

## Conference abstract:

A multi-disciplinary team of University of the West of England (UWE) and University of Zululand academics have been awarded a British Academy Global Challenges research grant to support work begun by and being developed with, Project Zulu, a UWE Bristol charitable initiative. Project Zulu has worked for many years with children and their teachers in schools in Madadeni, a township in KwaZulu-Natal, South Africa. Based on teachers' questions and requests, the team are designing an app that will be piloted in townships and rural schools in the region, to support teachers in identifying how to most effectively use the books that are available by providing suggestions and tips for teaching using the book.

This seminar focuses on learning to date from the project, including from the literature review that focuses on effective pedagogic practices for the teaching and development of reading comprehension in multi-lingual settings. South Africa, along with a number of African countries, have English as the language of instruction in schools. This can present a real challenge for teachers, children and their families. This project aims to identify if a simple app can support teachers to develop their practice and children to develop as readers.

Presented by

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**Dr Karan  
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Can the use of a book levelling  
APP support the development of  
the knowledge and skills needed  
to teach reading in rural and  
township schools for pre-service  
and in-service teachers?

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**A British Academy Global Challenge Fund project**



## A little about us

- Dr Jane Carter
- Background in Primary Education (teacher, deputy head teacher and Local Education Authority Consultant)
- Senior Lecturer at University of the West of England (focus Initial Teacher Education – English specialism)
- Early career researcher – awarded my doctorate in 2018
- Dr Karan Vickers-Hulse
- Background in Primary Education (teacher, Deputy Head, Acting Head)
- Associate Head of Department for Initial Teacher Education at UWE Bristol
- Early Career Researcher – awarded my doctorate in 2021

# And the research team....

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# Why this project? Project Zulu and UWE

**UWE**  
**Bristol** | University  
of the  
West of  
England

**PROJECT | ZULU**



# Township teaching





**UWE  
Bristol**

University  
of the  
West of  
England

**PROJECT | ZULU**

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**UWE  
Bristol**

University  
of the  
West of  
England

**PROJECT | ZULU**



# The context for literacy learning

“South Africa is a world apart, with two education systems created by the still palpable legacy of apartheid.”

“ ‘other’ schools, [in] an excluded system that enrolls the vast majority of poor and working-class Black children whose health, economic and home/community difficulties concomitant with equally deficit schools produce learners who read for the most part at a purely functional level and write without fluency or confidence” (Chetty, 2014, p. 97)

# Context: Progress in International Reading Literacy Study (PIRLS)

- South Africa is the lowest attaining country in terms of reading. South Africa was placed last out of all 50 countries who participated in PIRLS 2016.
- Learners in township areas tended to achieve low scores.
- Across all languages, girls consistently performed better than the boys. South Africa has the second largest achievement gap internationally between boys and girls.
- 87% of learners who wrote in isiZulu did not reach the benchmark.
- In KwaZulu Natal 81.6% of learners did not reach the benchmark.

# Barriers children face accessing learning

“Issues contributing to this situation [PIRLS data] were identified as “poverty, TV, lack of movement/motor development, lack of opportunities to play, poor language use by role-models, substance abuse by pregnant women, malnutrition, single-parent families, illiterate parents, lack of parental involvement in children’s lives and lack of engagement with books before school entrance” (Western Cape Department of Education, 2006, p 6)



# The research question

Can the use of a book levelling APP support the development of the knowledge and skills needed to teach reading in rural and township schools for pre-service and in-service teachers?

## Subsidiary questions

Do pre-service and in-service teachers in rural and township settings increase their knowledge of:

- Reader development
- text complexity
- matching text to pupil reading instructional needs
- pedagogical strategies to support reader development
- different pedagogical strategies at different stages of reader development

# Project co-design: Uni Zulu, UWE and informed by Project Zulu schools

## Participants

In-service teachers in the Uni Zulu Partnership and in-service teachers in the Project Zulu schools in Madadeni and Dundee (SA) and the pre-service teachers training at Uni Zulu.

