

Strengthening Foundational Literacy: A process and outcome evaluation of the Wordworks Early Literacy Programme

Dissertation by Alicia Okeyo

OKYALI001

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Compulsory Declaration

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.

Signature:  **Date:** 15/12/2015

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EXECUTIVE SUMMARY

The purpose of this evaluation was to investigate the effects of a volunteer-run, school-based Wordworks Early Literacy intervention that was implemented in the Western Cape for struggling Grade One learners at risk of falling into the Learning Achievement Gap. The process evaluation investigated the extent to which volunteers received adequate training to deliver the programme to learners, as well as the perceived benefits that volunteers gained from this experience. The outcome evaluation investigated the extent to which several literacy and psychosocial development indicators improved amongst children who took part in The Wordworks Early Literacy Programme (ELP).

Secondary data from volunteer programme records such as attendance of training sessions, volunteers' reasons for leaving the programme where applicable, and a Volunteer Feedback survey detailing perceived benefits of volunteering, were analysed to ascertain the volunteer outcomes. Secondly, data from learner assessments measuring changes in literacy indicator variables (such as letter knowledge, sentence construction ability, and reading ability), in 3 cohorts of learners enrolled in the programme, were analysed. Cohort 1 consisted of the 2014 12-month programme, Cohort 2 of the 2014 6-month programme and Cohort 3 of the 2015 6-month programme. Thirdly, qualitative data from responses given in a Teachers Feedback survey, detailing perceived changes in learner psychosocial well-being, were analysed.

The results of the process evaluation showed that there was perfect attendance of training sessions by all 117 volunteers, and approximately 79% volunteer retention. The majority of the volunteers continued to serve on the programme for more than a year after their training, with the average duration of service being 3 years and 11 months. Perceived benefits gained from the volunteering experience were: gaining skills that could be transferred to teach their own children at home or other children within the community, gaining a deeper

understanding and empathy for learners struggling with literacy achievements, and an opportunity to interact with and share ideas with other volunteers. Those volunteers who left the programme gave the following reasons: gainful employment and the lack of incentives to stay on the programme.

The results of the outcome evaluation showed significant differences in mean assessment scores for all literacy indicators when comparing baseline to follow-up assessments. Cohort 1's results were as follows: learners' letter knowledge showed significant improvement at both mid-year and year-end assessments. On average, sentence construction abilities improved and the results for reading ability also showed significant improvements. The results of Cohort 2 showed significant improvement in learners' letter knowledge even after only 6 months on the programme. Cohort 3 showed similar improvements in letter knowledge, with the greatest improvement being in learners who attended a higher number of lessons.

The results for the outcome evaluation also showed a mix of positive and negative observations from the Learning Support Teachers on learner psychosocial well-being indicators. Several positive observations, like learners' improved classroom participation, greater learner confidence, improved ability to engage with peers and ask questions, and improved response to instructions given by the teachers, were reported.

In conclusion, the process evaluation has shown that continuous volunteer training, motivational incentives, and adequate selection criteria are important for ensuring positive volunteer outcomes in a volunteer-run early literacy intervention. Despite the positive improvement observed in learner outcome in both literacy and psycho-social development, the design of this evaluation (i.e. a single group pre-test post-test, quasi-experimental design), does not allow us to attribute the improvements to the Wordworks ELP alone.

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INTRODUCTION

Language and literacy skills at a young age are an essential part of a child's educational success and individual future potential (Diamond, Gerde, & Powell, 2008; Methula, n.d.; O'Carroll & Hickman, 2012; Wilson, Dickson, & Rowe, 2013). Literacy is especially important to nurture in early childhood years, when children are most susceptible to, and most able to grasp complex new ideas and concepts (Methula, n.d.; O'Carroll & Hickman, 2012). Unfortunately, this is not always achieved, especially in disadvantaged communities where poverty is one of the major problems that lead to poor early literacy in children, according to Wilson *et al.* (2013). This is often the case for children from African families who are exposed to English for the first time during Grade One (Methula, n.d.; Wilson *et al.*, 2013). The significance of later exposure to English literacy is that children learning English as a second language have been shown to be at more at risk of struggling to acquire adequate literacy and language skills. Therefore, they tend to fall into the Learning Achievement Gap more often than children who are mono-lingual in English (Wilson *et al.*, 2013; Rodgers, Wang, & Gómez-Bellengé, 2004).

To ameliorate this problem, the Wordworks Early Literacy Programme (ELP) has an approach to learning that recognises that nurturing good literacy skills in young children promotes a stronger learning foundation for children at risk of falling into the Learning Achievement Gap, and for children at risk of requiring supportive or remedial services (Wordworks, n.d.a). The Wordworks ELP is for learners in the final year of pre-primary schooling (hereafter referred to as Grade R), and learners in Grade One. The Wordworks ELP aims to strengthen early literacy and language in children (especially second-language English speakers) within disadvantaged communities by training teachers, volunteers and parents, and by allowing children to participate actively in their own learning (Wordworks,

n.d.a). The volunteer training approach is generally applicable to most contexts where ELPs are a clear need (Wordworks, n.d.a), and success of ELPs often depends on the quality of training that volunteers receive (Hanemann, 2006; Otaiba, Schatschneider, & Silverman, 2005; Wasik, 1998). Success of ELPs also depends on whether the school's management invests in and supports the programme, and how the management decides to implement the programme in their specific socioeconomic environment (Wordworks, n.d.a).

The aim of this dissertation is to assess whether a volunteer-run, school-based ELP such as the Wordworks ELP, improves literacy and language skills of young children from communities in the Cape Town Metro South Educational District (MSED).

Programme Description

The programme description below was compiled from information obtained from the following sources: the Wordworks organisation's website (<http://wordworks.org.za/>), the Wordworks Early Literacy Programme information sheet (Wordworks, n.d.b), which details the programme's activities; an online video titled "About Volunteering", which explaining the volunteers' activities (<https://www.youtube.com/watch?v=AetJdp2PY4M>); the Wordworks volunteer manual (O'Carroll, Setton, & Twiss, 2014b); the Early Literacy Programme Assessment Kit (O'Carroll, Setton, & Twiss, 2014a), and detailed discussions with the programme director and programme manager.

The Early Literacy Programme (ELP) was launched in 2005 as one of several other long-term initiatives implemented by the non-profit organisation Wordworks. The ELP was launched in four South African provinces; namely, the Western Cape, Eastern Cape, Gauteng and Kwa-Zulu Natal (Center for Education Innovations, 2013). For the purpose of this dissertation, the

focus will primarily be on the ELP in the Western Cape, specifically the greater Cape Town area.

Currently in its tenth year of operation, the Wordworks ELP is run by the programme manager Sue Setton, under the direction of the Wordworks programme director, Dr Shelley O'Carroll. The Wordworks ELP is funded largely by the DG Murray Trust, and several other donors including The Learning Trust and others (Wordworks, n.d.c). The Wordworks ELP has the explicit goal of providing “young children with the support they need to learn to read and write successfully” (Wordworks, n.d.b, Early Literacy Programme, n.d., para. 1). More specifically, the programme goals are the following:

- To provide tailored and targeted support for learners in their last year of pre-primary school through to first grade, aimed at strengthening their oral language, early reading, and writing capacities.
- To facilitate empowerment and capacity building in organisations especially in under-equipped schools, in order to support early literacy and learning of young learners at these schools.
- To provide adequate structure and expertise to people willing to give their time to offer support to young children struggling with reading and writing.

The programme manager conceptualizes the problem that Wordworks' wishes to tackle, as a need to support the formalized education system that is often not equipped to help Grade One learners who are at risk of not coping with the high standard of reading and writing they are expected to learn within the curriculum (S. Setton, personal communication, March 2, 2015). Often these children may not have had access to the best quality Grade R (or pre-primary) schooling, nor have they been exposed to books written in English at a young age. This compromises their ability to identify and sound out letters, or to read and write in English.

The resulting poor English vocabulary, and English oral language skills means these children are not able to read and write at the expected level for their age (S. Setton, personal communication, March 2, 2015).

Additionally, the majority of young learners targeted by the Wordworks ELP come from backgrounds where English is not their home language; principals who recognise this fact often approach Wordworks with a vision of setting up an ELP site at their school. The approach to early literacy that Wordworks takes is a language and games approach; one that maximizes children's need to learn while having fun, through ensuring that children have an active role in their own learning (O'Carroll, Setton, & Twiss, 2012; S. Setton, personal communication, March 2, 2015). According to O'Carroll, Setton, and Twiss (2012), Wordworks' well-trained programme staff recognise that children's confidence, which is vital for learning, is boosted when their contributions to their own learning are valued, especially in a one-on-one, non-threatening learning environment.

The target group of the ELP are ideally children in Grade R and Grade One, or children aged five to eight years old who are learning to read and write in English and Afrikaans. Occasionally, the ELP programme is implemented in schools for children who are slightly older (usually Grade Two learners), but who have not yet acquired the basic and age-appropriate level of literacy skills (O'Carroll, Setton, & Twiss, 2014b).

Beneficiaries of the Wordworks ELP programme are the learners, most of who are enrolled in under-performing, poor schools, where families of these learners generally need added support to help their children reach a high standard of reading and writing. Additionally, there is a separate group of primary beneficiaries – the volunteers, whom also draw benefit from the implementation of the ELP.

According to personal communication with Setton (2015), volunteers often express gratitude for being able to receive training to become tutors for the learners. The Wordworks ELP not only benefits the children, by allowing them the experience and opportunities to engage in reading and writing activities, but also benefits the volunteers who gain useful skills and knowledge (O'Carroll, Setton, & Twiss, 2012; S. Setton, personal communication, March 2, 2015).

Implementing the Wordworks ELP in underprivileged communities does have its challenges. Research shows that under-resourced schools frequently struggle with large class sizes in run-down facilities due to lack of adequate tuition resources, and limited or lacking well-developed remedial services. Also, there are often high incidences of low study motivation, low self-esteem and low language proficiency common amongst learners in these schools (Kamper, 2008; O'Carroll, Setton, & Twiss, 2012). Wordworks aims to mitigate this in the Cape Town area, through implementing annual ELPs at disadvantaged schools, as advised by the MSED of the Western Cape. By partnering with Wordworks, MSED is able to pick out which schools they would like Wordworks to implement the intervention in. In a minority of cases, schools that may have heard of the programme have approached Wordworks proactively to ask them to implement the programme in their school.

The Western Cape Educational Department divides the Cape Town educational area into different sections, known as the Northern, Central, East and Southern areas. These are then divided into districts, and districts are further divided into circuits. In Cape Town, the majority of schools running the Wordworks ELP are in the MSED (i.e. Metro South Educational District) and the Metro Central Educational District. Within the MSED, the circuits in which the programmes are implemented depend on the need flagged by district. This is vital in order to offer much-needed, targeted support to teachers who often do not

have the time or capacity to help those learners who are struggling to make adequate progress in Grade One.

In 2014, schools in the MSED where the Wordworks ELP was implemented included those within circuits six and seven – the Mitchells Plain area, comprised of several sub-areas including Woodlands, Lentegour and Westgate, Cape Town. This follows on from the implementation of ELPs between 2007 and 2013, which were mostly concentrated in circuits one to three; including areas in Cape Town such as Oceanview, Masiphumelele, Vrygrond, Lavender Hill, Lotus River, Retreat, Ottery, Westlake and Grassy Park (S. Setton & S. O’Carroll, personal communication, March 2015).

The Wordworks ELP is divided into three phases, namely the training of volunteers, assessments of learners at baseline, and lastly, the running of literacy workshops for learners before repeat assessments (O’Carroll, Setton, & Twiss, 2014b; <https://www.youtube.com/watch?v=AetJdp2PY4M>). The Wordworks ELP, based in the Cape Town area, sets out to train volunteers with no prior formal educational training, but with an interest in, and passion for, teaching children. The key stakeholders responsible for implementation of the programmes are programme co-ordinators, the volunteers, and indirectly also the school’s Learning Support Teachers and the Wordworks programme staff. Figure 1 explains how the programme’s key stakeholders engage with it.

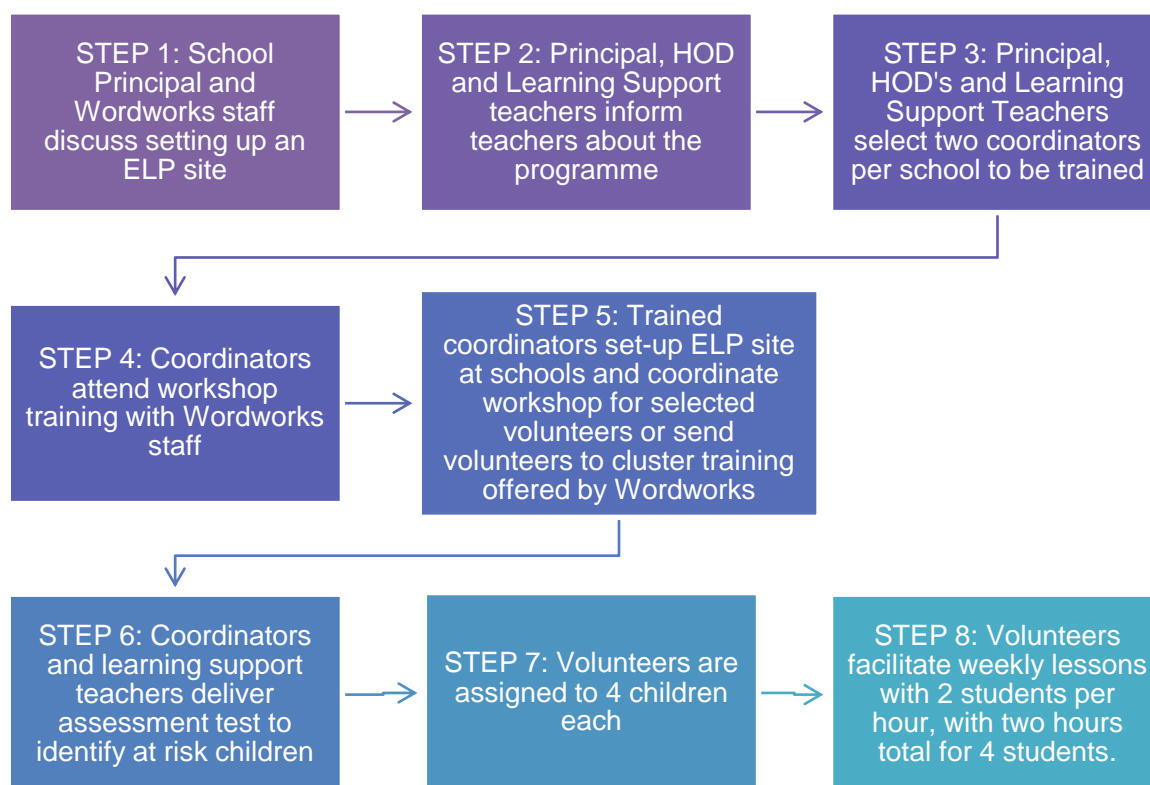


Figure 1. Service Utilisation Flow-chart for volunteers of the Wordworks ELP.

