

# **ENHANCING LITERACY LEARNING OUTCOMES FOR YEAR 1 CHILDREN**

**Milestone Report 2  
December 2014**

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## *Introduction*

This milestone report summarises the achievements of the Early Literacy Success Project (now shortened to the Early Literacy Project) from July 2014 to December 2014. Two main aspects of the project that have occurred over this time: (1) the recruitment of schools and their new entrant teachers; and, (2) the development of the implementation programme. Alongside these two main components of the project has been the preparation for collecting data from February 2015.

## *Recruitment*

Since July 2014 we have liaised with the Ministry of Education to recruit primary schools for the project. The key achievements are:

### *Sampling*

- Decisions were made on the regions from which to recruit schools. In the original discussions with the Ministry of Education from the beginning of 2014 it was agreed that the regions would be Wellington and Manawatu. Manawatu was selected for its convenience for the Massey University research team. As the aim for sampling size was up to 1500 children, to match previous gold-standard randomised control samples carried out in the United States, using the Manawatu alone was not sufficient and it was decided, in conjunction with Ministry of Education representatives that Wellington would also be used as a sample site. As a result, all areas within the regional offices in Wellington and Manawatu-Whanganui were included: Porirua, Hutt Valley, Wairarapa, Kāpiti, Horowhenua, Tararua, Whanganui, Rangitikei and Ruapehu. Taranaki was initially excluded due to its distance from Palmerston North.
- A random sampling of schools was completed using a stratified frame to ensure maximum recruitment of schools from the lower decile levels, and with schools that had 8 or more new entrants expected to start school prior to the end of the first week of term 1. The anticipated minimum number of 8 students is necessary as there would be too few children in each teacher level for later statistical analyses. Power analyses were conducted to ensure that the minimum numbers of schools and teachers were recruited with a minimum number of schools in the intervention condition calculated as 20 (Dong & Maynard, 2013). The power analysis indicated that the initial sampling frame should be for 40 schools in the intervention condition and 40 in the control condition. In this sampling process schools were randomly selected to be in either the intervention or comparison conditions. This process was carried out by reference to a random number generator in the SPSS package, and based on data provided by the Ministry of Education using a spreadsheet that had all school names removed but had enrolment figures and decile levels (current at that

time). The spreadsheet was then returned to the Ministry of Education for school names and identifiers to be reattached.

- All schools from the Rangitikei were excluded due to their small size. It was also decided to exclude the Ruapehu district because of practicalities associated with distance and accessibility.
- Initial numbers of schools that expressed interest in participating in the project were below the threshold requirements for robust sampling. Taranaki was included and a small number of schools have been randomly selected from this region.
- Initial plans to include non-participating schools as “observers” of the project were dropped because of lack of clarity about the benefits of this approach.
- Twenty-four intervention and 13 control schools have been recruited. The 20 minimum number of intervention schools starting in the project has been achieved. A smaller number of control schools is adequate. The total number of teachers and children will be known when information is received from schools late in January. Based on discussions with principals during the recruitment process it is estimated that 30 new entrant teachers with 300 children will be in the intervention condition, and 15 new entrant teachers and 150 children in the control condition. The number of classrooms and teachers is higher than the number of schools as there are a number of schools where 2 or more teachers will be running new entrant classrooms with the children. In some cases we are providing the implementation programme to two teachers who are teaching in modern learning environments. Exact participant numbers will not be known until the beginning of the school year in 2015.

#### Recruitment procedures

- The decision to use senior advisors from the regional offices as the key contact for schools.
- Meetings with senior advisors in the Lower Hutt office and in the Whanganui office.
- Cluster meetings to present the project to schools selected in the random sampling process, in Lower Hutt and Palmerston North.
- The development of a shared contact sheet with Isobel Connelly to manage and track the recruitment process.
- Through November and December Alison visited schools across the region to discuss the project and its implications for individual schools.

#### *Implementation programme development*

Programme development is ongoing, and will continue to be refined as we obtain feedback from surveys conducted with teacher participants at the end of each of the module. The timeline for the implementation programme now varies slightly to that described in the Statement of Work Variation as it was decided in the middle of the year that the

implementation programme would begin from the start of Term 1 2015 instead of the start of Term 3 2014. This was due to delays in the initial communications with schools. The key achievements to date are:

