix: Feedback on items from BbP assessments

### Assessment 1

Table 17. Distribution of scores to sub-domains of Assessment 1

Section	Max Score	Comments
<b>Speak &amp; Listen</b>	4	No scoring criteria are provided.
<b>Phonics</b>	27	Letter sounds fine. Blending and segmenting tasks are problematic. Too much weight to phonics in overall score
<b>Pre-reading</b>	5	Focus is on vocabulary rather than knowing how to use a book.
<b>Section C: Comprehension?</b>	9	Resource 3 and 4 much easier than 2. Some Resource 2 questions are too complex for non-English speakers.
<b>Pre-writing</b>	5	Fine – presumably facilitator has a list of sounds

Scoring criteria need to be provided for the four **speaking and listening** questions. All questions can be answered with a single word which therefore should receive the highest score. Revised questions are required that can only be answered in sentences if this is the scoring criteria that is desired. It is noted that these are very basic questions. Students who cannot answer them in English, likely cannot understand the instructions of the test and are simply guessing what to do. More questions are required to identify speaking and listening proficiency in English. It is likely many students need more time and support to learn English before they commence instruction in English.

**Blending** tasks need to be done orally, or students can be asked to blend a written word that is unfamiliar or a nonsense word. If students are asked to blend a familiar written word it is impossible to know if the student has learned the word by sight and is simply recognising it, or if they are really using their knowledge of letter sounds to work out the sound of the whole word. It is very likely that students have learned these familiar words by sight and may have also learned to recite the letters of the word by rote, appearing to be blending, when actually they do not understand blending and cannot apply it in the context of decoding an unfamiliar word.

Similarly, **segmenting** tasks need to be done orally, otherwise students are simply looking at the word and then giving the individual letter sounds and the task is no different to giving the letter sounds in Resource 1.

The **pre-reading** section is intended to assess concepts of print, but the focus is heavily on vocabulary including some hard vocabulary such as “spine”. Knowing the words does not necessarily indicate comprehension of book functionality. It may be more useful to identify if

students know how a book works, such as how to hold a book the right way up and turn the pages, and if they realise the writing is the part that is read. They can also be assessed on their knowledge of where to start reading and how to go from one line to the next.

In Section C which is presumably intended to assess **comprehension** some of the questions for Resource 2 have vocabulary and syntax that is much harder than the kinds of answers students might give such as “Who do you think is the woman holding the book?” It is preferable to pose questions at a level that is simpler than, or equivalent to the kind of language students are expected to be able to use. Resources 3 and 4 are much easier and ideally would be put first. These tasks seem very easy, given the level of English proficiency students actually require to participate in BbP with understanding.

Comprehension is meant to be the unifying element in the basic building blocks, but the assessment seems to focus heavily on vocabulary, rather than expressing meaning. Vocabulary is essential for comprehension, but construing meaning is more than simply labelling aspects of an illustration.

## Assessment 2

Table 18. Distribution of scores to sub-domains of Assessment 2

Section	Max Score	Comments
Phonics	18	Letter sounds fine. Blending and segmenting tasks are problematic. Too much weight to phonics in overall score
Pre-reading	14	Fine, for assessing decoding but a huge leap from concepts of print in previous test. No attempt to assess comprehension.
Speak & Listen	8	No scoring criteria are provided for describing the picture.
Pre-writing	10	Fine – presumably facilitator has a list of sounds. Dictated sentence is much harder than writing sounds but only worth one score point. No scoring criteria provided for how accurate sentence should be.

The problems identified with assessing **blending and segmenting** in Test 1 also apply here. Students are likely to recognise the words by sight and be able to recite the letter sounds as they did in Section A without necessarily understanding how to blend and segment.

The **pre-reading** section is a large conceptual leap from pre-reading in Test 1 which was concerned with vocabulary for different parts of a book. A major concern is the heavy focus on decoding with no attention given to comprehension. It is very likely that students who are taught to decode before they have sufficient English proficiency will learn to “bark at



print". That is, children will become mechanical screen readers who can turn written text into spoken words without understanding what they are reading because they do not know the words.

There is **no measure of comprehension** in Test 2. This is of concern, especially as comprehension is the unifying factor in the five building blocks of the program. The pre-reading tasks need to include a measure of students' comprehension of the words they are reading aloud. The writing tasks could also be designed to include comprehension if students wrote the word for a picture.