The first step of the programme involves identifying the eligible schools and learners; Wordworks staff will often meet with school principals (following advice from the Western Cape Educational Department) and explain to them what the ELP is and what it aims to achieve at their school. Within each school the Learning Support Teachers, the Foundation Phase Head of Department, and the principal then select two eligible persons to be trained in a two-day workshop with Wordworks, to become programme coordinators (O'Carroll, Setton, & Twiss, 2014b; S. Setton, personal communication, March 2, 2015). There are no formal criteria for selecting a programme coordinator, besides the recommendation from a Learning Support Teacher or school principal. Wordworks encourages schools to select their own site staff in order to facilitate internal school-level commitment to the programme (S. Setton, personal communication, March 2, 2015).

Learning Support Teachers are also trained by Wordworks programme staff to select children for the programme on the basis of three areas: firstly, children who had little or no knowledge of letters or sounds in Grade R, secondly, children who lack self-confidence in communicating in English, and lastly, children with just below average test scores for literacy and oral language.

Programme coordinators are vital to the set-up and smooth delivery of the programme at various ELP sites. Once trained, the two coordinators at each school are responsible for setting up the ELP site and its resources, and for identifying and selecting eligible candidates to be trained as volunteers.

During their three hour training session volunteers are given a guided outline detailing how to work with children, and a volunteer pack complete with various teaching aids. The contents of the volunteer pack include a number of standard items such as a whiteboard, dice, two counters, several board games, an alphabet chart, and picture cards (including letter-sound cards, consonant-vowel-consonant (CVC) word cards, high frequency word cards, and story books) (O’Carroll, Setton, & Twiss, 2014a). The story books are graded as follows:

Table 1

Colour-coded system for graded reading books at ELP sites.

Type of Book	Level of difficulty
Pink readers	<ul style="list-style-type: none"> Level one – easiest books, consisting of one sentence per page or repetitive words linked closely to the picture
Green readers	<ul style="list-style-type: none"> Level two – next level of difficulty, characterised by more than one sentence per page and more difficult words
Blue Readers	<ul style="list-style-type: none"> Level three – consisting of simple stories with more difficult varied words.
Storybooks	<ul style="list-style-type: none"> These are used to read to Grade R learners in the programme.

Note. Adapted from information in Wordworks, *Grade One Early Literacy Programme Volunteer manual*, 2014.

Once trained, each volunteer is familiar with how to use the contents of their reading pack and the school's ELP site. Volunteers are then randomly assigned to four children (two children per one hour for a minimum of two hours a week), with whom they work for a minimum of a six month period. Each volunteer must agree to commit at least two hours a week to the programme for six months, but in reality most children require up to a year's worth of sessions with their volunteer. Volunteers are advised of this in advance. Volunteers work with the same child for this six month period to promote consistency, routine, and to build a personal bond between volunteer and child (O'Carroll, Setton, & Twiss, 2014b; <https://www.youtube.com/watch?v=AetJdp2PY4M>). Wordworks volunteers work directly with the children, while the programme coordinators are responsible for monitoring and documenting the child's progress through the programme, for suggesting changes and activities to tailor the programmes to differing contexts, and for liaising with the Wordworks programme staff. There may also be opportunities for volunteers to attend extra workshops offered by the programme coordinator throughout the six month period.

The programme coordinators are also responsible for assessing the knowledge and literacy level of a child who has been referred to them by the Learning Support Teachers, in order to confirm that the child is a suitable candidate for the programme. They do so by administering a screening assessment at the beginning of the year and repeat assessments periodically thereafter. At the Grade One level, the assessments occur three times a year: at the beginning, the middle and at the end of the year. In Grade R, assessments occurs mid-way through the year (to accommodate those children that may not know much at the start of Grade R) and at the end of the year. If a child proceeds to the Grade One programme after completing the Grade R programme, the final test score in Grade R programme serves as the screening test in the Grade One programme (S. Setton, personal communication, March 2, 2015; O'Carroll,

Setton, & Twiss, 2014b). Assessments typically have a language and a games component.

The following table summarizes the assessments for Grade One and Grade R learners.

Table 2

Types Assessment for Grades R and One

Grade One		Grade R	
Assessment	Activities	Assessment	Activities
Beginning	<ul style="list-style-type: none"> • Write your name • Write some letters • Write some words • What sound do the words start with 	Mid-year	<ul style="list-style-type: none"> • Draw a picture of yourself • Write your name • Write some letters
Mid-year	<ul style="list-style-type: none"> • Write some letters • Spell some CVC words (e.g. cat, net, pot etc.) • Write a sentence • Read sight words (the, my, box etc.) 	Year-End	<ul style="list-style-type: none"> • This assessment is the same as the “beginning of Grade One” assessment, should the child continue on afterwards.
Year-End	<ul style="list-style-type: none"> • Write some letters • Write a sentence • Read sight words • Write a story about a picture card 		

All activities in the assessments are graded according to a scoring guideline available in the Wordworks ELP Assessment Kit booklet (O’Carroll, Setton, & Twiss, 2014a).

As a summary to the assessment process, Figure 2 explains how the secondary beneficiaries, the children, progress through the programme. A detailed explanation of this process will follow thereafter.

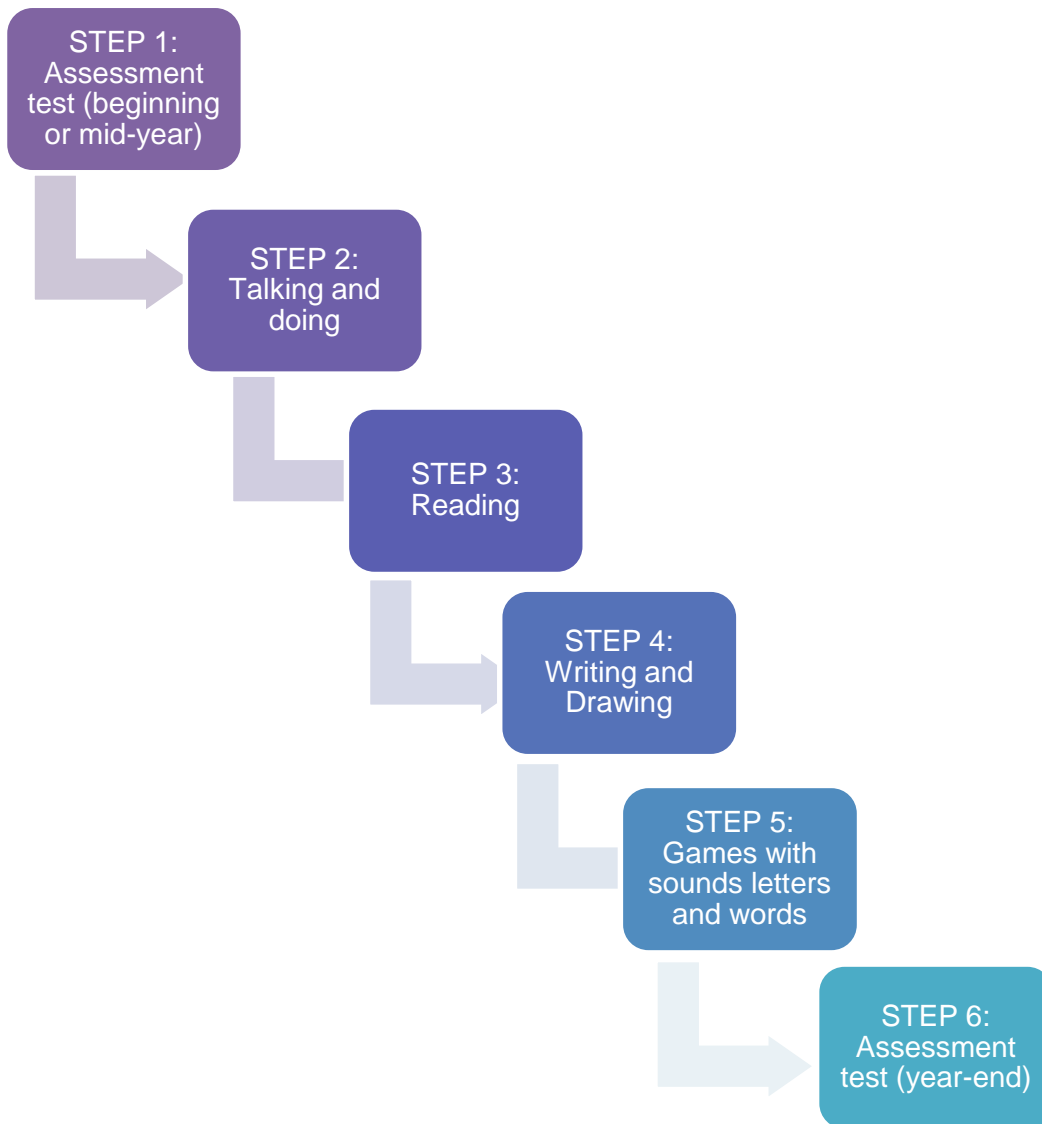


Figure 2. Service Utilisation Flow-chart for learners in the Wordworks ELP.

Once the children have been selected by means of screening assessment scores and recommendation from Learning Support Teachers, the literacy programme is then implemented. Each lesson, consisting of different parts, follows the same structure that is specifically designed with an interactive, stimulating and non-threatening approach in mind (<https://www.youtube.com/watch?v=AetJdp2PY4M>).

The first part of each lesson is called “Talking and Doing” (O’Carroll, Setton, & Twiss, 2014a, p. 10). The volunteer prepares a book or picture sequence to present. Children are then

encouraged to talk about what they see in the book or pictures that are featured during that lesson. For most of these children, English is only ever spoken to them in the school setting; this exercise presents an opportunity for them to develop and experience the English language in a non-threatening environment, as they would with their mother-tongue at home. This is followed by the second part of the lesson, “Reading” (O’Carroll, Setton, & Twiss, 2014a, p. 12). Volunteers guide the children with how to sound out words and then ask them to repeat the sentence whilst reading it on their own. The third part of each lesson is called “Writing and Drawing” (O’Carroll, Setton, & Twiss, 2014a, p. 14). Volunteers ask the children to write or draw about something that they have read about in a book. Lastly, in the “Games with sounds, letters and words” section of the lesson (O’Carroll, Setton, & Twiss, 2014, p. 19), the volunteer facilitates many different activities to develop knowledge of letters, sounds and words (<https://www.youtube.com/watch?v=AetJdp2PY4M>). These include forming letters, sorting and matching games, racing car board games, dice games, finding the picture games, vowel and memory games, and bingo (O’Carroll, Setton, & Twiss, 2014a). By incorporating various activities, the Wordworks programme helps to create a diverse learning environment for learners.

Programme Theory

For the purpose of this section of the dissertation, focus will be on conceptualising a programme theory, which is defined as “the set of assumptions about the relationships between the strategy and tactics the programme has adopted and the social benefits it is expected to produce” (Rossi, Lipsey, & Freeman, 2004, p. 87). A programme theory is crucial for providing an early indication of potential programme successes or failures (Rossi *et al.*, 2004; Weis, 1998). Essentially, the programme theory acts to depict the sequence of activities within a programme that are intended to address the problem outlined in the needs

analysis. The programme theory is an essential first step to programme evaluation as it forms the basis for appropriate design of evaluation research, formulation of evaluation questions, and the systematic interpretation of evaluation findings (Rossi *et al.*, 2004). In some instances, the programme theory may be referred to as the Theory of Change, which can be defined as the assumptions made by programme stakeholders that inform the building blocks of the programme intended to bring about a long-term goal or outcome (Theory of Change, 2013).

The following programme theory or theory of change was developed from implicit details given by the programme director, Dr Shelley O'Carroll. Since no prior written or diagrammatic representation of the theory of change was available for the Wordworks ELP, one was compiled from a discussion with the programme director on how she understood the social problem identified, and the sequence of activities within the programme intended to address this problem. The programme director noted that the programme was based on, and inspired by, the mounting body of research evidence on the concept of the Learning Achievement Gap.

The Learning Achievement Gap describes the high incidence of certain demographic groups under-performing in literacy and numeracy, relative to other groups, often influenced by race and economic status (Rodgers *et al.*, 2004). This concept is the rationale behind the implementation of the Wordworks ELP, aimed at supporting those children in the Western Cape at risk of developing and/or expanding individual learning achievement gaps. Wordworks aims to equip learners with the literacy skills and capabilities, in order to lay the foundations that will begin to close this gap (S. O'Carroll, personal communication, March 31, 2015). The theory of change therefore assumes that a volunteer-driven, one-to-one, low-cost early literacy intervention at the beginning of school or at the end of pre-school will help

at risk children to close the Learning Achievement Gap for early literacy and language skills (S. O'Carroll, personal communication, March 31, 2015).

The Wordworks ELP's programme design is specifically based on the above, along with the realisation that the programme needed to work in the unique South African context, and could not simply be a mimicry of international early literacy programmes. To ensure that programmes that have been implemented at schools extend beyond the period of Wordworks' involvement with the school, Wordworks' staff aim to build programmes that can be sustained by the programme coordinators and volunteers even after Wordworks' staff have left the ELP site. The aim was, therefore, not to design a highly complex programme that achieves quality but cannot be sustained, but rather to find a balance between a high quality programme and one that can be sustainably delivered by volunteers with no prior educational qualifications. Thus, this low-dosage (once a week) programme is practically feasible in its given context (S. O'Carroll, personal communication, March 31, 2015).

The Wordworks ELP is based on an understanding of the core components of what children need to learn to read and write, which the programme director acquired during extensive doctoral research on the topic. Secondly, the programme design is based on knowledge of the average levels of literacy specific to the context of South African Grade One children. The programme is designed to target what children are missing, based on an understanding of appropriate behaviours and abilities expected at different ages of child development (Dawes, Bray, Kvalsvig, Kafaar, Rama, & Richter, 2004), but also to do so in a low socio-economic local context, in order to make the most impact. Therefore, only appropriate components are included in the programme as activities, inputs and outputs. These components are also those which programme staff felt would make the most difference given their understanding of the

South African context and what is feasible for non-qualified (but trained) volunteers to carry out (S. O’Carroll, personal communication, March 31, 2015).