- Refinement of the programme outline with the addition of early phonological awareness to module 1. The programme has been refined as we develop the modules, and the major change is primarily to have phonological awareness covered across Module 1 and 2, and not just Module 1. The modules themselves are still essentially the same as outlined in the Project Plan (May, 2014).
- Teachers will be provided with a book from American authors Walpole and McKenna on differentiated instruction (Walpole & McKenna, 2007) Our initial work was based on the model presented by McKenna and colleagues (McKenna & Dougherty Stahl, 2009).
- At each workshop teachers will be provided with a workbook that includes copies of presenter notes, readings, activity guides, instructional strategy guides and templates for applying assessment data to planning. Participants will be able to retain the workbook. They will also have access to digital copies of individual components (readings, templates).
- A restricted access Massey University Stream (Moodle) site is being established to support the provision of the modules. The site is located within the Massey University Student Learning Management framework. It will be used to provide copies of resources, additional resources and forums for teachers to discuss the application of strategies and instruction as covered in each of the modules. There will also be direct links to Chris Braid and Alison Arrow as facilitators, through synchronous chat and through *Ask a Question* applications on the site. While teachers will be strongly encouraged to engage in the site, it will not be regarded as compulsory. It will be advantageous for teachers' in the community with other teachers in the implementation programme across the regions.
- A time table of workshops and venues has been developed and is provided in the appendices. There will be five workshops for each participant, with the first workshop two days in length and the remaining modules one day each. We will run each workshop regionally, in Wellington, Palmerston North and Taranaki, with the exact Taranaki location yet to be decided.
- Decisions have been made on the nature of each of the video-recordings of teacher practice for the first modules. Filmed observations are to be carried out as per the methodology in the project plan (May, 2014). The filmed observations foci have been clarified to ensure that they fit the needs of the workshops. They will be used as a discussion point in terms of identifying planning and practice components covered in the modules. These are listed in the workshop timetables in the appendices.

- Workbooks that include readings and activities are being finalised for Modules 1 and 2, and in outline format for Modules 3 to 5. The workbook contents for Module 1, in draft form, are provided in the appendices.

### *Preparation for data collection*

The preparation for data collection with children is underway, ready for the start of Term 1 2015. The planned timetable for achieving this is in the appendices. The key achievements to date are:

#### Research assistants

- The enrolment of two PhD students who will take project management roles within the two data streams of child (Sarah Wild) and teacher (Christine Braid). Christine is also taking on the facilitator role in the workshops and on the Stream community site. Sarah will manage the child data research assistants. A closed facebook page for sharing information is being developed, along with other cloud-based communication tools such as Google Sheets. Google Sheets will also be used for the collection of scoring by research assistants.
- The recruitment of research assistants for data collection from children and teachers. The research assistants working with children have attended a training session, the timetable outline for which is in the appendices. The sessions covered topics such as assessing early child literacy within a research paradigm, the ethics of assessing young children for research, the importance of not discussing whether the school is implementation or control, and how to carry out the assessments themselves. The elements included in these topics ensure that the research assistants are neutral in how they respond to children. The workshop topics also included what to do if children don't want to take part or get tired or bored, such as breaking the sessions up, being flexible, discussing the issue with the teacher and allowing the child to have a support adult with them if they wish. The assent statement that we require be provided to children was also discussed. All research assistants will also be given manuals with brief guidance on how to carry out the research and how to conduct the specific assessments themselves. The contents page for the time one data collection manual is provided in the appendices.
- The process of data collection will be consistent for all children regardless of whether the school is implementation or comparison. Our research assistants will not be informed of the research condition of the schools in which they are allocated.

#### Assessment tools

- The purchase of assessment tools and the necessary resources for carrying out the assessment of schools has been completed for time 1. The assessment tools for time one are identified in the table below. I pads will be used to support data collection including as a media player for the digital files used in the phonological awareness blending task from the CTOPP-3 (Comprehensive test of phonological processing). This test is American and we have developed New Zealand accent digital items for the blending task that requires pre-recorded items.

**Table 1: Time 1 assessed skills and tests used**

Skill or ability	Assessment tool
Letter knowledge <ul style="list-style-type: none"> <li>• Upper case letter names</li> <li>• Upper case letter sounds</li> <li>• Lower case letter names</li> <li>• Lower case letter names</li> </ul>	Self-developed
Phonological awareness <ul style="list-style-type: none"> <li>• Elision (segmenting sounds)</li> <li>• Blending</li> <li>• Sound matching</li> </ul>	Comprehensive test of Phonological Processing, 2 <sup>nd</sup> edition (CTOPP-2; Wagner, Torgensen, Rashotte, & Pearson, 2013)
Early reading (sight word knowledge & alphabetic coding)	Clay word reading test (Clay, 1985)
Early spelling (alphabetic coding)	Self-developed, used in previous research (e.g., Tunmer, Chapman, & Prochnow, 2006)
Receptive vocabulary	British Picture Vocabulary Scale III (Dunn, et al., 2009)

### *Next steps*

The next step in the project is to begin data collection. This process requires confirmation of the numbers of children and teachers so that research assistants can be allocated with approximately equal numbers of children across the regions. An electronic form will be sent out in the information pack sent to schools (covering letter attached in appendices).