In **speaking and listening**, scoring criteria are required for the picture students describe. Again, all the questions can be answered with a single word, so scoring criteria should not require a sentence. While there is a clear sequence of increasing difficulty across the Diagnostic test, Test 1 and Test 2 in phonics, pre-reading and pre-writing, this is less clear in speaking and listening. Describing the picture in Test 2 appears to be easier than Test 1. This task seems very easy, given the level of English proficiency students require to participate in BbP.

The instructions seem too easy to be used for assessment at the end of a program that has been conducted in English. If students are unable to follow the instructions by Test 2, then it suggests they probably could not understand most of the teaching given in English for the entire BbP program and have simply been copying the other students with little or no comprehension.

**Writing** phonemes for nine sounds is too many in the context of a short, balanced test. Fewer phonemes would show understanding of the principle. Writing a dictated sentence is an extremely challenging task and represents segmenting words and writing many phonemes. It deserves a much higher score and also the option for scores for some correct words, even if the whole sentence has errors. However, this task is likely too hard for all students.

## 15 Appendix: Undocumented practices

In response to a draft of the evaluation report, BbP identified some practices that were not mentioned in the documentation and were not evident in classroom observations made during the evaluation. Three key practices were: (1) use of local languages, (2) valuing local cultures, and (3) teacher training.

BbP indicated that oral vernacular was used extensively, especially in the first three months to support students' understanding of English and that teachers continued to use vernacular to support individual students, as required. Local teachers are recruited who spoke local languages. The difficulty of including all mother tongues was identified for schools near Port Moresby where up to 20 different mother tongues might be used by students.

BbP also identified that local cultural values were recognised and valued. Four picture story books about the local environment and indigenous cultures have been developed to date (Agino, 2018; Buk bilong Pikinini, 2014, 2015; Wanma, 2016) and three more are under development (*Our Special Stories* (Disability Reader), *From Sea to Summit* (the 40 most iconic animals of Papua New Guinea), and untitled conservation reader). BbP also celebrated local culture in three special days a year: Mother Tongue Language Day; Independence Day; and World Environment Day. The BbP curriculum was also designed so that PNG students would be able to relate to the images, illustrations and objects. This includes paying careful attention to the representation of the characters in stories.

BbP identified that teacher training included the use assessment data, with teachers keeping their own observation notes as a basis for providing individual support to students and that teachers have been trained in child development.

### 15.1 Languages

The draft evaluation report noted almost no reference to local languages in the documentation and this still stands. The use of oral vernacular to support acquisition of English in the first few months of BbP is commendable, but needs to be documented. BbP requires a language policy that better reflects the intent of GoPNG policies on the inclusion of local languages, to both facilitate comprehension, and to build pride in identity.

It is unrealistic to provide books translated into many languages. Also, local languages are oral and many lack orthographies. Teaching reading in English may be appropriate, but BbP needs to also consider how all the languages of the children might be also be valued as oral languages. This can be achieved through parent participation in classroom activities.

Learning to sing a song in each of the languages of the class or say a greeting in each

language are simple ways all home languages might be valued. A language policy would provide appropriate guidelines on language use in BbP. These local languages, particularly oral stories and songs, should be used to develop term-long lesson plans that result in the production of new books (e.g., illustrated and written by children), dramatic plays, art, and interest centres.

Using vernacular as a bridge to support learning English with understanding is good teaching practice, but it needs to be done effectively. BbP program documentation does not differentiate between a curriculum that is suitable when most students already speak some English and when most students do not. Their learning needs are very different. Teaching English, when it is an unfamiliar language for most students, means that learning the language becomes the content of the curriculum with a very strong focus on the development of oral language conversational proficiency rather than learning how to read.

If most students in the class do not speak English, learning through immersion, by listening to the teacher speak English and practising largely through choral responses is likely to be slow and largely ineffective. This is because there are insufficient opportunities for students to interact in one-to-one conversations in English where they can practice communicating and have their skills stretched by a competent speaker. There is also limited incentive for students to develop their understanding of English beyond a very basic level, as rote repetition and watching others for clues is generally sufficient to participate in activities. A more structured approach to teaching English is required that strongly encourages teacher-scaffolded peer-to-peer and student-teacher conversations. Students need to speak English well before they are likely to be ready to learn and understand challenging new ideas, such as how to read in English. BbP needs a parallel curriculum that is underpinned by effective principles for teaching English as an unfamiliar language. Teachers need training and guidance about how to implement this program and when and how to scaffold students from mother tongues, or vernacular, to English.