In order to understand the causal chain of activities and inputs that are believed to lead to the desired objectives, a logic model representation of the programme theory may be useful. A logic model representation of programme theory details the steps taken from programme activities to outcomes (Rossi *et al.*, 2004) and can have various types of representations, informed by the understanding of how the programme is believed to bring about the desired change (Better Evaluation, 2013).

For the purpose of this dissertation, the pipeline logic model was chosen as an appropriate representation of the Wordworks ELP. Figure 3 depicts the model’s cause-and-effect sequence, which yields a better understanding of the activities thought to invoke a change in literacy levels of pre-school and primary schools children in the Western Cape (Buonaguro & Louw, 2014). There are two streams of beneficiaries depicted in the pipeline model: the volunteers and the learners, each of which have several outcomes.

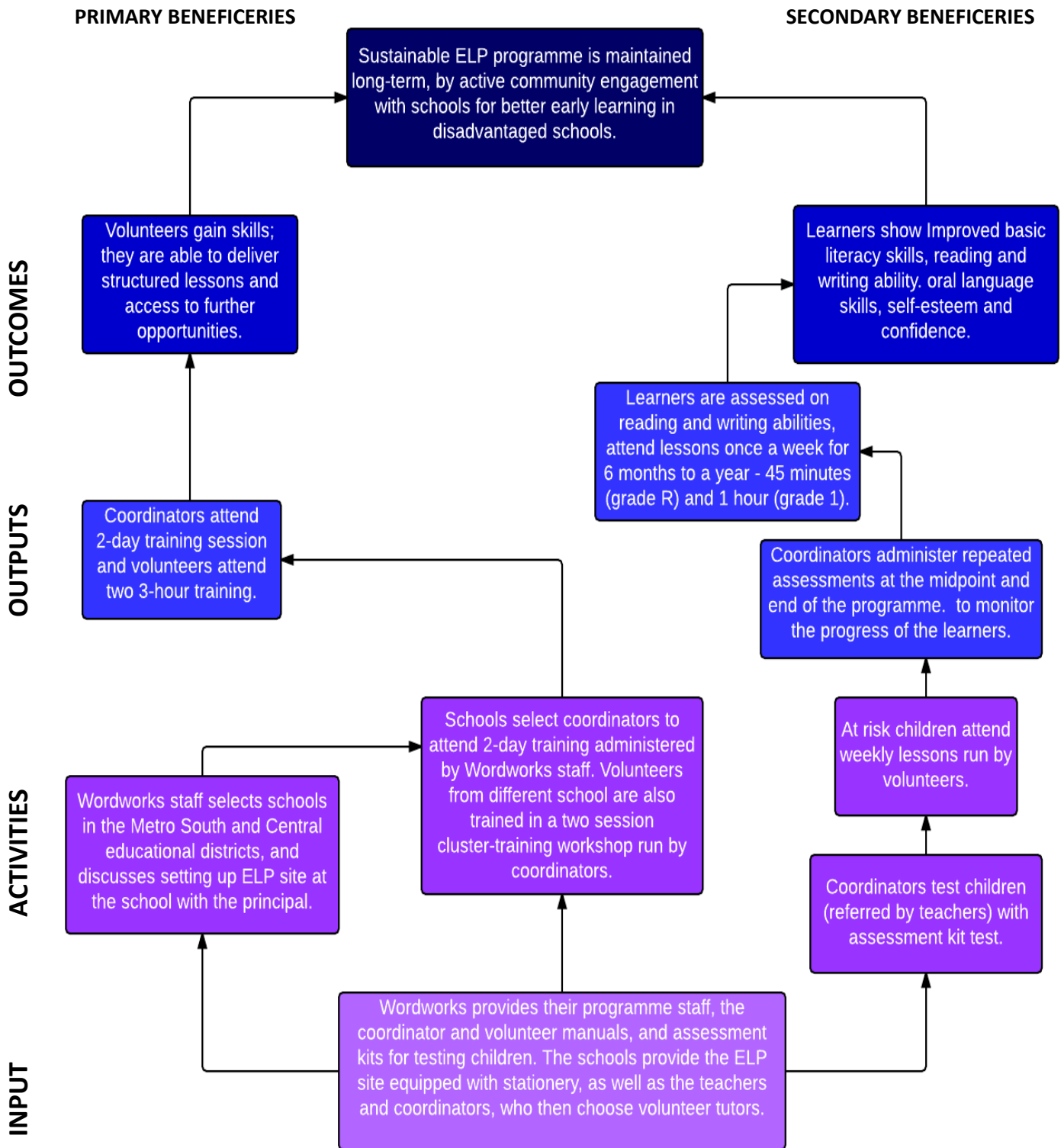


Figure 3. Pipeline logic model: cause and effect sequence of the Wordworks ELP.

The pipeline representation of the programme theory highlights the interconnected nature of the programme activities, outputs and outcomes, for both the primary and secondary beneficiaries (Better Evaluation, 2013). Following from important inputs provided both by the schools and by Wordworks staff, there are three activities that catalyse the causal chain namely: selection and training of the coordinators, cluster-training of the volunteers, and the initial assessment of children (referred by teachers) to identify at risk learners to enrol in the programme. These activities lead to various outcomes for the two groups of beneficiaries.

An evaluation of learner outcomes will form part of this dissertation. To do so effectively, the pipeline logic model in Figure 3 can be narrowed down to emphasise these outcomes, using what is known as an Outcome Hierarchy Representation. Better Evaluation (2013, p. 3) defines this as a “series of outcomes leading up to the impacts of a project, sometimes including different possible causal pathways”.

An Outcome Hierarchy representation of the logic model is useful, as it allows for a systematic review of the programme that may reveal issues or evaluation questions to be addressed or investigated, that may otherwise have been hidden from stakeholders and evaluators (Rossi *et al.*, 2004). Additionally, according to Buonagaro and Louw (2014), an outcome model representation gives an overview of programme impacts, starting with the immediate outcomes and following on to the desired long-term impacts. An outcome model is thus useful to limit discrepancies caused by lack of knowledge or understanding of the programme, among significant stakeholders. Buonagaro and Louw’s (2014) representation of the Outcome Hierarchical logic model is thus appropriately termed the Final Impact Theory (Buonagaro & Louw, 2013, p. 107) which has been adapted to inform the representation in Figure 4 below.

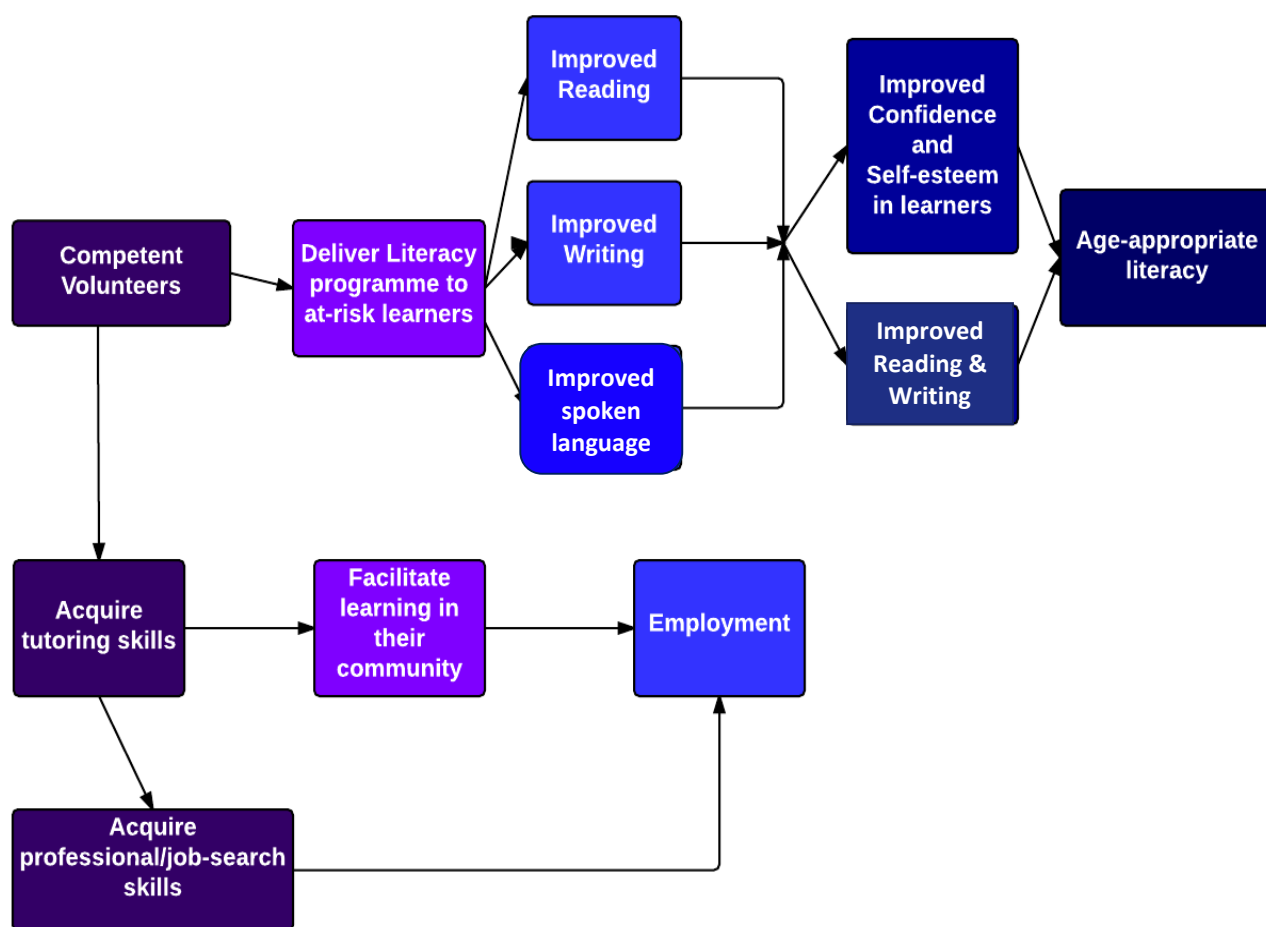


Figure 4. Outcome Hierarchical model for the Wordworks Early Literacy Programme (adapted from Buonagura & Louw, 2013, p. 107).

This diagram shows important outcomes, outlined by the Wordworks ELP programme director, in a hierarchical format. Low-level and medium-term objectives, that are easier to measure, are separated from more long-term impacts that may appear to be more abstract and difficult to measure. The most notable outcomes of the Wordworks ELP are the following:

Firstly, more children are able to read and write at the required level for school, and fewer children need remedial services. Additionally, but to a lesser extent, the Wordworks programme director mentions that improved self-esteem, confidence and social interaction

(i.e. psychosocial well-being) in learners are also a desired goal for the ELP. These two short- and medium-term outcomes lead to age-appropriate literacy.

Secondly, the programme director mentions the volunteer outcome of capacity building, to ensure that ordinary people from communities are able to help children learn to read and write. Additionally, a third objective is to equip volunteers with skills that they may transfer to other aspects of their lives, for example, job acquisition. Lastly, Wordworks seeks the outcome of a sustained role of coordinators and volunteers in successfully implementing and running the programme following their training, and without continued long-term input from Wordworks' staff. This is to ensure a long-term impact of improved community interactions between schools and community members who are able to play an active role in aiding the process of learning in young children (S. O'Carroll, personal communication, March 31, 2015).

Plausibility of the Programme Theory

The plausibility of the programme theory was determined by a short review of existing literature on the Learning Achievement Gap in disadvantaged communities, as well as research on how volunteer-run early literacy programmes, as compensatory tools for at risk learners, can positively affect age-appropriate literacy and language acquisition. The following literature review was constructed by searching through existing studies that support the above causality; i.e. that volunteer-run early literacy interventions can improve academic performance and future academic potential. The search was done on several databases, namely Google Scholar, Wiley Online Library, Science Direct and Ebscohost, using keywords and phrase including “early literacy programme”, “early literacy”, “learning achievement gap” and others. Key online journals, such as *Early Childhood Research Quarterly*, the *Journal of Early Childhood Literacy*, *Educational Psychology in Practice*

Journal, Social Science and Medicine Journal, Journal of Basic and Applied Social Psychology, and the *South African Journal of Education* are cited in this review.

The following plausibility section focuses on the components of successful literacy programmes, the benefits of school-based literacy programmes, the effectiveness of volunteers as literacy tutors, how much exposure to a literacy programme young children should receive, and whether literacy programmes also affect young children's psycho-social development. These assumptions were taken from the programme theory on page 16 and will be tested against existing social science literature.

Literacy: Its definition and constituent parts and context.

Literacy is a complex concept and numerous interpretations and elements are presented in different studies. However, Wilson *et al.* (2013) attempt to conceptualize literacy as the collective abilities of word recognition, writing and spelling skills, and language skills, which include comprehension and vocabulary. Essentially, literacy is composed of two equally important elements; namely, reading and reading-related activities, and secondly, writing. Diamond *et al.* (2008) noted, however, that there has often been less of an emphasis on the latter element of literacy, yielding many drawbacks as writing competence, especially in young children, is essential to promote early childhood literacy.

Writing competence nurtures the experience of distinguishing between different letters, draws the reader's attention to print and the structure of different letters, as well as the different sounds of letters and combinations thereof (Diamond *et al.*, 2008). Consequently, writing ability integrates important early literacy skills including knowledge of letters and phonological awareness - the awareness of the sound structure of words (Diamond *et al.*, 2008; Eunice Kennedy Shriver National Institute of Child Health and Human Development [NIH], 2013; Juel, 1988; Whitehurst & Lonigan, 2001). Both knowledge of letters and

phonological awareness are important for reading achievement (Campbell, Voelkl, & Donahue, 2000) and reading engagement (Ellis & Coddington, 2013; Stanovich, 1986). These elements therefore link writing competency inextricably with the ability to read in early childhood years.