1. Conduct a Systematic Literature Review of current effective approaches to the teaching of reading comprehension in South Africa
2. Use the outcomes of the review alongside other international studies to add strategies to the app that can be used as ‘bite-sized’ practical approaches to the teaching of reading comprehension
3. Gather quantitative and qualitative data pre and post pilot of the app in relation to knowledge of the reading process
4. Analysis and adaption of app

# The Systematic Literature Review Process

- A systematic search of literature, published between 2005 and 2020, was conducted to identify studies which answered our research question: *What are the most effective approaches to the teaching of reading comprehension in the South African multilingual context?*
- Databases searched included ASSIA, British Education Index, DERA, DOAJ, Ebsco Academic Complete, Education Abstracts, Education Research Complete, ERIC, IBBS, Proquest Education Journals, and SCOPUS.
- The following key terms were used in the search: South Africa\*, Multilingual\* Bilingual\*, English as a Second Language/ESL\*, English as an Additional Language /EAL\*, Child/student/pupil/learner/beginner/school child\*, Reading comprehension\*Teaching/pedagogy/instruction/skills/strategy/reading pedagogy/reading instruction/ reading skills/reading strategies/ reading processes\*

- Using the same key terms , **a second search was conducted through Google Scholar** to identify additional sources which might not have been identified in the first search.
- **Journals and sources related specifically to the South African context** are also being searched for further sources not identified in either of these searches including the South African Journal of Education, Per Linguam, South African Journal of Childhood Education.
- **Titles and abstracts of 160 studies were individually reviewed** for studies which met the inclusion criteria for review
- Eligible studies were published from 2005 onwards, available in English (translated), carried out in South Africa, in a school setting, with learners aged 15 years and under
- 5 researchers conducted this stage, with a sample of articles being reviewed by one/two other researchers to ensure inclusion/exclusion criteria were being applied consistently

# Some findings

- 83 articles identified for deeper reading and extraction
- But...from this, very few research projects focused on practical approaches to the teaching of reading comprehension in SA schools – outcomes of interventions to support raising attainment and teacher understanding of the teaching of reading
- *We identified 14 that focused specifically on approaches\**

# Some examples

Beck and Condy (2017 p7) “**The teaching of metacognition** should be implemented from the start of a learner’s school career enabling the learner to access and utilise this skill throughout the school career.”

Staden (2011) the study focused on scaffolding and direct instruction of strategies with ESL learners in Grades 4, 5 and 6.

“The application of these techniques has proven to be beneficial **...introducing and discussing “new” vocabulary words (prior to reading) and reinforcing “new” vocabulary words (after reading).** This was done through interactive “word-wall” activities and specific strategies to develop reading skills, such as explicit training in sounds, phonological awareness, word identification and the development of syntactic awareness through Cloze-procedure exercises.”

Combrinck, Van Staden, & Roux, (2014), ‘Developing early readers: Patterns in introducing critical reading skills and strategies to South African children’,

Reading skills are prescribed in the curriculum but not taught.

Where the skills are taught from Grade 1, outcomes improve.

**TABLE 3:** Principal questions as classified by the curriculum statement.

Item as in school questionnaire	Curriculum grade in which to start activity
Knowing letters of the alphabet	Grade 1
Knowing letter-sound relationships	Grade 1
Reading words	Grade R and Grade 1
Reading isolated sentences	Grade 1
Reading connected text	Grade 1
Locating information within text	Grade 1
Identifying main idea of text	Grade 1
Explaining or supporting understanding of text	Grade 3
Comparing a text with personal experience	Grade 2
Comparing different texts	Unclear
Making predictions about what will happen next in a text	Grade 4 and beyond
Making generalisations and drawing inferences based on a text	Grade 4 and beyond
Describing the style or structure of a text	Grade 4 and beyond
Determining the author's perspective or intention	Grade 7 and beyond