## **15.2 Local culture**

The draft evaluation report identified that there were limited references to the inclusion of local culture in the BbP curriculum and teacher guides and this also still stands. BbP does recognise the importance of cultural values. They have developed picture books reflecting local cultures, with a three more on the way, and focus on recruiting and training local people to work as educators. The challenge is to document how this is integrated into everyday practice – particularly how oral language activities that encourage children to express themselves in personally meaningful conversations with the teacher, their peers and

other adults are implemented. Children's identity and experiences should be explored and drawn on to make connections with, and to illustrate, all components of the program. This requires developing programs and plans that explicitly feature this kind of cultural integration and model for teachers how to connect with and build on children's home lives in ways that foster pride in cultural identity.

### **15.3 Teacher training**

Limited documentation was provided about the scope of teacher training. The draft evaluation report expressed concern that teachers may not have the skills to interpret assessment data and use it to inform learning and that they were unlikely to have a sufficient understanding of child development to adapt the program appropriately. There are stages in the acquisition of the range of skills that contribute to early literacy and at the lowest levels these may not be apparent to some teachers. For example, writing development best begins with extensive experience experimenting with conveying meaning through pictures and other marks, not by copying letters. Supporting a child to copy letters, by helping and encouraging them, when they are not developmentally ready to do this, may seem desirable, but the child would benefit more, if the task was adjusted and they were encouraged to experiment and praised for their efforts to express meaning on paper. Trying to skip the early stages of development often means missing the foundations that support understanding.

BbP does an impressive job training local people, who also have limited education, to run the program according to the guidelines which they generally seem to do very well. This is highly commendable. It is also realistic to recognise, in this context with an understandably brief training, most teacher librarians will have a limited understanding of the ideas that underpin an effective pre-school program and consequently a very limited capacity to adapt the program effectively. Using assessment effectively to inform and adapt teaching so that it is developmentally appropriate requires a sophisticated level of understanding of education. BbP teachers need a few simple assessments with clear guidelines about their effective use. They also need clear guidelines about how to recognise and respond appropriately to some of the key stages in development for children in the program.

## **16 Appendix: Specific recommendations of the Evaluation Team in relation to each evaluation question.**

### **16.1 Alignment with policy and frameworks,**

#### ***Recommendation 1a***

Adopt an inclusive language policy that includes the use of oral home languages to support comprehension and the development of oral communication skills in home language. BbP seek resources to have books that the teacher reads aloud in home languages. This may include developing picture story books with no text that the teacher, parent, or child then tells (constructs a story either through imagination, lived experience, or local oral stories) in their own language. The development of recording of oral stories, songs, and poems should also be considered.

#### ***Recommendation 1b***

Home languages are used to support the development of oral English language skills and subsequent development of early literacy skills in phonics, reading and writing in English. An explicit set of program materials should be developed so this is clearly illustrated to teachers.

#### ***Recommendation 1c***

Commitment to a holistic program is reflected in a program that is balanced across all domains and reporting strategies that equally value development in all domains including: (1) social awareness, (2) social and emotional development, (3) oral language to support basic communication skills in English (e.g., conversations), (4) cognitive skills (e.g., developing concentration, memory, problem solving, and other executive function skills), (5) dispositions for learning (e.g., persistence and curiosity), (6) other preacademic skills (e.g., numeracy), and (7) physical, creative and aesthetic skills.

#### ***Recommendation 1d***

Revise the social awareness themes to place greater emphasis on exploring, valuing and making connections with children's rich culture and home lives as a keystone of the program planning and of everyday classroom practices. Create a plan to take the existing recognition of the diversity of languages and cultures of PNG children and their local communities and develop term-long programming using multiple modes (e.g., different activities, materials)

## **16.2 Program design elements**

### ***Recommendation 2a***

Increase the duration of each session to 3 hours. This represents a good match between parent wishes and the literature on ECEC program effectiveness. This also would also for the broadening of the program scope to approach learning form a more holistic perspective. A short break, e.g., some outdoor time with unstructured play, and a drink of water is advised to break up the session.

### ***Recommendation 2b***

Embed novel approaches to professional learning into the program planning. This should include opportunities for teachers to observe each other and collect information for the purpose of quality improvement.

### ***Recommendation 2c***

Develop an extended program of sequenced, structured activities for students who do not speak English, or speak limited English to support the development of basic communication and vocabulary skills in English.

### ***Recommendation 2d***

Support teachers to understand that working at children's level of learning needs, however basic their starting point is and however slowly they progress, is valued over delivering the curriculum according to schedule regardless of children's readiness. Develop sequenced programs for children at very low levels of ability and document how differentiation based on ability is integrated into daily practice.