An alternative perspective given by Nugent (n.d.) suggests that adequate literacy assessments must test for the three “literacy basics” (Nugent, n.d., p. 2), namely skills for reading aloud, alphabet skills, and skills for spelling in English, which are the foundations for age-appropriate literacy (Nugent, n.d.). This would make sense as knowledge of letters is previously shown to be necessary for adequate writing ability and for spelling words correctly. Additionally, because adequate writing ability integrates with phonological awareness, Diamond *et al.*, 2008 duality approach to early literacy; emphasising reading and writing equally, relates well to Nugent’s (n.d., p. 2) “literacy basics” approach. Effective ELPs geared towards building literacy skills in young children must recognise both these approaches and focus equal attention on testing the acquisition of reading and writing alike. Having identified that the Wordworks ELP pays equal attention to both reading and writing in its activities, and tests for these equally, the following additional topics are addressed.

Early literacy: The need for supplementary support for young children.

Research has shown the importance of nurturing literacy in early childhood years, when children are most susceptible to new concepts (Methula, n.d.). O’Carroll and Hickman (2012), and Methula (n.d.) particularly emphasise that children are most adept to learn between the ages of zero to five years old. Ages three to four years are prime for cognitive development that is required for a child to be stimulated via numeracy, literacy, logic and critical thinking; all of which are essential for the progression through schooling years later on in the child’s life (O’Carroll & Hickman, 2012; Methula, n.d.). The ability of a child to

learn a new language (especially a second language) fully develops between the ages of five and seven years old, due to simultaneous development of enhanced memory ability, problem-solving skills and flexible creative thinking in a child. However, research has shown that for this to occur, the foundations for literacy aptitude should have been laid long before a child's fifth birthday; as the window of opportunity begins to taper off towards a child's eighth year (Methula, n.d.).

Unfortunately, this is not always possible especially in disadvantaged communities where poverty is one of the major problems that lead to poor early literacy in children (Wilson *et al.*, 2013). Compounding this is the fact that there are two concrete issues simultaneously at play: the first is that many teachers in underprivileged schools lack a methodological approach, or expertise to be able to meet the knowledge and skill gaps present in at risk children (Kamper, 2008; Methula, n.d; O'Carroll & Hickman, 2012), often due partly to the limited remedial services available to aid struggling young learners. The second is the Learning Achievement Gap itself, which is said to be evident in children from as early as preschool years. The Learning Achievement Gap is shown in research based on assessments of language development, letter-recognition abilities and phonological awareness between groups of different races and social classes (Rodgers *et al.*, 2004; West, Denton, & Reaney, 2000; West, Denton, & Germino Hausken, 2000). Research shows that another important element essential to literacy acquisition; reading ability, is especially compromised by the Learning Achievement Gap (Campbell *et al.*, 2000; Ellis & Coddington, 2013; Stanovich, 1986). Learners that have difficulty with reading ability early on in their academic careers often continue to struggle for years to come (Juel, 1988; Vellutino & Scanlon 2002; Rodgers *et al.*, 2004).

A study by Taylor, Fleisch, and Shindler (2007) shows a similar situation to be the case in the South African context, and specifically the Western Cape context. Additionally, Spaul (2013) cites inequality as a substantial problem for South Africa. As many as 75-80% of all learners in South Africa are still subjected to a poor educational system, characterised by numerous barriers to learning such as poverty and low socio-economic status (Spaul, 2013). The effects of this appear in literacy tests that have been administered within the Western Cape, which reveal that 80% of children within the province who are in former “white” primary schools are able to read at the required level for their grade. In former “coloured” schools, however, a less favourable statistic prevail, with less than half of the children being able to read at their required level. The worst case is by far the children in former “black” schools, where statistics show that only four out of every one hundred children are able to read at their prescribed level (Taylor *et al.*, 2007, p. 2). Despite all of this, the South African Department of Basic Education has only recently (as late as 2011) implemented ECD policies that aimed to standardise the literacy and numeracy assessment of public school educational in an effort to improve educational quality (Department of Basic Education (DBE), 2014).

The dire state depicted by these statistics emphasises the continuous existing need for appropriate supplementary literacy and language support for children, especially those faced with compounding socio-economic difficulties that further impede their achievement potential. The above review of previous studies acts as a rationale for the usefulness and efficiency of a programme such as the Wordworks ELP in disadvantaged contexts.

Early literacy: It starts at home.

Research shows that only a small proportion of children younger than 3 years old attend registered early childhood development (ECD) centres, as the majority of these children are cared for at home (Albino & Berry, 2013). Therefore, in these instances where attendance of

registered ECD centres prior to Grade R is limited, home-based support could be important to ensure that a child's school readiness is achieved. Christian, Morrison and Bryant (1998) further state that the most salient influence in a child's early development is their family and home environment.

Social class dimensions and paternal attitudes within the family have been shown to be a major influence on early literacy development in children, through home-based programmes. For example, middle to upper class families often nurture childhood literacy simply by exposing their children to books in the home and bedtime story sessions (Brooker, 2002), while in low-income families, children may be at risk of literacy difficulties. Parents in low-income households often have limited vocabulary and poor reading ability in English, rendering their efforts to teach their children unsuccessful (Hsieh, Hemmeter, McCollum, & Ostrosky, 2009). Moreover, South Africa's poor households are characterised by several risk factors, including domestic violence and other forms of physical and emotional abuse, which impact differently on children depending on their socio-cultural context (Franklin, 1995; Gran, 2010).

Despite its positive effect on childhood literacy and language acquisition, there is one predominant problem with the home-based literacy programme that threatens its internal validity. The successes of a home-based intervention approach cannot be attributed solely to the intervention itself. This is due to the simultaneous compensation that may occur when children go to, for example, a day-care facility (Bennet *et al.*, 2002), exposing them to a myriad of other positive effects (including cognitive and behavioural competencies, nurturing of communication skills, memory enhancement and language comprehension etc.), that will act to supplement home-based programme. This realisation inadvertently supports the emphasis of a more controlled setting such as a school-based programme approach to early

literacy interventions that can much more easily be theorized and implemented, to ensure that the programme process is likely to lead to desired outcomes. The school-based approach is used by the Wordworks ELP.

School-based programmes.

School-based early literacy programmes recognise that nurturing literacy skills should not be a stand-alone activity, but one that is embedded in ECD within pre- and primary schools. Children who are enrolled in a high quality ELP as part of an overarching ECD programme have been shown to have a stronger learning foundation, be less likely to repeat grades, more likely to finish school, and less likely to require supportive or remedial services (Wordworks, n.d.a). This is due to the fact that quality school-based programmes foster a positive learning environment through three core dimensions of classroom practices; namely, structured instructional content, effective instruction by a supportive adult, and adequate teacher-child relationships (Howes, Burchinal, Pianta, Bryant, Early, Clifford, & Barbarin, 2008). Qualified instructors, the ratio of instructor to number of children, and the learning environment (i.e. including the general infrastructure as well as the presence of instructional content within classrooms), are mentioned in research as important components of school-based programmes (Howes *et al.*, 2008). Fewer number of children per qualified instructor allows for the instructor to engage with children better (Howes *et al.*, 2008). Moreover, research also suggests that appropriate teaching materials (such as books and educational games), and effective teaching instruction (i.e. including routine classroom sessions, play sessions, problem-solving activities, and activities to nurture memory and reasoning) are also deemed important in previous research (Howes *et al.*, 2008).

The Wordworks ELP for Grade R and Grade One learners aims to nurture English literacy skills in young children, by training teachers and volunteers as capable instructors responsible

for facilitating the intervention at different school sites (Wordworks, n.d.b). Additionally, Wordworks provides each ELP site with instructional material in the form of a Volunteer Pack and various teaching aids, as mentioned in the programme's description. To ensure that volunteer-child relationships are successfully forged, each volunteer only works with two children at a time, and with the same children for the duration of the programme. According to Howes *et al.* (2008), this sense of familiarity from a closer interaction between instructor and child, contributes to a child's sense of security and acceptance in the classroom environment, and improves child learning outcomes. Therefore, based the cited research, it is likely that the components of Wordworks ELP as a school-based intervention, are plausible.

Volunteers as programme implementers.

Volunteering, which South, Purcell, Branney, Gamsu, and White (2014) define as an act of selflessness to bring about a social change, is often an important part for the success of school-based interventions. Volunteering in the Wordworks ELP is characterised by two main activities, namely; the training of volunteers who are unqualified, and the delivery of structured lessons to at risk learners by the trained volunteers. Research shows that trained volunteers are the more effective as tutors and facilitators in early literacy programmes than those who are untrained (Hannemann, 2006; Otaiba, Schatscgneider, & Silverman, 2005; Wasik, 1998). A study by Invernizzi, Rosemary, Juel, and Richards (1997) suggests that even unqualified volunteers with no professional teaching experience, similar to those in the Howard Street, Chicago after-school tutoring programme and the Charlottesville Volunteer Tutorial programme called Book Buddies, can deliver effective literacy interventions to struggling young learners, provided they are well-trained. Additionally, a continuous training approach (Fitzgerald, 2001), where volunteers attend regular, short training sessions, or a peer-advocating training approach (Day, Martin, Sharp, Gardner, & Barham, 2013), where

more experienced volunteers support newer volunteers, have been shown to positively influence volunteers' success. This is especially true in a context where volunteers show a high degree of self-motivation (Elliot, Aurther, & Williams, 2000; Houle, Sagarin, & Kaplin, 2005), and commitment to serving on a programme (Bortree & Waters, 2014; Clary & Snyder, 1999; Clary, Snyder, & Stukas, 1996).

Commitment to service stems, perhaps, from the fact that that volunteer-run programmes do not focus solely on the training of volunteers, but also on the perceived positive outcomes that the volunteer draws from the experience of volunteering (Gidron, 1978; Primavera, 1999, Houle *et al.*, 2005). The Wordworks ELP's activities (including training of volunteers and volunteers' delivery of the programme) conform to the recognition of the importance of prioritising positive volunteer outcomes. By offering training to self-motivated, unqualified volunteers, the Wordworks ELP increases the chance of volunteers being more effective programme implementers. This is likely to lead not only to the outcome of adequate delivery of the programme to the learners by well-trained volunteers, but also to benefits for volunteers who gain valuable experiences and skills. However, positive volunteer experiences do not necessarily ensure adequate programme delivery by the volunteers (Houle *et al.*, 2005).

Programme Dosage.

Another key component that plays an important role in effective early literacy interventions is dosage. Dosage can be defined as the quantity or amount of the intervention that participants receive (Wasik, Mattera, Lloyd, & Boller, 2013). Dosage is linked to other important factors related to intervention implementation including implementation fidelity, intervention quality and exposure to the intervention; all of which determine the effectiveness of an intervention,

its internal validity and the achievement of its outcomes (Rossi *et al.*, 2004; Wasik *et al.*, 2013).

In the Wordworks ELP, dosage influences two very important programme elements, namely; the amount of training that volunteers and teachers receive in preparation for working with young learners, as well as the amount of time that the volunteers spend delivering the programme. According to Wasik, *et al.* (2013), it is important to include dosage within a programme model. Dane and Schneider (1988) add that by doing so, measures for dosage can be included into outcome analysis during evaluations. Research in early literacy suggests that accounting for dosage not only recognises that some disadvantaged learners need more of the intervention than others (Ron Nelson, Benner, & Gonzalez, 2003), but also recognises that higher dosage of programme delivered to children can produce greater and more long-lasting positive effects (Halle, Calkins, Berry, & Johnson, 2003). Rossi *et al.* (2004) add that programme evaluation is about making judgements on programme implementation, outcomes and efficiency. Ensuring a quality programme is delivered by trained facilitators, at an adequate dosage to intended recipients, is a critical part of this. Therefore, by including dosage in their programme model, the Wordworks ELP is able to make important judgements about the quality of programme implementation, and the exposure to the programme that is necessary to achieve desired programme outcomes.

Early literacy and psycho-social well-being.

According to Pinnell, Lyons, DeFord, Bryk, and Seltzer (1994), Vygotsky's Social Development Theory of learning in young children is based on the assumption that children learn through the meaning they construct from significant social interaction, which precede their full cognitive development and the development of consciousness (Learning Theories, 2016; Vygotsky, 1978). The Social Development Theory articulates that children learn

through social interaction by drawing knowledge from anyone that has a better understanding or a higher ability level than the child, such as a teacher or a parent (Learning Theories, 2016). Pinnell *et al.* (1994) suggest therefore that children who are placed in a supportive social context, where an adult helps children to solve problems and find meaning and patterns from abstract concepts, will be far more able, and likely to learn to do this on their own in future.

A study conducted by Rodgers *et al.* (2004) in Ohio State of the United States of America, shows that a well-known educational intervention called Reading Recovery is based on the assumption of Vygotsky's Social Development Theory of learning. In the study, 4764 randomly sampled first grade students were disaggregated into groups according to race and social-economic status, which resulted in the emergence of a Learning Achievement Gap evident in students with lower social-economic status. Rodgers *et al.* (2004) show that students that received the Reading Recovery intervention were successful in closing this gap. Apart from its notable success, the Reading Recovery programme is of particular interest as it follows much the same activities as the Wordworks ELP.

The Reading Recovery programme incorporates the approach of a one-on-one session coordinated by a trained teacher, offering a supportive social interaction with an adult to children at risk of literacy difficulties. Children are selected for the Reading Recovery programme via an individual screening of their reading and writing abilities. The screening does not, however, place emphasis on a child's perceived academic intelligence. Based on the assumption of the Social Development Theory of learning, any child who is identified as being at risk of learning difficulties can benefit from a socially supportive context and quality social interaction with a supportive adult, regardless of their baseline grade scores. The Reading Recovery intervention is also designed and implemented for young children at

school-starting age, as soon as they show signs of being at risk for learning difficulties. This has been shown to help struggling children in Grade One to progress to average literacy level (Pinnell *et al.*, 1994). The Wordworks ELP is also based on a similar assumption of the Social Development Theory of learning. Following a screening and selection process similar to that of the Reading Recovery programme, the Wordworks ELP focuses on improving the social context to promote learning to read and write, rather than focussing on improving a child's grades. This approach may too be successful for the Wordworks ELP, as it has been for the Reading Recovery programme.

In addition, successes of some early literacy programmes have been shown to be far more widespread than simply influencing positive literacy acquisition in children. For example, according to Gouws (2016), early-childhood educational interventions succeed in affecting cognitive development as a whole by influencing the way a child thinks, feels and interacts with themselves, their environment and with other individuals, i.e. their psycho-social well-being. Childhood psycho-social well-being is heavily dependent on a child's sense of security in family relationships and in a predictable school and community environment (Gouws, 2016). Psycho-social well-being has been shown to be important for socio-emotional self-regulation during childhood, and is required for learning achievement especially in Grade One (Boyd, Barnett, Bodrova, Leong, & Gomby, 2005). Additionally, a study by the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) Institute for Lifelong Learning (2015), based on the Organisation for Early Literacy Promotion's (OELP) Early Literacy Project in India, was successful in fostering a community-wide culture of learning and empowering locals with skills and capabilities to improve the quality of childhood education.