# Interesting study that can inform the app design and use

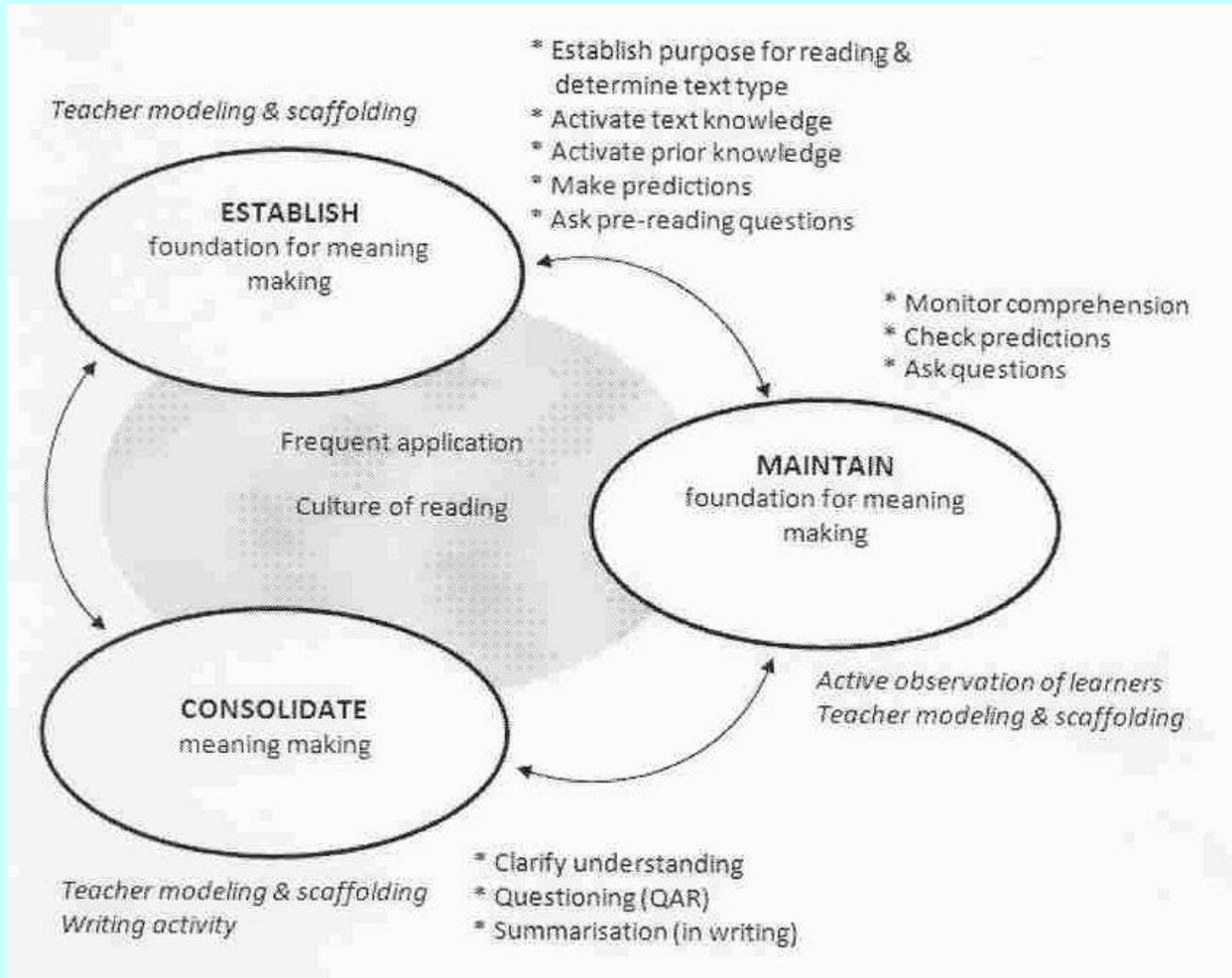
**Reading comprehension competencies can transfer across languages** and do not have to be learned anew in each language. For example, learning to make predictions, to attend to visual or linguistic clues in a text, identifying setting, main characters, problem and resolution events in stories in one particular language can readily be utilised when reading texts in another language. This is the basis of Cummins' interdependence hypothesis. In the Mudzielwana et al. study (2012), **the Grade 3 teachers complained that guidelines for teaching reading comprehension were only available in English and not in Venda.**

Pretorius, and Klapwijk, (2016 p16).