### ***Recommendation 2e***

Provide appropriate, holistic training and support so that teachers know how to recognise and how to respond to different levels of children's needs in their development across the domains of the program.

BbP teachers have limited training and any support needs to be kept simple and within the reach of teachers. Some suggestions are:

- Simple, practical observation guides and scoring rubrics that provide useful diagnostic information

- Simple explanations of different levels of skill and advice about appropriate learning goals for children working at different levels
- Simple, clear instructions about how to interpret formal diagnostic and Test 1 and Test 2 assessment data to inform teaching and learning

### ***Recommendation 2f***

Reduce the focus on phonics, decoding skills and letter/word copying, start instruction from earlier stages of development in these skills, cover less content in these skills and place a greater focus on holistic development.

More support could be provided to help teachers to understand the foundational skills students need to develop in:

- Social awareness
- Social and emotional development (relating well to others, cooperating within groups, and managing and resolving conflicts)
- Oral language to support basic communication skills in English (e.g., conversations)
- Cognitive skills (e.g., developing concentration, memory, problem solving, and other executive function skills)
- Dispositions for learning (persistence, curiosity)
- Other preacademic skills (e.g., numeracy)
- Physical, creative and aesthetic skills.

This would increase the likely effectiveness of the programs because these skills, particularly social and emotional skills and cognitive skills are important precursors to literacy (Evans, Floyd, McGrew, & Leforgee, 2002; Kaufman, Reynolds, Liu, Kaufman, & McGrew, 2012; Tusing & Ford, 2004).

A reduced focus on phonics, decoding skills and letter/word copying, and adding more focus on a slower developmental focus, more aligned with the elementary school curriculum would provide a more developmentally appropriate curriculum as well as space to introduce other learning and development goals. The addition of more oral language content in vernacular (particularly conversation) would provide a way to focus on children's strengths and bridge to English language comprehension skills. This has the added benefit ensuring that children with little English exposure prior to the commencement of the program will not rely on rote learning strategies to engage in the content (e.g., copying, memorising books and stories).

### ***Recommendation 2g***

Provide more support to teachers in how to select texts of an appropriate level of complexity for different tasks that match the level of children's language skills including the use of decodable texts to support phonics and the use of simple illustrated texts with few words to support vocabulary and syntax development in English. The development of oral English communication skills when English is a second language needs a sustained focus on basic skills of everyday vocabulary and syntax and simple communications. Students' language skills in English need to be well-developed before they start to learn phonics and decoding.

Provide explicit guidance on the range of complexity of the decodable texts and picture story books required for different students' needs. BbP sorts books by age, but it is unclear if this is predominately based on age-related interests. Students for whom English is a new language need illustrated texts used for shared reading by the teacher to support the development of basic vocabulary and simple syntax as well as simple sequenced pictures with simple texts. English text needs to be very simple and repetitive. Students who speak English can practice reading these simple books themselves but they also need to hear more sophisticated children's stories read aloud. Dialogic reading practices should be implemented during all reading activities.

### ***Recommendation 2h***

Review the sequencing of key literacy skills in BbP program documents.

Phonological and phonemic awareness should be more strongly emphasised initially as an entirely oral skill, including the segmenting and blending of larger segments of words such as compound words and syllables (phonological awareness) before focussing on phonemes. Blending and segmenting should be practised initially as entirely oral skills to ensure students are hearing the sounds in the words and not just saying the sounds for written letters or recognising the written word. Phonics and letter writing should only be introduced when students are adept at hearing at least the first sounds and some end sounds in oral English words they understand with no written prompts.

A strong focus on phonics and reading words, with little prior development of phonological and phonemic awareness and sufficient English vocabulary and language skill is likely to lead to children learning to recognise and say words aloud with little idea of what the words mean. Such a sequencing would also allow the slower-paced introduction of writing with opportunities to explore making marks with different implements and discovering how to manipulate them.



Sequencing of oral language development in speaking and listening in BbP is more appropriate for native English speakers than for second language speakers. Review and increase the support for developing basic vocabulary, understanding of syntax, and simple communication skills in English. This can include an increased focus on back-and-forth conversations in local language with some bridging to English.

***Recommendation 2i***

Review the BbP standards. The standards should be set below the elementary school standards. Review the description of the two lower levels of BbP standards. Currently the standards use language suggesting that in the first two levels students are deficient and lack aspects of the desired skills rather than describing what students can do at these levels by describing simpler, knowledge, skills, and abilities.