In conclusion, the prevailing assumption is that a volunteer-run, school-based early literacy intervention, implemented by effective, adequately trained, and intrinsically motivated volunteers, may influence an improvement in learner literacy and psycho-social outcomes. This is dependent, however, on the dosage of the programme delivery, the context, and on a child's risk profile.

Evaluation Questions

The main aim of this dissertation is to determine whether the activities of the Wordworks ELP programme results in improved literacy and language ability in Grade One learners, and concurrently whether the training and experience that volunteers in the programme receive results in increased level of skills or positive benefits for future prospects. First, a process evaluation is presented. This can be defined as the monitoring process design to assess whether a programme is being delivered to its intended recipients, in the way that is true to its original designed (Rossi *et al.*, 2004). Following the process evaluation an outcome evaluation is then presented. An outcome evaluation can be defined as the assessment of the extent to which a programme results in the desired change in the social condition it is intended to ameliorate, as well as the status of programme recipients had they not received the programme (Rossi *et al.*, 2004). An effective outcome evaluation must measure the programme effect and be able to attribute the change in the problem that is being addressed to the programme effect alone (Rossi *et al.*, 2004). The following process and outcome questions are based on the programme theory outlined earlier in this chapter.

Process Evaluation questions related to primary beneficiaries (i.e. volunteers).

- 1) Do selected volunteers attend all the training sessions?
- 2) Do volunteers who have attended training remain on the programme and deliver regular lessons for a 6 month to one year period?

- 3) From the perspective of the volunteers, what perceived value does the training that they receive have in increasing their skill level?

Outcome Evaluation questions related to secondary beneficiaries (i.e. learners).

- 4) Do learners who participate in the programme improve significantly in age-appropriate language use and literacy when assessed at six months and at one year into the programme?
- 5) Do learners who participate in the programme show an improvement in psycho-social well-being?

In the next chapter, the plan for answering these evaluation questions will be discussed.

CHAPTER TWO: METHOD

The plan for conducting the process and outcome evaluations of the Wordworks ELP is described in detail below.

Research Design

The research design for this evaluation is outlined in two phases; firstly, detailing the design for the process evaluation, and thereafter the design for the outcome evaluation.

Process evaluation.

For the purpose of the process evaluation, a descriptive design was used, which Marlow (2005, p. 333) defines as the “process of recording and reporting phenomena, not primarily concerned with cause”. The process evaluation was based on quantitative data (see evaluation questions 1 and 2) and qualitative data (refer to evaluation question 3). The two data types allow one to understand how the programme works, who its participants are (i.e. both the learners and volunteers), as well as the perceived benefit that volunteers derive from the Wordworks programme.

Outcome evaluation.

The outcome evaluation examined whether the Wordworks ELP programme yields age-appropriate literacy and language skills, and psychosocial well-being in at risk learners. A single group pre-test post-test, quasi-experimental design with repeated measures was deemed appropriate to evaluate whether or not the learners are better off after participating in the Wordworks ELP than before. The single group pre-test post-test design was suitable also for showing changes in Wordworks ELP participants by computing the difference in their pre-test and post-test assessment scores (Spector, 1981). Although direct causality may not be attributed to the programme (Spector, 1981), we may assume with caution that a change

between pre-test and post-test scores may be due to the Wordworks ELP; especially in learners identified with already low language and literacy abilities at the onset.

Participants

Two groups of participants formed part of this evaluation; the volunteers and the learners.

Volunteers.

The full cohort of 117 volunteers currently active in the schools that were specified by the programme director in the 2014 cohort, comprised the sample of volunteers in this evaluation. Demographic profiling of the sample of volunteers reveals that most were coloured ($N = 59$) and white ($N = 10$) unemployed women, who were mostly mothers or grandmothers of children in the Wordworks programme. English and Afrikaans dominated as the home language of most volunteers, with a majority of volunteers being bilingual. A large proportion of volunteers, however, did not specify their demographic information, and therefore could not be profiled. There was no volunteer sample selected from the 2015 cohort.

Learners.

The sample of learner participants for this evaluation was comprised of Grade One learners from both the 2014 and 2015 cohort of Wordworks ELP school sites in the Western Cape's Metro South Educational District (MSED). Specifically, schools were based in the Cape Town areas of Mitchell's Plain, Ocean View, Fishhoek, Gardens, Retreat, Eastridge, Portland, Beacon Valley, Lavender Hill, Lenteguur and Lotus River. The sample of schools was selected by the programme manager through purposive sampling, with the explicit aim of only selecting the schools that had sufficient and completed data records to be included in the evaluation. The learner participants in both the 2014 and 2015 cohorts were then further divided into three subgroups as follows.

Participants in the 2014 cohort were divided into two subgroups; the first group consisted of Grade One learners who were enrolled in the Wordworks ELP for 6 months, and the second consisted of learners who were enrolled for 12 months, due to little improvement in their first 6 month period, when assessed by the volunteers and Learning Support Teachers. The analysis in Chapter 3 will treat these groups separately. The 2015 cohort comprised solely of a single group of participants on the 6-month programme. Table 3 summarizes the exact number of participants in each group.

Table 3

Summary of Participants

Cohort	2014		2015
Number of schools	14	14	13
Type of programme	6 month programme	12 month programme	6 month programme
No. of Participants	184	235	377
Total (N)	419		377

Materials and Data Providers

The Table 4 below describes the data and data providers required for the process and outcome evaluation.

Table 4

Data and Data Providers

Evaluation Question	Materials	Data Providers
Process Evaluation		
1) Do selected volunteers attend all the training sessions?	Volunteer Attendance Register	Programme staff and Schools' ELP site staff
2) To what degree do selected volunteers who have attended training remain on the programme and deliver regular lessons for a 6 month to one year period?	Volunteer Attendance Register Volunteer Attendance Register (Section on Reasons for leaving)	Programme staff Schools' ELP site staff
3) From the perspective of the volunteers, what perceived value does the training that they receive have in increase their skill	Volunteer Feedback survey	Programme staff
Outcome Evaluation		
4) Do learners who participate in the programme improve significantly in age-appropriate language use and literacy when assessed at 6 months and at one year into the programme?	Wordworks Assessment Kit	Programme staff and Schools' ELP site staff.
5) Do learners who participate in the programme show improvement in psycho-social well-being?	Wordworks' Teachers Feedback	Schools' ELP site staff.

Procedure

The programme director gave permission to access and analyse the relevant secondary data as stipulated in Table 4. Additionally, ethical clearance was sought from the Commerce Faculty's Ethics in Research Committee, which provided consent for the analysis of secondary data, and anonymity of data.

Process evaluation.

The process evaluation was based on data from 2014 volunteers described previously. To answer evaluation questions 1 and 2, secondary data from Volunteer Attendance Registers, which included records of volunteers' reasons for leaving the programme, were analysed. Additionally, secondary data from the Wordworks Volunteer Feedback surveys were analysed to answer evaluation question 3. The Volunteer Feedback survey is a qualitative self-report provided by volunteers on their experiences of volunteering, as well as the perceived benefit they derived from the experience (See Appendix A).

Outcome Evaluation.

The outcome evaluation was based on data from both the 2014 and the 2015 cohort of learners. Three sets of secondary data formed part of the outcome evaluation, namely, Group 1: data from 2014's 12-month programme participants, Group 2: data from 2014's 6-month programme participants, and Group 3: data from 2015's programme participants.

In order to answer evaluation question 4 of the outcome evaluation, secondary data comprised of assessment scores for each learner, obtained via the comprehensive Wordworks ELP Assessment Kit (O'Carroll, Setton, & Twiss, 2014a), were analysed. The Wordworks ELP Assessment Kit (O'Carroll, Setton, & Twiss, 2014a) is a standard rating-scale scoring guideline developed by Wordworks staff, to guide school staff on how to assess the learners.

Data from all schools where the Wordworks ELP is implemented were collected using this rating-scale (see Appendix B).

The first measure of the Wordworks ELP Assessment Kit (O’Carroll, Setton & Twiss, 2014a) was a baseline screening test (hereafter refer to as Baseline) administered at each ELP school in February. Thereafter, two more measures were administered in June and December for the 12-month programme (appropriately referred to as the Mid-year and Year-End tests, respectively). Only one more measure was administered in June for the 6-month programme. Each of these measures were subdivided further into four composite test areas, which are summarised in Table 5 and 6 below. Table 5 details composite measures for 2014’s 12-month programme assessments, while Table 6 shows composite measures administered in both the 2014 and 2015’s 6-month programme assessments.

Table 5

Composite measures for Grade One assessments (for 12 month programme)

Baseline Assessments
Name
Known Letters
No. of Words
No. of Sounds
Mid-year Assessments
Known Letters
Spelling
Sentence Construction
Reading Ability
Year- End Assessments
Known Letters
Sentence Construction
Reading ability
Storytelling

Note. Adapted from information in Wordworks ELP Assessment Kit and information mentioned in Table 2.

Table 6

Composite measures for Grade One assessments (for 6 month programmes)

Baseline Assessments	Mid-year Assessments
Known Letters	Known Letters
Name	Spelling
No. of Words	Sentence Construction
No. of Sounds	Reading Ability

Table 6 reveals that different composite tests were used to assess learners at the different levels of the factor time (i.e. Baseline, Mid-year and Year-end). This is normal practice for age-appropriate assessments and to control for maturation. However, differing tests cannot be compared directly across the time factor. Therefore, only those composite assessment scores that were measured identically were compared as shown by the template in Table 7.

Table 7

Descriptive Analysis of comparable measures of assessment scores (6 and 12-month programmes)

Group 1: 12-month programme (2014)						
Comparable Variable	<i>Known Letters</i>			<i>Sentence Construction</i>		<i>Reading Ability</i>
Name						
Levels of the Factor Time	Baseline	Mid-year	Year-end	Mid-year	Year-end	Mid-year Year-end
Mean (M)						
Median (Mdn)						
Standard deviation (SD)						
Group 2: 6-month programme (2014)			Group 3: 6-month programme (2015)			
Comparable Assessment type	<i>Known Letters</i>			<i>Known Letters</i>		
Levels of the Factor Time	Baseline	Mid-year		Baseline	Mid-year	
Mean (M)						
Median (Mdn)						
Standard deviation (SD)						

Lastly, in order to answer evaluation question 5, secondary data from the Wordworks Teachers Feedback was analysed. The Wordworks Teachers Feedback is qualitative report that details the teachers' perception on the individual learners' growth in confidence, from their level of classroom participation, or other positive changes in psychosocial behaviour, following their participation in the ELP. This survey data was only available for the 13 schools in the 2015 cohort.

Data Analysis

The following analyses were used for the two different levels of evaluation.

Process evaluation.

Descriptive statistics were used for all quantitative data. The available qualitative data obtained from Wordworks Volunteer Feedback survey, and the records on volunteers' reasons for leaving, allowed for the reporting of frequencies and absolute numbers of the most common responses given by volunteers.

Outcome Evaluation.

Descriptive statistics, such as sample means, variances and standard deviations, were used to describe a change in learner assessment scores from baseline through to the end of the programme, for all three groups of participant data (as described in Table 7).

Inferential statistics were used to analyse the data for the three groups as in Table 8:

Table 8

Procedure for analysing learner data using repeated measures statistical analyses.

Variable Name	Analysis
Group 1: 12-month programme (2014) <i>N</i> = 235	
Known Letters	Repeated Measures ANOVA using January, June and November results
Sentence Construction	Dependent t-test using June and November results.
Reading ability	Dependent t-test using June and November results.
Group 2: 6-month programme (2014) <i>N</i> = 184	
Known Letters	Dependent t-test using Jan and June results
Group 3: 6-month programme (2015) <i>N</i> = 377	
Known Letters	Dependent t-test using Jan and June results

Table 8 shows that the Repeated Measures Analysis of Variance (ANOVA) test was used to assess whether there was a significant change in mean letter knowledge over time (Field & Hole, 2003, p. 183) in group 1 learners. In this case, the independent variable for the ANOVA was time, and assessment scores were the continuous dependent variables (Field & Hole, 2003). Additionally, mean assessment scores for the variables Sentence Construction and Reading Ability were compared using a Dependent (Paired sample) t-test at two levels of the time factor (i.e. mid-year and year-end).

Both the repeated measures ANOVA and the Dependent t-test were appropriate for this kind of analysis where the same participant group was tested more than once (Mays, 2014a; Mays, 2014b). The repeated measures ANOVA was used to compare means of the variable Known Letters because this variable was measured at three separate times throughout the year, while the Dependent t-test was used because there were only two measures for the variables Sentence Construction and Reading Ability.

Similarly, a Dependent t-test was used to analyse data from Group 2 and 3 to compare the mean assessment scores for the variable Known Letters. Thereafter, the change over time for all variables (represented by group 1) was plotted on a graph of average performance change over time, which will follow in Chapter 3.

Conclusion

The evaluation method outlined in this chapter is important and served as the plan of action to guide the completed evaluation process. The method clearly states what level of evaluation was done, and how the secondary data was used and analysed to inform judgements about the programme process and outcomes.

CHAPTER THREE: RESULTS

The results were presented based on the levels of evaluation and evaluation questions that were stipulated at the end of Chapter 1 (page 31- 32).

Process Evaluation

1) Do selected volunteers attend all the training sessions?

The programme description in Chapter 1 outlined the manner in which selected volunteers are trained. The programme director confirmed that the training in the Wordworks ELP was a one-off session with no further continuous training or assistance from the Wordworks programme staff. All 117 volunteers who were active on the programme had attended the training session.

2) Do volunteers who have attended training, remain on the programme and deliver regular lessons for a 6 month to one year period?

A total of 117 volunteers were trained at the start of the Wordworks ELP in 2014, including both those on the 6-month and the 12-month programme. The exact numbers of volunteers on each programme were not known. The duration of volunteering amongst this group ranged from those who began volunteering as early as 2010 to those who began in 2014. The majority of the volunteers served on the programme for more than one year, and the average duration of service was 3 years and 11 months. Of the total sample, 78.63% of volunteers ($N = 92$) remained active on and served for the duration of the 2014 programme (i.e. 6 months or 12 months). Only a small proportion of the volunteers who left the programme disclosed their reasons for leaving ($N = 25$). The reasons given by volunteers for leaving the programme are recorded in Table 9.

Table 9

Frequencies of given reasons for volunteer attrition in 2014.