Many studies highlighted the need to start early (in the home language) and that modelling was a key missing approach from teachers' pedagogical repertoire

- Zimmerman (2014 p8) **“Regardless of the language of instruction in the Foundation Phase and in the further phases of schooling, reading literacy teaching and learning needs to focus not only on decoding and basic, literal understanding, but also on exposure to higher order comprehension development”**
- Zimmerman (2017 p8) **“teachers need to be able to teach via the modelling of comprehension strategies throughout their teaching.”**

# Klapwijk (2015 p4) EMC<sup>2</sup>=Comprehension: A framework for reading comprehension instruction.



# Recurrent theme is around the nature of the multilingual context of learning in South Africa

“It is also recommended that (within reason and ensuring mutual comprehension) **some form of multilingual communication and/or translanguaging** be allowed in this strategy [activating prior knowledge] By allowing the use of more than one language, it could encourage shy learners to participate, increase participation as a whole, and allow learners whose first language (L1) is not the same as the language of learning and teaching (LoLT), to participate in a non- judgemental environment, and to unlock their own schemata.”

Klapwijk (2015 p4)

## An intervention study **Cekiso (2012)**

Each session over the course of the three months included the following stages similar to those of Wilhelm (2001):

1. How to use the strategy.
2. Why, when and where the strategy should be used in actual reading.
3. Teacher modelling. Use of Think-Aloud
4. Teacher scaffolding.
5. Independent learner practice.
6. Integrated use with other materials.

Cekiso (2012)