Schools are asked to complete the form and email it back to the Project. The information pack includes consent forms for schools and teachers, a copy of the letter and consent for parents, a communications outline, and a concerns procedure. The implementation schools will also receive a copy of the timetable of workshops.

We are also developing a one page, 2-sided, home literacy survey that will go to parents with the information letter and consent form. In this survey we will be asking about early childhood education, home literacy practices and questions that can allow us to calculate SES levels.

We will also be finalising of the teacher data collection including the confirmation of research assistants for this, interview schedules finalised, and communications drafted to contact teachers. We will be utilising SurveyMonkey for this purpose, conducting online surveys.

The modules will continue to be developed into workbooks and the corresponding Stream site content. Workbooks will be distributed at the workshops and are for the teachers to keep. Prior to the first workshop in March all data from children will be collated for teachers attending the workshops as first priority. Comparison classroom collation will take second priority. Once this has occurred we will be able to begin reliability checking, the cleaning of data (errors in data entry, miscalculation of scores and calculation of missing data) and initial data analysis for baseline data.

Dr. Alison Arrow and Professor James Chapman (Principal Investigators)  
Massey University Institute of Education  
18 December 2014

## References

- Clay, M. M. (1985). *The early detection of reading difficulties*. Auckland, NZ: Heinemann.
- Dong, N., & Maynard, R. (2013). Powerup!: A tool for calculating minimum detectable effect sizes and minimum required sample sizes for experimental and quasi-experimental design studies. *Journal of Research on Educational Effectiveness*, 6, 24-67.
- Dunn, L. M., Dunn, D., M, Sewell, J., Styles, B., Brzyska, B., Shamsan, Y., et al. (2009). *British picture vocabulary scale* (3rd ed.). London: GL Assessment.
- McKenna, M. C., & Dougherty Stahl, K. A. (2009). *Assessment for reading instruction* (2nd ed.). New York: Guilford Press.
- Tunmer, W. E., Chapman, J. W., & Prochnow, J. E. (2006). Literate cultural capital at school entry predicts later reading achievement: A seven year longitudinal study. *New Zealand Journal of Educational Studies*, 41, 183-204.
- Wagner, R. K., Torgensen, J. K., Rashotte, C. A., & Pearson, N. A. (2013). *Comprehensive test of phonological processing* (2nd ed.). Austin, TX: Pro-Ed.
- Walpole, S., & McKenna, M. C. (2007). *Differentiated reading instruction: Strategies for the primary grades*. New York: Guilford Press.



## Appendices

Proactively Released

## Massey University Early Literacy Project

### Implementation programme workshop timetable 2015

Workshop	Location	Date
Workshop 1 (2 days): Project overview and oral language: understanding words, learning new words, and phonological awareness FILMED OBSERVATION: shared reading and writing	Wellington	9-10 March
	Palmerston North	12-13 March
	Taranaki (specific location to be confirmed)	17-18 March
Workshop 2: Developing print knowledge through phonological awareness and alphabet instruction FILMED OBSERVATION: phonological awareness and alphabet instruction	Wellington	18 May
	Palmerston North	20 May
	Taranaki	22 May
Workshop 3: Developing word knowledge for reading and spelling – the first step to fluency FILMED OBSERVATION: small group reading and writing teaching	Wellington	27 July
	Palmerston North	29 July
	Taranaki	31 July
Workshop 4: Reading comprehension and having something to say in writing FILMED OBSERVATION: small group reading and writing instruction	Wellington	14 September
	Palmerston North	16 September
	Taranaki	18 September
Workshop 5: Differentiated instruction as the goal and using assessment to make it work and programme review FILMED OBSERVATION: class management for differentiation	Wellington	9 November
	Palmerston North	11 November
	Taranaki	13 November