Reason for leaving	<i>N</i> = 25
Gainful employment	8
No programmes incentives	4
Duties as a staff member or Wordworks mentor	3
Illness	3
Relocation (moved away)	2
Personal reasons (other)	3

3) From the perspective of the volunteers, what perceived value does the training that they receive have in increasing their skill level?

Available data for this question allowed for the reporting of frequencies and absolute numbers of the most common responses given by volunteers. Responses given to this question were grouped into two subsections; direct and indirect perceived benefits for volunteers. Direct benefits are those responses that were given by volunteers on the perceived benefits that the experience had at an individual level. Indirect benefits are those responses given by volunteers on their perception of how the programme benefited them through the influence it had on learners. The most commonly perceived direct benefits were team interaction and the sharing of ideas with other volunteers, and renewed patience and empathy for struggling learners. The most commonly perceived indirect benefit was the ability of volunteers to transfer what they learned while volunteering for Wordworks, to teach their own children or grandchildren at home. Table 10 summarises all volunteer benefits.

Table 10

Frequencies of direct and indirect perceived volunteer benefits in 2014.

Perceived Benefits	<i>n</i>
Direct Benefits (<i>N</i> = 62)	
Renewed patience and empathy for struggling learners	22
Team interaction and sharing of ideas with other volunteers	19
Skills acquisition and improved confidence	12
Gainful employment	2
Indirect Benefits (<i>N</i> = 55)	
Transfer of knowledge and skills to give back to community	18
Deeper understanding of how children learn to read	13
Interacting with children	11
Influencing improvements in learner progress and confidence	6

Outcome Evaluation

The following section describes the results from data used to answer outcome evaluation questions stipulated in Chapter 1.

4) Do learners who participate in the programme improve significantly in age-appropriate language use and literacy when assessed at 6 months and at one year into the programme?

To answer this question, the results of the analyses are presented for each group as was stipulated in Chapter 2.

Group 1: 12-month programme (2014).

Assessment scores from a sample of schools (*N* = 8) from the 2014 12-month cohort were analysed to ascertain whether there was a significant improvement in age-appropriate literacy. From the 8 schools, 235 learners were screened at baseline. However, the programme director noted that learners who were deemed competent from their baseline

assessment, did not continue with the programme. The exact number of these learners is not known. Table 11 below summarises how the initial sample size was further reduced.

Table 11

Sample size of learners selected from the 2014 and the 2015 cohorts.

	Group 1: 12-month programme (2014)	Group 2: 6-month programme (2014)	Group 3: 6-month programme (2015)
Total Screened Participants	<i>N</i> = 235 of 8 schools	<i>N</i> = 184 of 7 schools	<i>N</i> = 377 of 13 schools
Number of Cases with missing data	60	16	100
Attrition	35	15	22
Started late	19	26	2
Total selected for Sample	<i>N</i> = 121	<i>N</i> = 137	<i>N</i> = 253

A number of cases of missing data were present in group 1. The most common forms of missing data were cases with no record of number of lessons attended by the learner (i.e. dosage), or cases with missing composite test scores for each assessment as shown in Table 5 and 6. To deal with missing data in group 1 (*N* = 60), a deletion of all cases with missing data was carried out. This deletion also included cases with attrition; where learners were reported as having left the programmes before its completion (*N* = 35). One reason given for attrition from the sample of learners, was absenteeism during one or more of the assessments (*N* = 4). No other reasons for attrition were given for the remaining 31 observed cases. The deletion process excluded all cases with missing data and attrition from the overall data analysis as well (Myers, 2011).

To analyse data in group 1, IBM SPSS Statistics was used to generate descriptive statistics for the assessment scores from the sample of learner participants (*N* = 121). Measures of central tendency revealed an improvement in average learner scores for the variables Known

Letters, Sentence Construction and Reading Ability, throughout the programme. This is illustrated by a plot of mean scores as shown in Figure 5.

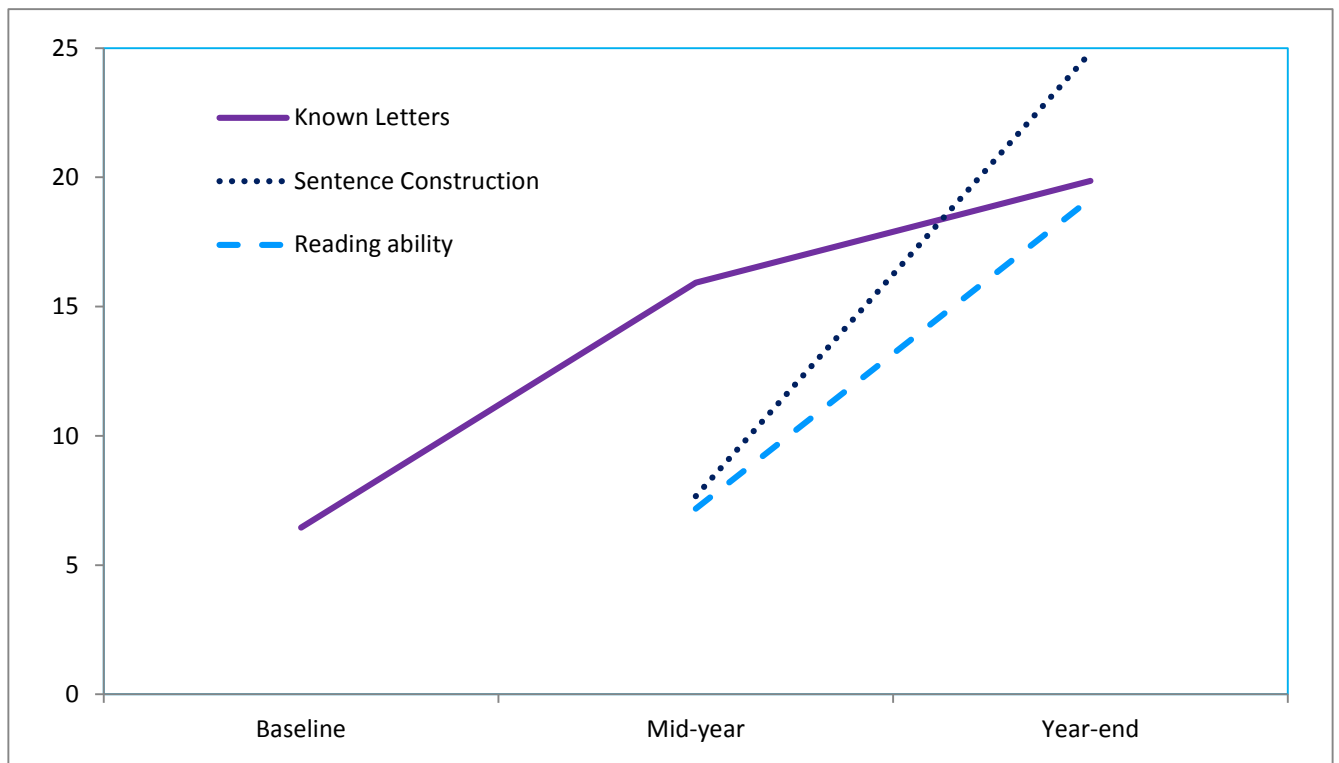


Figure 5: Time plot of average performance on the three variables.

To test the significance of these observed changes, an ANOVA and Dependent (paired-sample) t-test were used as stipulated in Chapter 2 (see Table 8). The Shapiro-Wilk's test for normality was used to confirm the normality of the sample distributions for variables in Table 8. The test reveals a significant result ($p < 0.001$), Therefore, both the ANOVA and Dependent t-test are valid for further analysis of Group 1 data.

The comparison of means of the variable Known Letters at the three time points using an ANOVA, indicates a significant change in letter knowledge. Mauchly's test indicates that the assumption of sphericity is violated ($\chi^2(2) = .946$, $p = 0.047$), or that we cannot assume equal variances between groups of assessment score data at the different time points. Therefore the Greenhouse-Geisser test for within subject effects was used: $F(1,85) = 358.72$, $p < 0.001$, and

the results were found to be significant. This means that the variable Known Letters increased significantly at each level of assessment, i.e. learners knowledge of letters had increased.

A Dependent (Paired-sample) t-test was used to compare the means of the variables Sentence Construction and Reading Ability at the two different time points. The results of comparing means of the variables Sentence Construction and Reading Ability at mid- and year-end, are as follows in Table 10. The difference in means scores for Sentence Construction was 17.17, CI [19.258; 15.080], with a 95% confidence interval, and that of reading ability was 11.97, CI [13.341; 10.386], with a 95% confidence interval.

Table 12

Result of the Dependent Sample t-test of Group 1 (N=121).

Comparable Variable Name	Mid-year		Year-End		t	df	p
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Sentence Construction	7.66	5.76	24.83	13.86	16,288	120	<.001
Reading Ability	7.18	6.60	19.15	12.58	15.030	120	<.001

Table 12 indicates a significant improvement in Sentence Construction and Reading Ability scores after the programme.

Group 2: 6-month programme (2014).

Assessment scores from a sample of schools ($N = 7$) from the 2014 6-month cohort were analysed to ascertain whether there was a significant improvement in age-appropriate literacy. From the 7 schools, 184 learners were screened at baseline, thereafter the final sample was selected as described before in group 1. As shown in Table 5, attrition, missing data and learners with a late start reduced the initial sample size to 137 learners, after a

deletion of cases was conducted, as before. Descriptive statistics, generated using IBM SPSS, are shown in Table 13.

Table 13

Descriptive Statistics of assessment scores: 2014's 6-month programme.

Group 2: 6-month programme (2014)		
Comparable Variable Name	<i>Known Letters</i>	
Levels of the Factor Time	Baseline	Mid-year
Mean (<i>M</i>)	5.5	15.90
Median (<i>Mdn</i>)	4.00	16.00
Standard deviation (<i>SD</i>)	4.04	5.537

Table 13 indicates that learners' knowledge of letters had improved after learners attended the programme. To test whether this observed difference in Known Letters was significant, a Dependent (Paired-Sample) t-test was used as before, with the results shown in Table 14.

Table 14

Result of the Dependent Sample t-test of Group 2 (N=137).

Comparable Variable Name	Baseline		Mid-year		t	df	p
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Known Letters (January start date, N =137)	5.5	4.04	15.90	5.573	24,403	136	<.001

Similar to the 12-month intervention's result, Table 14 indicates a significant difference in Known Letter scores following the 6-month long intervention. The difference in means scores for Known Letters was 10.4, CI [8.658; 12.280], with a 95% confidence interval.

Group 3: 6-month programme (2015).

The analysis of group 3 was designed in order to analyse the effects of programme dosage on learner performance. Assessment scores from a sample of schools ($N = 13$) in the 2015 6-month cohort were analysed to ascertain whether there was a significant improvement in age-appropriate literacy. From the 13 schools, $N = 377$ individuals, were screened at baseline, and selected as described before. Table 11 shows how attrition, missing data, and learners who started late in the programme were omitted to reduce the initial sample size to 253 learners.

In order to incorporate programme dosage into the analysis, data collected by Wordworks on number of lessons attended by learners, were used to categorise learners into high attendance and low attendances groups. The aim is to analyse not only if there is a significant difference in letter knowledge, but also if high attendance of classes influences improved letter knowledge substantially more than low attendance.

Descriptive statistics, generated using IBM SPSS are shown in Table 15 below.

Table 15

Descriptive Statistics of assessment scores: 2015's 6-month programme

Group 3: 6-month programme (2015)				
Comparable Variable Name	Low attendance		High attendance	
	<i>Known Letters</i>		<i>Known Letters</i>	
Levels of the Factor Time	Baseline	Mid-year	Baseline	Mid-year
Mean (<i>M</i>)	8.86	15.66	8.437	17.67
Median (<i>Mdn</i>)	7.00	16.00	6	19.00
Standard deviation (<i>SD</i>)	6.19	6.716	6.25	6.58

Table 15 indicates that learners' knowledge of letters improved when measured at the two time points. There was a greater improvement in learners who attended more lessons. To test

whether this result was significant, a Dependent (Paired-Sample) t-test was used as before. The results of the t-test are stipulated in Table 16 below.

Table 16

Result of the Dependent Sample t-test of Group 3 (N=253).

Comparable Variable Name:	Baseline		Mid-year		t	df	p
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Known Letters (Low attendance)	8.86	6.19	15.66	6.72	8.33	90	<.001
Known Letters (High Attendance)	8.44	6.25	17.67	6.38	14.90	140	<.001

Table 16 indicates a significant difference in Known Letter scores before and after the intervention in both subgroups, with the subgroup with higher attendance showing the greatest improvement in letter knowledge.

5) Do learners who participate in the programme show improvement in psycho-social well-being?

Programme records were obtained from a sample of 13 Learning Support Teachers Feedback surveys, from the same cohort of 2015 schools described previously ($N = 13$), where the 6-month long programme was run. These were analysed to ascertain the teachers' perception on overall improvement of learner psycho-social outcomes during and after the intervention. Firstly, comments for Learning Support Teachers on learner confidence, behaviour and participation, from a sample of $N = 284$ learners were analysed. The nature of these data allowed for the reporting of frequencies and absolute numbers of the most common responses given by Learning Support Teachers.

Learning Support Teachers mentioned that majority of the learners showed improved confidence ($N = 58$), active participation in class ($N = 51$) and a keenness to respond to questions ($N = 33$). Additionally, learners were reported as displaying an improved work ethic ($N = 7$), better communication, and mostly good behaviour. However, a number of negative traits were also reported in 55 learners, mainly consistent low levels of concentration ($N = 13$) and disruptive behaviour ($N = 11$). Fifteen learners showed little or no improvement in their behaviour and participation, and a further 22 learners showed low confidence, shyness and insecurity, which limited their social interaction with peers and their volunteers.

The second set of data to be analysed was comprised of comments from Learning Support Teachers' on learner reading, phonetic, and writing abilities throughout the intervention. Most of the improvements, according to the Learning Support Teachers, were reported to be on reading ($N = 68$) and phonetic abilities ($N = 58$). Sentence construction and speech in English were shown to be poor amongst a large proportion of learners ($N = 35$) and an additional 20 learners were reported as still being below the age-appropriate level of reading and writing for Grade One.

Conclusion

The results chapter detailed both volunteer and learner participant outcomes as observed from the analysis of secondary data obtained from Wordworks programme staff. The results revealed generally positive findings in volunteer training, retention and perceived benefits from the programme. Simultaneous positive learner outcomes are also noted, in both literacy skills indicators as well as indicators for psycho-social well-being. The implications of results will be discussed in detail in Chapter 4.