# The strategies in this study were presented in the following format:

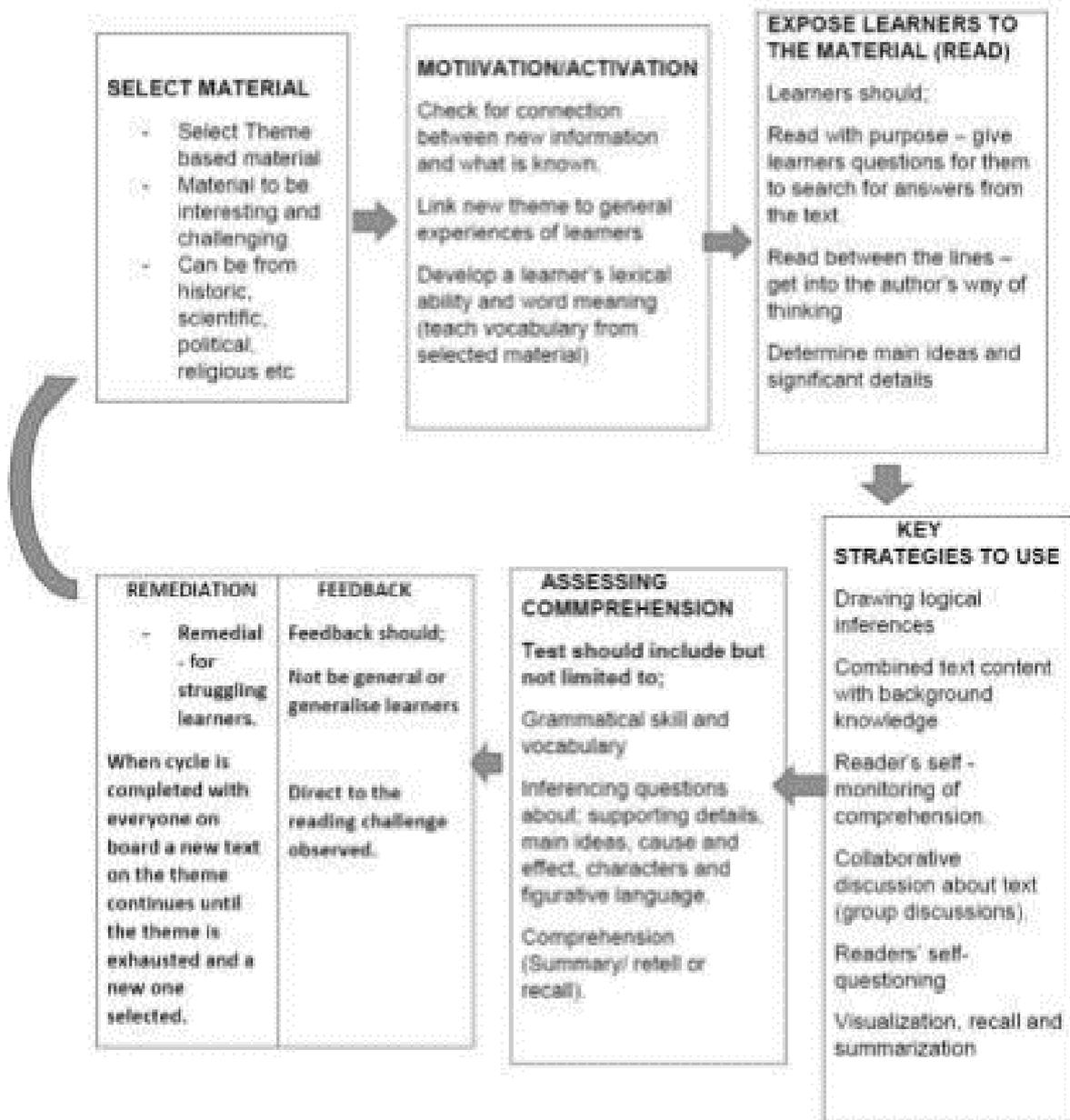
- ‘Before Reading’ (e.g. making inferences and predicting what is to come in a text)
- ‘During Reading’ (e.g. guessing the meaning of words from the context, identifying the main idea in a text and rejecting or confirming predictions and inferences.
- ‘After Reading’ (e.g. summarising).

Cekiso (2012)

# Fluency, vocabulary comprehension in home language

What is called for instead is **an approach that develops decoding and comprehension skills in tandem, builds learners' vocabulary, and provides them with plenty of opportunities to practice reading connected text in meaningful ways in both home language and ESL, thereby forming bridges** between reading fluently in African languages and in English, in preparation for the transition to English in Grade 4 and the reading of more challenging English texts when reading to learn." Pretorius and Spaul (2016, p1468)

**Theme Reading Model for comprehension (Cognitive Model). TRM**



This study identified the main challenges Grade 8 learners had. These included: word reading - multi-syllabic words in particular; pronunciation of word; fluency as measured by words per minute; comprehension; vocabulary (although this was better where theme based reading was used); grammar; inference.

The study proposed a model to be used for teachers

Mukhuba, T.T. and Marutla, G.B., (2019). Reading challenges in English: towards a reading model for grade 8 learners in Mafikeng district, North West province, South Africa. African Journal of Gender, Society & Development, pp.221-236.