## Workbook contents: Module 1

1. Cover page
2. Contents page
3. Session 1: Introduction
  - a. Introductions activity
  - b. Section 1 powerpoints in notes form
  - c. Detachable teacher knowledge survey sheet(s)
4. Session 2: Theory and research to practice
  - a. Section 2 powerpoints in notes form
  - b. Cognitive foundations model reading (Tunmer and Hoover)
  - c. Assessment activity (what do you assess, when, how, what do you do with it)
  - d. Differentiation reading
  - e. Case study introduction
5. Session 3: Using assessment data for vocabulary planning
  - a. Section 3 powerpoints in notes form
  - b. Case study activity and information
  - c. BPVS information/guide
  - d. Activity using teachers own BPVS assessment data – clusters of children
  - e. Other assessment tools for vocabulary and language
6. Session 4: Choosing texts for vocabulary instruction
  - a. Section 4 powerpoints in notes form
  - b. Use of picture books activity
  - c. Review of cognitive model and vocabulary development
7. Session 5: Vocabulary instruction
  - a. Section 5 powerpoints in notes form
  - b. Teaching vocabulary reading
  - c. Clip viewing guide notes
8. Session 6: Phonological awareness
  - a. Section 6 powerpoints in notes form
  - b. Phonological awareness reading
  - c. Activity developing teacher knowledge
9. Session 7: Using assessment data for phonological awareness planning
  - a. Section 7 powerpoints in notes form
  - b. CTOPP tests information guide
  - c. Activity using teachers own PA assessment data – clusters of children
  - d. Activity planning for teaching of phonological awareness for children
  - e. Instructional guidelines and activities suggested
10. Session 8: Review
  - a. Section 8 powerpoints
  - b. Plan for achieving goals template

- c. Using the stream site
- d. How to contact us and the next steps

NOTE: powerpoints may be broken up around the activities and readings

### Timetable for achieving child data collection deadlines

Task	Subtask	Due date
School recruitment	Information packs sent to schools	14 <sup>th</sup> January
	Collect back school information sheets from schools with numbers	28 <sup>th</sup> January
	Information letters and consent forms printed	20 <sup>th</sup> January
	Parent information letters and consent forms sent out to schools	28 <sup>th</sup> January
Preparation of research assistants	Research assistant training	15 <sup>th</sup> December
	Tests supplied to RAs	28 <sup>th</sup> January
	Test sheets supplied to RAs	28 <sup>th</sup> January
	Ipads supplied to RAs	2 February
	RAs matched to schools	28 <sup>th</sup> January
	RAs make contact to start data collection	From 28 <sup>th</sup> January
Resources purchases	Ipads purchased	19 <sup>th</sup> December

## Training day agenda 11 December 2014

1. Welcome
2. Introduction to the project
3. The role of the RA for child data
  - a. School liaison and relevant processes
  - b. Collecting consent and other forms and documentation
  - c. Carrying out assessments
  - d. Scoring and data entry into google sheets spreadsheet
4. As a RA
  - a. Contracts
  - b. Travel and costs
  - c. Expected hours
  - d. Masters thesis possibilities
5. Carrying out assessment for research
  - a. Neutrality
  - b. Consistency and following instructions
  - c. Not providing feedback unless required
  - d. Working with young children and being flexible
  - e. Using ipads in the research
  - f. Numbering and coding systems
6. Assessment tools
  - a. Timetable of assessments and the process
  - b. Alphabet assessment overview
  - c. Reading and spelling measures overview
  - d. BPVS overview and practice
  - e. CTOPP overview and practice
7. Review what you will take into schools
  - a. Instruction manual
  - b. Tests
  - c. Test sheets
8. Complete paperwork if possible

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## Information pack letter for implementation schools

Dear Principal,

Thank you for your patience in waiting for this Early Literacy Project initial information pack to be sent out.

In this pack you will find:

- A consent form for the principal and/or Board of Trustees to sign to approve the research to take place within your school;
- An information letter for your new entrant teacher;
- A consent form for your new entrant teacher to sign;
- A request for the name and email address of your participating new entrant teacher(s) as well as the estimated number of new entrant children who are eligible to participate;
- Self-addressed envelope to return the school and teacher consent forms;
- A copy of information sheet and consent form for children (we will send you copies following this package);
- A timetable for the modules over the course of the year, and the unconfirmed general locations;
- A copy of our concerns procedures;
- A schedule of communication over the next school term.

I will be able to confirm the name of the research assistant who will be responsible for your school once I have received the estimated number of children.

Yours sincerely,

Alison Arrow

Co-principal investigator, Early Literacy Project



## Information pack letter for comparison schools

Dear Principal,

Thank you for your patience in waiting for this Early Literacy Project initial information pack to be sent out.

In this pack you will find:

- A consent form for the principal and/or Board of Trustees to sign to approve the research to take place within your school;
- An information letter for your new entrant teacher;
- A consent form for your new entrant teacher to sign;
- A request for the name and email address of your participating new entrant teacher(s) as well as the estimated number of new entrant children who are eligible to participate;
- Self-addressed envelope to return the school and teacher consent forms;
- A copy of information sheet and consent form for parents/whanau (we will send you copies following this package);
- A copy of our concerns procedures;
- A schedule of communication over the next school term.

I will be able to confirm the name of the research assistant who will be responsible for your school once I have received the estimated number of children.

Yours sincerely,

Alison Arrow

Co-principal investigator, Early Literacy Project