CHAPTER FOUR: DISCUSSION

This discussion chapter will be presented in the same order as the results of the evaluation questions presented in the previous chapter.

Process Evaluation

The following section contains a discussion and recommendations based on the process evaluation questions stipulated in Chapter 1.

1) Do selected volunteers attend all the training sessions?

There was perfect attendance of training by all volunteers who were active on the Wordworks ELP in 2014. This may be due to the fact that training of volunteers involved only a single session of training in the form of a cluster-training workshop for all volunteers, conducted by Wordworks programme staff. This perfect attendance rate is advantageous as well-trained volunteers act as the change agents who could bring about improved literacy in the programme's learner participants. Moreover, according to Wasik (1998), an inexperienced and untrained volunteer may do more harm than provide meaningful benefit by causing discouragement in at risk learners.

Volunteer Training.

Although trained volunteers are shown to be the most effective tutors in literacy programmes (Hanemann, 2006; Otaiba *et al.*, 2005; Wasik, 1998), there seems to be a contradiction of arguments on whether the number of training sessions influences volunteer effectiveness. Research has shown that a single volunteer training session may often offer an overwhelming amount of information for volunteers too early on in the programme (Fitzgerald, 2001). Research from the Charlottesville Volunteer Tutorial Book Buddies Programme (Invernizzi, *et al.*, 1997; Otaiba, *et al.*, 2005) suggests that quality training of even those volunteers who

are unqualified can help them to deliver interventions successfully. However, rather, than a one-off training session, the Book Buddies programme used a more extensive, long-term training approach, with on-going assistance and support from qualified teachers (who are knowledgeable about how children learn to read). Another alternative to the undesirable one-off training might be, perhaps, a minimalist, continuous training approach similar to that in Fitzgerald (2001), where volunteers attend regular training sessions conducted by programme coordinators. This may prove both effective and cost efficient in the Wordworks ELP's context.

2) Do volunteers who have attended training, remain on the programme and deliver regular lessons for a 6 month to one year period?

Overall, the majority of the trained volunteers remained as active programme participants and delivered weekly lessons to learner participants (i.e. $N = 92$ out of 117 trained volunteers). However it is not known what proportion of these remained active on the 6-month and 12-month programmes. The selection process of volunteers may have played a role in the attrition of the remaining 25 volunteers. As was discussed in Chapter 1, trained volunteers were selected from eligible candidates by the programme coordinators at each ELP school site. There were, however, no formal selection criteria for screening volunteer candidates prior to training, and selection was based solely on the discretion of the programme coordinator. This method of selecting volunteers could be problematic, and may have led to the observed volunteer attrition rate reported in Chapter 3.

Volunteer Selection and Retention.

In an evaluation conducted by Elliot et al. (2000) on the effectiveness of volunteers in a reading tutoring programme, volunteer candidates who initially showed interest in the programme were interviewed and screened for their suitability for the role of volunteer (Elliot

et al., 2000). Only those candidates who performed well in the interview, and expressed commitment to the programme, were chosen as volunteers (Elliot *et al.*, 2000). In this way, a more proactive and thorough process of selecting and screening volunteers, yielded greater volunteer retention and positive volunteer outcomes. Such a selection process may be useful for the Wordworks ELP.

Despite the lack of initial selection criteria, the majority of Wordworks' volunteers generally displayed a commitment to service on the programme, an important indicator for success of volunteers. Commitment to service by volunteers also correlates with greater productivity, improved well-being, strengthening of social relationships with other volunteers, and building of new skills, which influence the success of general programme outcomes (Bortree & Waters, 2014; Clary & Snyder, 1999; Clary, Snyder, & Stukas, 1996). Therefore, research has shown the importance of selection criteria to volunteer retention. Coupled to this, Wordworks staff should also be aware of the kind of issues mentioned in Chapter 3 as reasons for volunteer attrition, namely, gainful employment and/or other professional commitments, the onset of illness or moving away, and no incentives to stay on the programme. Wordworks programme coordinators and Learning Support Teachers especially, who are responsible for the selection of volunteers, should be aware of these issues in order that they might inform future selection and bolster support processes for the primary beneficiaries of the Wordworks ELP.

3) From the perspective of the volunteers, what perceived value does the training that they receive have in increasing their skill level?

Following training, volunteer experiences on the Wordworks programme were wholly positive, with many participants perceiving both individual benefits as well as benefits for the programme's learner participants (p. 41, Chapter 3). The greatest individual benefits

mentioned by volunteers included the platform to interact and share ideas with other volunteers, a renewed sense of patience and empathy for struggling young learners, as well as a means to gaining the self-confidence and level of skill required to teach young children. Perceived volunteer benefits that affect learners directly included the transfer of skills to teach other children in the community, and the overall notable progress in learners.

Houle, Sagarin, and Kaplan (2005) suggest that understanding one's perception of increased skills such as these (i.e. both professional and interpersonal skills) due to the experience of volunteering, can help one to understand the motivations that drives individuals choose to undergo training as a volunteer, or the role that volunteerism plays for different individuals. In this case, a probable function of volunteering may be career development, where volunteering serves as a means to acquire new skills and as a "stepping stone to employment" (Houle *et al.*, 2005, p. 338). It was noted in Chapter 3 that two volunteers did in fact gain employment based on their experiences as Wordworks participants. Secondly, a social function of volunteering may also be assumed, where subtle social pressures act as a normative influence persuading women in communities where Wordworks functions to take up volunteering, for the sense of belonging and fellowship that comes with the experience (Houle *et al.*, 2005). Lastly, a third function of volunteering in the Wordworks programme may be an understanding function, where the experience not only provides an opportunity for personal growth (Gidron, 1978; Primavera, 1999, Houle *et al.*, 2005), but also a deeper understanding and social awareness of the extent of poor literacy in the Western Cape, and the plight of struggling young children.

Understanding how motivations or functional approaches of volunteerism match with commonly perceived benefits amongst Wordworks volunteers, has important implications for positive results in volunteer outcomes (Houle *et al.*, 2005), despite there being no direct

causal link between volunteering, personal growth and volunteer outcomes (Primavera, 1999).

Recommendations for Volunteer Participants

Based on discussions for questions 1, 2 and 3 previously, the following recommendations for the Wordworks ELP staff are offered.

The first recommendation is that a minimal training approach, similar to that in Fitzgerald (2001), should be used to train new volunteers. Wordworks could retain the one-day training model, as lengthier training sessions may be too arduous. Additionally, it is recommended that a peer-advocating training approach (Day *et al.*, 2013) be used. Peer advocating may act as a multiplier model of participatory volunteering, where more experienced Wordworks volunteers who have already been trained by Wordworks staff and have been serving on the programme for longer, can offer follow-up training, mentoring, and on-the-job support to newer volunteers throughout the programme's duration (Day *et al.*, 2013).

As mentioned in Chapter 1, Wordworks aims for programme sites to be self-sufficient by allowing school management to invest in and support the implementation of the programme in their specific context. Therefore, the second recommendation is that both the programme coordinators and the Learning Support Teachers be responsible for selecting peer advocate volunteers from the previous years' volunteer cohorts, who should serve as continuous trainers and mentors to new volunteers. This approach may compensate for instances where the initial one-off training approach currently used to train volunteers may not be enough to achieve quality training, or may be too information-heavy for volunteers (Fitzgerald, 2001; Hanemann, 2006). It is also advantageous in the low socio-economic context where most Wordworks school sites operate, to keep programme costs low. By allowing experienced

volunteers to act as continuous trainers and mentors, no funds are required for additional training by Wordworks staff.

Lastly, based on the knowledge of the issues that contribute to volunteer attrition from the programme, it is recommended that volunteer retention be improved by addressing the issues through non-monetary rewards. Often, the most common solution for attrition due to lack of incentives is to offer monetary incentives to volunteers. However, previous research cautions against this as this would no longer be deemed true volunteering. Indeed, as South *et al.*, (2014) remark, the altruism of volunteering differs from low paid community work that aims to bring about change within a community. Moreover, South *et al.* (2014) warn that payment for volunteering may become problematic when a rate lower than an appropriate minimum wage is considered exploitative. Therefore, instead of monetary incentives for volunteers, Wordworks could focus on the motivations that volunteers have for participating on the programme, and align programme rewards and activities with these (Houle *et al.*, 2005; South *et al.*, 2014). For example, volunteers may be more intrinsically motivated to remain on the programme if they have a personal relationship with Wordworks staff and there is a sense that they are valued by Wordworks. Additionally, allowing volunteers to contribute their ideas and unique experiences when implementing programme activities, and rewarding them with validation by accepting their approach to volunteering, may aid Wordworks staff to build longer lasting connections with quality, self-motivated volunteers.

Outcome Evaluation

The following section discusses findings and recommendations based on the outcome evaluation questions stipulated in Chapter 1. Please note that the results of the outcome evaluation have to be interpreted with caution, as the participants were pre-selected by the programme director from schools where the programme had sufficient programme data.

These results are therefore typical of schools where the programme is well-run and monitoring happens on a regular basis.

Early childhood literacy standards.

Early childhood literacy standards are important in understanding and monitoring what is appropriate at different ages of child development, and how these behaviours and abilities change in children over time (Dawes *et al.*, 2004). In the South African ECD context, the emergence of early literacy skills in children is grouped under the umbrella of standards for cognitive and language development (Dawes *et al.*, 2004). Notable age-appropriate literacy standards for children at Grade 1 level (5-8 years old) that have been suggested by Dawes *et al.* (2004), include recognising the names of common letters such as those in the child's name, the ability to read and comprehend all grade-level material, and the ability to engage in the writing process. However, age-appropriate standards are always influenced by individual differences in culture, poverty and inequality, and uneven societal development in South Africa, all of which affect childhood development (Dawes *et al.*, 2004).

In recent years, the South African government has implemented policy changes that have provided a standardised Annual National Assessment (ANA) test for literacy and numeracy (DBE, 2014; Spaull, 2013). The ANAs, defined as “external assessment involving all learners in all public schools”, were aimed at improving the quality standards of education in South Africa (DBE, 2014, p. 14; Spaull, 2013). Coupled to this, the DBE also developed a pilot rollout of standardised reading materials (i.e. storybooks) for all learners in Grade 1 to 3 (DBE, 2014). Despite these advances, Spaull (2013) comments that the dire situation of the South African educational system has not improved, stating that “...the vast majority of South African pupils are significantly below where they should be in terms of the curriculum, and more generally, have not reached a host of normal numeracy and literacy milestones” (p.

10). Moreover, the numerous barriers to learning – poverty, low socio-economic status, and all accompanying challenges, continue to affect children in former “black schools” (Taylor *et al.* 2007, p. 2), especially where they are characteristically far behind in age-appropriate educational level, when compared to the wealthiest 25% of learners (Spaull, 2013). Spaull (2013) concludes that the problem is compounded by the lack of external verification of these ANA assessments, making their validity questionable. This has led to numerous debates against the implementation of the ANAs in 2015. Long (2015) states also that many teachers feel that these assessments have become a means to “name and shame schools (and teachers) where the conditions are already very difficult” (para. 21) and therefore are destroying the culture of teaching and learning (Nkosi, 2015).

Amid this environment, the efforts of Wordworks play a vital role of targeting struggling young learners who are young enough to still fall within the window period for prevention of poor literacy, which influences educational success and future individual potential (Diamond *et al.*, 2008; Methula, n.d.; O’Carroll & Hickman, 2012; Wilson *et al.*, 2013). In doing so, Wordworks ELP strives to achieve specific outcomes in the absence of national standards for literacy. The programme outcomes are discussed as follows.

4) Do learners who participate in the programme improve significantly in age-appropriate language use and literacy when assessed at 6 months and at one year into the programme?

The results of the outcome evaluation showed that there was a significant change in learner performance on a standardised test at 6 or 12 months following a baseline measurement. Based on Nugent’s (n.d) suggested assessments for testing basic literacy, the Wordworks composite tests mentioned in Table 5 (see Chapter 3), (including tests for average letter

knowledge, average sentence construction ability, as well as an average reading ability and phonological awareness), are deemed appropriate for testing for the basics of literacy.

Outcome 1: Letter Knowledge.

The results in the present evaluation indicated that all participant learners (i.e. learners in all groups, see Chapter 3), showed improvement in average knowledge of letters. Learners in 2014's 6-month programme participants (Group 2, see Chapter 2) showed significant improvement in average knowledge of letters even after only 6 months on the programme, but a greater improvement was shown in those learners who had attended more lessons as shown by 2015's 6-month programme participants (Group 3, see Chapter 2). This implies that dosage of the intervention plays an important role in programme outcomes. It is important not only to include dosage in a programme model and to test for it, but also to distinguish between the different types of dosage (Wasik *et al.*, 2013). Dosage received, which is described above, differs from intended dosage, which would have been the number of lessons that Wordworks had intended for participants to attend. However, there is no standardised number of lessons for dosage that has been quoted as the ideal number in early childhood development research (Wasik *et al.*, 2013).

Outcome 2: Sentence Construction.

Results of the study also indicated a simultaneous improvement in the sentence construction ability on average in 2014's 12-month programme participants. However, responses based on the Teacher's Feedback survey suggested that sentence construction was still poor amongst a large proportion of learners. Research shows that programmes similar to the Wordworks ELP achieve improvements in indicators such as sentence construction primarily due to their inclusion of activities that target both reading and writing competency – two equally important elements of literacy, as suggested by Diamonds, Gerde, and Powell (2008). For

example the successful Reading Recovery programme (Pinnell *et al.*, 1994,) is based on the understanding that children who struggle with literacy achievements, lack the abilities to both read and write at the age-appropriate level, and therefore each element of literacy is dealt with, with equal emphasis. Specifically, Diamonds *et al.* (2008) state that age-appropriate writing competence in children cannot be achieved without first nurturing their knowledge of letters and phonological awareness (Juel, 1988; Whitehurst & Lonigan, 2001). Moreover, these elements of writing competence are important not only for sentence construction ability, but also act as predictors for attaining reading achievement and early literacy success (Campbell *et al.*, 2000).

Outcome 3: Reading Ability.

Mirroring the positive improvements of both average letter knowledge and sentence construction abilities, the results of the evaluation also indicated an improvement in reading ability (see Figure 5, see Chapter 3). Likewise, teachers' observations of learners from responses given in Teachers Feedback surveys suggested that reading and phonetic abilities showed the most improvement. An improvement in reading ability is perhaps the most important outcome that any successful literacy intervention could achieve. However, a study by Campbell *et al.* (2000) noted that an improvement in reading ability alone is not enough to assume improved reading achievement, which is the ideal outcome for any effective literacy intervention.