# Other studies that did not answer our research question but provided a further contextual insight

- Cilliers, L. & Bloch, C., (2018) a focus on the foundation phase and providing a bilingual magazine with texts and ideas for teaching. **Highlighted the lack of resources in school**
- Elley, W. B. (2000). The potential of book floods for raising literacy levels. **Highlighted the lack of books in school and the impact this has on literacy engagement and learning.**
- Cooper et al (2013) Promoting Mother–Infant Book Sharing and Infant Attention and Language Development. **Highlighted the need for parental engagement and early intervention and support**
- Dean, J., Pascoe, M., & le Roux, J. (2021). Pilot evaluation of a partner-supported online reading intervention for Grade 3–6 children. **Highlighted the issues with IT infrastructure (so an app may be better placed to reach teachers in rural schools) and the key basic skills missing from programmes**

## Other overarching themes that the review team have identified from the process

- The context of SA and the legacy of apartheid is fundamental in the language and literacy challenges and teaching and learning challenges schools have in relation to reading
- The nature and diversity of schools in SA make generalisations impossible – from the township and rural to the independent and old ‘category c’ schools (apartheid legacy all white schools that now admit all children – if they can pay). Intervention programmes do not always effectively take this into account.
- All the above leads to very different resourcing levels i.e. schools do not all have books, culturally appropriate books, general language rich resources in home languages and English and where IT has been used to support reading, the IT is patchy

# Themes continued

- Teacher training does not focus on the teaching of reading and reading comprehension for all teachers – so lack of a shared responsibility across schools
- Early years education in the first grades do not adequately address the fundamental pre-requisites for reading in home languages
- Parental engagement is low in many schools but there seems to be a perceived barrier because the home language is not the language of teaching and learning and so opportunities are lost for engagement of parents in home language development

# Themes continues

- Interventions that are put in places are often short term and not sustained. Research projects reviewed are largely small scale
- The most commonly cited issue is around language: the range and differences of the home languages; the lack of clear transition procedures into Grades 3 and 4 where English becomes the language of teaching and learning; teachers' own competencies in relation of English – all linked to the legacies of the past
- The valuing (or not) of home languages

# Observations

- Studies were generally small scale
- Case study methodology used frequently – useful insights but harder to generalise (although we have made the point that it is hard to make any generalisations in SA anyway!)
- Analysis approach was not always transparent (or sample selection; methodology; theoretical frame; findings and conclusions did not always match the data)
- Many studies started with contextual details of low standards in reading, poor teacher knowledge and skills in teaching reading and how this needed to be addressed and concluded with the same things at the end – merely providing greater evidence of the problem rather than possible solutions!