***Recommendation 2j***

Improve the explicit documentation and planning for differentiation. The BbP syllabus is intended to be flexible, but most BbP teachers have limited education and training and need the support of a highly prescribed syllabus. They are unlikely to know how to deviate from it in any substantial way. More guidance is required when the starting point of the syllabus is too ambitious and some students may need to spend many weeks, or even months learning sufficient English to communicate and developing basic skills, before they are ready to learn phonics and decoding. This should be informed by the assessments (e.g., providing syllabus entry points based on ability).

Many of the BbP activities and games lend themselves to differentiated teaching. However, it is likely that teachers require guidance about how to recognise and constructively respond to children working at different levels of skill. It is likely that teachers will focus on correct demonstration of the task such as writing letters. For example, teachers need to recognise that for a child who is just learning to manipulate a pen, making a variety of different kinds of marks on paper is evidence of emerging confidence and exploration of the tool. This is an appropriate goal during a pre-writing task for this child. This child is not yet ready to copy letters, even though others in the class may be ready to do this.

**Recommendation 2k**

Develop a language policy that outlines how and why the languages of instruction are selected for each site, how English should be taught when it is an unfamiliar language for most students and they are not yet sufficiently proficient to learn in it, how bridging

languages might be used to support the acquisition of English and how a diversity of local oral languages are included and valued in the program as a source of pride in self-identity.

### **16.3 Delivery context**

#### ***Recommendation 3a***

Ensure there are sufficient incentives for the program to run for the full duration planned. This might include the provision of lesson plans that have free play/child-led elements scheduled at the end of the session. Ensure there is well-planned and deliberate learning embedded in free-play activities driven by teacher talk (e.g., scaffolding higher order language, the provision of feedback, back-and-forth conversations). For examples of appropriate pedagogies, see e.g., Pyle and Danniels (2017).

#### ***Recommendation 3b***

Undertake follow-up with families who exit the program early to understand why more than 25 per cent of families do not complete the full year of the program. This should include: (1) analysis of enrolment data, grouped by completers and non-completers to look for empirical differences by enrolment characteristics (e.g., vulnerability, diagnostic results), and (2) interviews where possible to contextualise the exit. If the exit is related to the program (e.g., too difficult) or obvious barriers to participation (transport) changes and/or support should be considered. This may include augmenting the program (see recommendation on differentiation, and targeting of standards) or seeking external support (e.g., transport for families, or other ways of reducing barriers to access). If the reasons are not related to the program then more intakes should be completed to ensure the classrooms remain full.

Australian Government support

The Australian government should provide support to undertake simple, small scale research to understand why some families do not stay in the program.

#### ***Recommendation 3c***

The physical environments could be improved with modest capital investment. There were opportunities to incorporate WASH practices more with the instructional approach. Instead, safety and hygiene was typically observed to be taught as simple rote/choral reply at the end of the lesson (e.g., washing hands when exiting the classroom at the end of the session). Children should be given an opportunity to drink safe water during the program (and it

should be part of the program design). If safe water cannot be provided, then parents should be actively encouraged to send their children to the program with water.

Australian Government support

The Australian Government should support BbP to have consultations with UNICEF regarding formalising their WASH program.

***Recommendation 3d***

Ensure educators use dialogic reading strategies when working with books. That is, the use of oral language should be authentic and involve many conversations where children talk in novel or creative situations (e.g., reflecting on texts and drawing connections to their lives, impromptu story telling). The decoding elements of the program (e.g., phonics instruction) should be embedded in these conversations to ensure the child's contributions are representations of their learning and understanding, not simply choral or rote responses to stimulus.

***Recommendation 3e***

BbP educators should introduce 1 one 1 interactions (or 1 adult with two children – very small groups) in addition to whole and small group activities. For example, if educators implemented four 1 on 1 interactions per day (e.g., while other children engage in whole group activities) then all children within the class could expect 1 on 1 time on an approximately fortnightly basis. This is an opportunity to gauge progress and ensure children are on track to demonstrate growth. This is also where the research indicates is a vital aspect of effective pedagogy (Sparling, 2011).

***Recommendation 3f***

BbP should explicitly aim to impact the home learning environment. There is a natural opportunity to do so as many parents stay near to the library during the sessions. This includes findings ways to bring parents into the classroom and provide information to them about providing a more cognitively stimulating home learning environment. This does not require parents to be literate. For example, parallel- and self-talk within the model of enriched caregiving could be a useful model to coach families in (in addition to library book lending) (Sparling, 2011).