Campbell *et al.* (2000) mention that there is a reciprocal relationship between reading achievement and the construct of reading engagement, but that reading ability only forms part of reading engagement, along with various other factors such as diversity of reading materials, frequency of leisure reading, interest in reading and attitudes towards reading (Ellis & Coddington, 2013). The concept of reading engagement is what explains why the Learning

Achievement Gap (Rodgers *et al.*, 2004; Wilson *et al.*, 2013) between successful readers and struggling learners grows progressively throughout school (Ellis & Coddington, 2013; Stanovich, 1986). Young learners who experience success in reading engagement, often accumulate more positive attitudes and socio-emotional experiences towards reading (Stanovich, 1986), and subsequently seek out new opportunities to engage in new reading. Based on this research it follows that a successful literacy programme should therefore not only focus on improving reading ability but overall reading engagement.

The Wordworks programme can therefore be praised for its efforts to strengthen not only reading ability but also reading engagement in struggling young readers, whose experiences with reading are opposite to those that are described by Stanovich (1986). Evidence of this is described in Chapter 1, where the Wordworks ELP is shown to incorporate a participatory approach to reading, with activities such as action learning, drawing, and games, as well reading instruction incorporating various books at different levels of difficulty (see Table 1). All of these activities ensure that reading diversity, fun, leisure and interest form part of literacy lessons. It is possible, therefore, that the observed improvement in Group 1's assessment for reading ability could be an improvement of reading engagement.

5) Do learners who participate in the programme show an improvement in psycho-social well-being?

The following discussion is based on the results for learners' psycho-social well-being according to the perceptions of the Learning Support Teachers.

Outcome 4: Psycho-social Well-being.

The results in the present evaluation suggested that there was considerable improvement in learner conduct ($N = 60$). Learner confidence, peer interaction, class participation, and responsiveness to instructions all showed improvement. However, these positive results were

among 55 responses of negative learner attributes such as, low levels of concentration, low confidence, and disruptive behaviour. These results are based solely on the perceptions of Learning Support Teachers.

These positive improvements are consistent with indicators cited in various standardised assessments (Center for Advanced Study of Teaching and Learning [CASTL], 2014) and research on childhood psycho-social well-being. Dawes' *et al.*'s (2004) report on South African national level standards for psycho-social development in children aged 3-9 years old, cites indicators for psycho-social development in children as: comprehension and expression through answering simple questions, using words to seek assistance from a familiar adult, and participating in an organised group activity such as songs, games and stories.

Research has shown however, that childhood psycho-social well-being is often far more complex and nuanced, as it encompasses social, environmental, cultural and cognitive aspects (Dawes *et al.*, 2004; Gouws, 2016; Sandseter & Seland, 2015). Adding to this complexity, Dawes *et al.* (2004) show that standards for childhood psycho-social development generally encompass the entire pre-schooling age range rather than specific standards for individual age points (Dawes *et al.*, 2004). Therefore it is difficult to determine what the age-appropriate standards of psycho-social well-being at a particular point in a child's life are.

Moreover, children's psycho-social well-being and development depend heavily on their sense of security in family relationships and a predictable school or community environment (Gouws, 2016; Sandseter & Seland, 2015). In poor communities such as some of the ones in which Wordworks ELPs function, where familial relationships and the social environment may be challenging, social welfare services such as schooling and health are often the first to be negatively affected, thus in turn affecting childhood psycho-social well-being. Kamper

(2008) alludes to the fact that the lack of expertise in teachers at underprivileged schools could not only affect children's academic performance, but also fail to address any psycho-social issues amongst children, such as low study motivation, low self-esteem and low language proficiency (Kamper, 2008; O'Carroll, Setton, & Twiss, 2012).

According to the National Scientific Council on the Developing Child (2010), extreme stress in a child's early years, can impede brain development and result in learning difficulties, poor memory and problems with social and emotional regulation. Given this, more and more educational programmes, even those in less extreme contexts such as the Wordworks ELP, are targeting children with approaches that include more "fun, play and stress relief" (Norwegian Agency for Development Cooperation, n.d., p. 3). Therefore, Wordworks' language and games approach that maximizes children's need to learn while having fun, (O'Carroll, Setton, & Twiss, 2012) is important to interlink all domains of childhood development. A psycho-social focus in a literacy intervention must recognise that children's reading and writing competence is dependent on their experiences and environment just as much as it is dependent on their cognitive development, socio-emotional well-being, and physical development.

Recommendations for Learner Participants

Based on discussions for questions 4 and 5, the following recommendations are offered to the Wordworks ELP staff.

Despite the average increases in sentence construction abilities that were shown by the results of this study, the observation by teachers in the Teacher's Feedback surveys indicate that there was a large proportion of learners still struggling with sentence construction. This is not the case for reading ability or phonological awareness, according to teachers' responses. This may allude to the fact that the Wordworks ELP places heavier emphasis on reading and

reading-related activities, like in most literacy interventions shown in literature, which may hinder writing ability outcomes in learners. Therefore, it is recommended that Wordworks focuses more efforts on activities that nurture writing skills in learners in future.

The second recommendation is that Wordworks incorporates not only the monitoring of dosage received by the learners on the ELP, but also that Wordworks recommends a suitable intended dosage as a guideline to programme coordinators. Although there is no exact number of lessons for dosage that has been quoted as the ideal number in early childhood development research (Wasik *et al.*, 2013), Wordworks may suggest an average range of number of lessons, or a minimum number of lessons that learners should attend in order to yield maximum gains from the ELP. In this way, future cycles of the Wordworks ELP may be able to monitor if learners at different schools were, on average, above or below the required minimum number of lessons. Tracking dosage in this way may give insight in circumstances where some schools' ELPs perform poorly.

The third recommendation is that Wordworks staff should ensure that the Assessment Kit includes comparable assessments for all literacy variables in future. This evaluation was only able to compare three variables, namely; letter knowledge, average sentence construction ability, and average reading ability, as these were the only repeated measures. In future, an evaluation that also includes comparable measures for learners' phonological awareness and storytelling ability may be useful to convey a clearer picture of overall changes in literacy outcomes.

Fourthly, it is recommended that Wordworks could in future, broaden reading assessments to include assessments for all components of reading engagement and not just reading ability. Among these, Wordworks might choose to assess the number of diverse reading materials that learners engage with, the frequency of leisure reading, and general interest in reading and

attitudes towards reading as suggested in a studies by Ellis and Coddington (2013), and Stanovich (1986). Volunteer and teacher comments might also help to give insight on the latter.

The results of this evaluation showed improvements in psycho-social behaviours that consistent with literature on appropriate psycho-social well-being. However, without a recognised and reliable measure of learner psycho-social development, the evaluation of such is difficult. Therefore, the fourth recommendation is that Wordworks staff should endeavour to incorporate a standardised test for psychosocial well-being in their assessments of learners in future. For example, the Individualised Classroom Assessment Scoring System (inCLASS) may be useful to assess how learners interact with volunteers and with other children as well (CASTL, 2014). This test also assesses how learners respond to verbal instruction, how they express their thoughts and feelings, and how they adapt to different situations in a schooling environment (CASTL, 2014). The test is easy to administer and interpret and can be administered without difficulty by trained volunteers.

Limitations of the Evaluation

Despite the notable improvements mentioned previously, caution is advised when attributing changes in learners directly to the Wordworks ELP itself. Due to the fact that this evaluation is a single group quasi-experimental design with repeated measures, it does not control for various threats to internal validity. Marsden and Torgerson (2012) cite the most common threats to internal validity in single-group design evaluations as history and maturation effects. For example, history effects brought about by the implementation of a simultaneous interventions in the areas where Wordworks ELP sites were implemented, (such as the Wordworks' Home School Partnership Programme or simply reading lessons in the classroom by the teacher), may have created a positive bias in the observed programme

effect. Similarly, maturation effects caused by natural progression in literacy expected in maturing learners, may have resulted in a positive bias in programme outcomes. With no control group, we cannot be sure that these results are solely attributable to the intervention itself.

Moreover, one must remember that the educational landscape of the South Africa context is one very different from the developed states in which most other successful literacy interventions cited in literature have been implemented. The compounding effect of a grossly inefficient and severely underperforming educational system, mentioned previously by Spaul (2013), coupled with various barriers to learning stemming from poor early childhood development, is what the majority of Wordworks ELP learners are exposed to daily. Therefore, with no standardised norm for age-appropriate literacy in this context, nor the presence of a control group, there is no real benchmark for progress that the children in question can be compared to in order to determine a true programme effect.

Conclusion

In summary, the process evaluation revealed that the Wordworks ELP boasts noteworthy programme delivery by volunteer participants. Volunteer training and retention were shown to be adequate, however there is room for improvement with the possibility of improved participatory training of volunteers, a formalised selection process, and the introduction of non-monetary incentives to further aid volunteer retention in future.

The outcomes described in the outcome evaluation indicate that the Wordworks ELP serves the critical role of providing young, struggling learners (the majority of whom are in underachieving and resource-starved schools) with the opportunity to access remedial services. The Wordworks ELP also supplements for the poor quality teaching instruction that further compounds the Learning Achievement Gap. The evaluation indicates that improvements in both writing and reading-related outcomes are achieved by the Grade One learners, but with greater improvements on the latter. Due to the lack of a control group however, the evaluation design was unable to control for confounding variables that may have influenced the programme outcomes (Rossi *et al.*, 2004). Therefore, these outcomes cannot be definitively attributed to the Wordworks ELP alone. Moreover, with the discontinuation of the ANAs, there is an apparent lack of normed standards of age-appropriate proficiencies expected for learners in the context in which the evaluation was conducted. This led the Wordworks programme director to view any improvement in learner outcome measures as a substantial gain (S. O'Carroll, personal communication, September 5, 2015).

Rossi *et al.*, (2004) caution against this, however, noting that relying on changes in outcome measures alone is problematic. Even when statistically significant differences in mean outcomes have been shown in the study, these cannot truly represent the true programme effect in the absence of a control group. Rossi *et al.* (2004) mention that an effective outcome

evaluation must be able to attribute the change in the problem that is being addressed to the programme effect alone. This can only be achieved by means of an evaluation design that includes a control group that did not receive the Wordworks ELP (for example a randomized field experiment (RCT) or a non-equivalent group design (NEGD) (Rossi *et al.*, 2004). Therefore, despite the perceived substantial gains in the outcome evaluation, and the perception by the programme director that any change is good enough, this change cannot be assumed to be the result of the Wordworks ELP.

A concluding suggestion is therefore that Wordworks could focus further on developing age-appropriate learning materials (in partnership with the DBE) to be used as a benchmark in the absence of age-appropriate literacy standards. This is especially useful as current data collection methods used in the Wordworks ELP, as well as the added expense it would take to set up an RCT or NEGD, may limit the option of using an alternative evaluation design.

Despite the drawbacks of this evaluation, the Wordworks ELP has undoubtedly influenced the lives of hundreds of children throughout its ten-year existence. Similar to large scale programme such as the Organisation for Early Literacy Promotion's (OELP) Early Literacy Project in the rural and underdeveloped states in India (UNESCO, 2015), the Wordworks ELP plays a role not in improving child learning outcomes. Also, the ELP equips ordinary members of communities, who are passionate about improving the quality of childhood education, with the skills and capabilities needed to foster a culture of learning, teaching and promotion of social empowerment.

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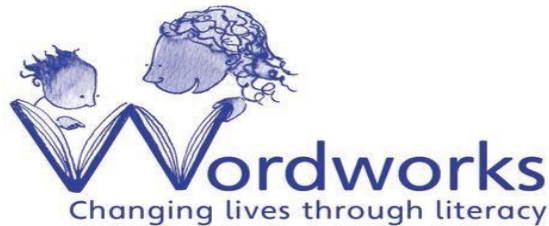
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APPENDIX A: WORDWORKS VOLUNTEER FEEDBACK SURVEY

Adapted directly from the Wordworks Volunteer Feedback Survey (i.e. in the organisation's own phrasing and writing style).



We would be most grateful if you could answer the following questions and post this form back to us. Please feel free to write your answers in any language and use more paper if you need to.

- ☐ Are you pleased that you decided to volunteer in the Early Literacy Programme? We would love to hear your story about your experience as a volunteer.
- ☐ Has being a Wordworks volunteer led you to enrol in further training (e.g. ECD courses) or helped you to find employment (e.g. classroom assistant)?
- ☐ Have you used your volunteer kit to help children outside the school where you volunteer (e.g. at home/at church/in your neighbourhood)? We would love to hear more about this.
- ☐ Do you think the children you worked with this year made progress in their language, reading and writing? Please give some examples.

Name of School: _____ **Name of Volunteer:** _____

When did you start volunteering? _____

Thank you for taking the time to tell us your story!

APPENDIX B: WORDWORKS ELP ASSESSMENT KIT

Adapted directly from the Wordworks Assessment Kit Test (i.e. in the organisation's own phrasing and writing style).

Beginning of Grade One Assessment:

Child _____ School: _____ Date: _____

Teacher: _____ Volunteer: _____

1. Can you write some letters? (Picture sequence is presented and the child must write the first letter of each picture, e.g. the letter A next to a picture of an apple).
2. Can you write your name?
3. Can you write some words?
4. Listen to the sound; what letter does the word start with?

Total Score: _____

Reversals: (i.e. letters facing the opposite direction) _____

Mid-year Grade One Assessment:

Child _____ School: _____ Date: _____

Teacher: _____ Volunteer: _____

1. Can you write some letters? (Same test as previous in order to track improvement).
2. Can you write some words? (Write the word to describe a picture).
3. Can you write a sentence?
4. Can you read some words? (Words are stipulated in assessment).

Total Score: _____

Reversals: (i.e. letters facing the opposite direction) ____

Year-end Grade One Assessment:

Child: _____ **School:** _____ **Date:** _____

Teacher: _____ **Volunteer:** _____

1. Can you write some letters? (Same test as previous two in order to track improvement).
2. Can you write a sentence?
3. Can you read some words? (Words are stipulated in assessment, more complex than previous and more words to read).
4. Can you write a story?

Total Score: _____

Reversals: (i.e. letters facing the opposite direction) _____

**Please note that the Wordworks Assessment Kit is actually an assessment booklet. Each test contains its own detailed guideline to scoring activities, and an assessment summary sheet is available to monitor and document assessment scores throughout the programme.*