### ***Recommendation 3g***

BbP should enact creative solutions to providing professional learning within the PNG context. This should involve a mix of communities of practice, formal learning, and professional learning programs. Developing a community of practice is likely the simplest to implement. For example, BbP could ensure each centre has 2-4 days per year where they visit another BbP site (or a school or ECEC centre outside Port Moresby) to undertake observational work of other educator's practice and provide critical feedback and reflect on their own practice (the current monitoring framework could be used in this context, as could other frameworks more oriented towards language and instruction (Cloney, 2018; Cloney & Hollingsworth, 2018)).

There should be a clear focus on ensuring there are opportunities for professional learning for those teachers not in Port Moresby.

This recommendation is likely to be an enabler for the rest of the recommendations above, particularly the establishment of networks through PNG or Australian educational organisations.

#### **Australian Government support**

The Australian Government should also support BbP to form relationships with vocational training organisations, universities, and civil society organisations as sources of other professional learning programs and opportunities. This is particularly true for those teachers not in Port Moresby where a significant challenge was reported in accessing opportunities for mentoring or professional development. There are example models for example a program run through Queensland Australia (Brownlee, Farrell, & Davis, 2012).

## **16.4 Assessment**

### ***Recommendation 4a***

The design of the assessments should be reconceptualised to better reflect a holistic approach to learning and a balance across the five building blocks. The design should be reviewed by an assessment expert.

#### **Australian Government support**

The Australian Government should support BbP to identify an assessment expert (e.g., within GoPNG or in another international organisation).

#### ***Recommendation 4b***

The assessment questions are revised and reviewed by an assessment expert to ensure their validity. This includes the use of appropriate stimulus, the response categories, and the scoring. This may also include the use of items or subtests from established measures including existing international assessments appropriate to the context (e.g., use items from EGRA (Gove & Black, 2016), MELQO (United Nations Educational, Scientific and Cultural Organization, 2017), IDELLA (Save the Children, 2017)).

#### **Australian Government support**

The Australian Government should provide support where necessary to access assessment expertise and if recommended to access items from existing measures. For example, the Australian Government is involved in projects in the Philippines that have entered into an memorandum of understanding with Save the Children to access IDELA items.

#### ***Recommendation 4c***

A valid methodology for reporting data and the measurement of growth is developed and reviewed by an assessment expert. This includes the psychometrics of the assessments (e.g., having link or common items, or undertaking a study with link or common students) as well as the analysis and reporting (for example, some account of measurement error should be made in the reporting). To compare tests and measure improvement requires psychometric linking of tests intended to be of increasing levels of difficulty to the same scale (Wright & Masters, 1982; Wright & Stone, 1999). This is likely beyond the resources of BbP. Creating parallel forms, where different tests of equivalent difficulty are administered at different times also allows valid comparisons, providing the equivalence in difficulty of the parallel forms has been established according to psychometric standards.

A simpler alternative that can potentially support valid comparisons is to administer the same test three times. However, there are problems with this approach. One disadvantage is students may remember the test. In the BbP context, they are actually unlikely to remember the phonics, and pre-writing components. The picture prompts could be changed for comprehension, providing pictures of a similar level of familiarity were used. One way around this is to develop 10 questions of increasing levels of difficulty for each section and stop the administration in that section once the child gets two questions in a row incorrect and move to the next section. The unanswered questions in each section are assumed to be incorrect.

Australian Government support

The Australian government should facilitate a consultation with a measurement expert to make recommendations about options to ensure the assessments are fit for purpose. This should include estimates of the financial and human investments necessary to undertake new work.

***Recommendation 4d***

Revise the BbP standards so they better reflect a holistic program and accurately reflect the redesigned assessments. Ensure the standards describe clear stages in the progressive development of key skills in each domain using positive language to describe what children can do at each level. That is, the standards should describe a progression of learning.

***Recommendation 4e***

Train the BbP educators to administer and interpret the assessments themselves. This may or may not be used for the purpose of evaluation of the BbP program, but would support educators to better understand the skills underlying the learning progression they are supporting children to develop along.

***Recommendation 4f***

The assessments should be conducted at the same time. For example, in a reference week or month, or alternatively on a child's birthday (so the assessments would happen on the child's 5<sup>th</sup> birthday for example). If not, BbP should consult a statistician on how to best control for child age and the duration between assessments in the reporting of growth.

Australian Government support

If necessary the Australian Government should support BbP to seek measurement advice regarding controlling for child age in assessment, particularly where related to reporting growth.