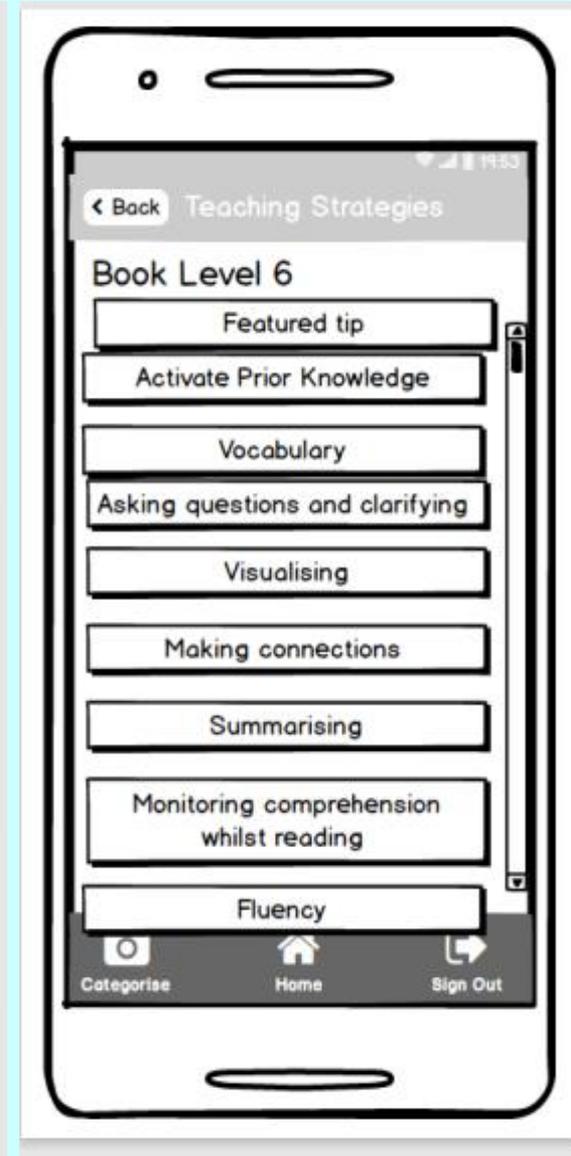
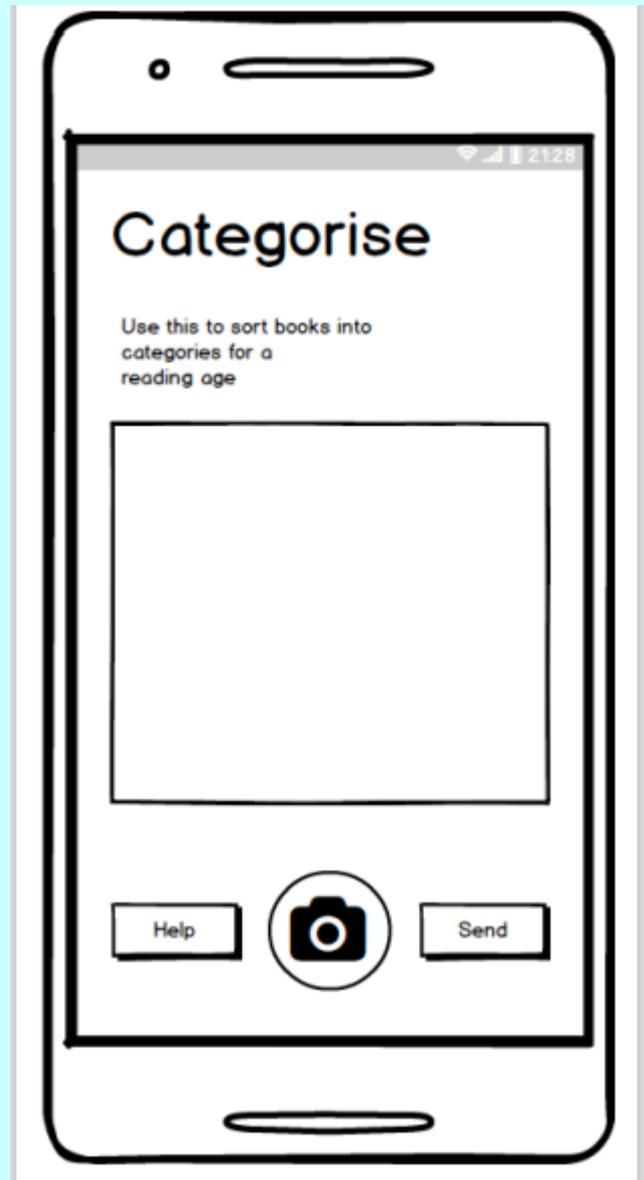
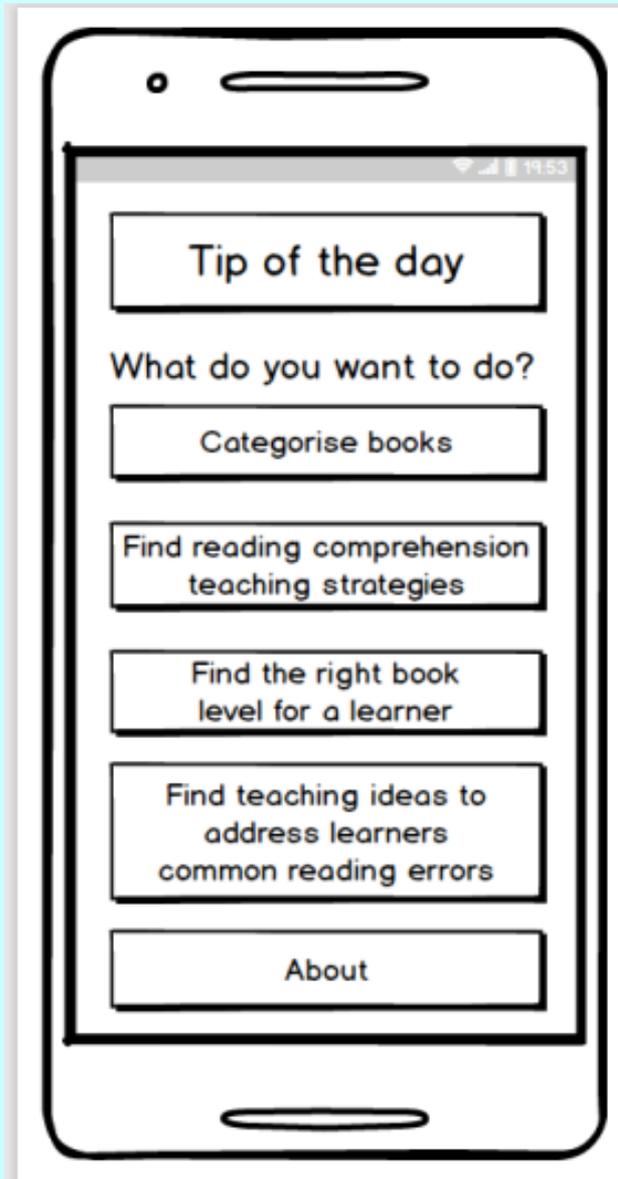
# The literature review has informed us by identifying:

- Potential reading comprehension focus areas
- The need to make links with home language and ensure the app ‘tips’ make the value of the home language explicit (and possibly be available in the main home language of the region)
- How significant any professional development is in relation to the teaching of reading
- The need for more fundamental basic strategies as well as a range of ideas to ensure there is some scope to adapt to different teacher needs
- The need to keep things simple and clear in order to acknowledge the wide range of rural and township contexts the app will be used
- The importance of making this part of the teaching practice experience of the pre-service teachers at Uni Zulu

# Pause for comments, thoughts and insights



# The app design



The strategies/tips are tagged for each of these aspects of comprehension (a skill or a strategy)

- Activating Prior Knowledge
- Decoding
- Vocabulary
- Asking questions and clarifying
- Visualising
- Making connections
- Summarising
- Monitoring comprehension whilst reading
- Fluency

# Examples of some of the strategies/tips suggested

## Vocabulary

As your learner reads pause at the end of each page and point to words on the page you think the learner may not understand and ask the learner to read the word and then to tell you what the word means. Ask the learner to put the word in a new sentence orally – this checks they really do understand the word and can use it in another context.

Before you read the book – flick through and as a teacher, pick out some of the vocabulary in the book that you know your learner may not know the meaning. Point to the word in the book – ask the learner to read it and ask the learner if they can tell you what it means. If they can do this ask the learner to put the word into their own sentence. Tell the learner the meaning if they do not know what it means. Tell the learner the meaning in the home language and in English.

## **Asking questions/clarifying**

When the learner begins to read pause at the end of each page and ask the learner to ask a question or make a comment – what are they curious about; what do they wonder; what do they think so far. If a learner struggles to do this, show them how you do this “I am wondering if ....” “I think that ....”

## **Summarising**

Read the whole book. Can the learner think of a new title for the book? If the learner can't do this, give the learner two possible alternative titles – which do they think is best and why. The focus here is asking the learner to use their summarising skills.

## Fluency

- Before reading the next sentence/section/page ask the learner to point out any punctuation. Discuss what each punctuation mark is telling the reader to do. Then ask the learner to read that section.
- Remind the learner we want the reading to sound smooth. Model a few sentences for the learner showing the learner how your reading sounds like you are telling a story. Ask the learner to read smoothly.

# Checking the strategies (step 1 in the process)

- Currently we are working with the Reading Recovery Teachers in Bristol and Uni Zulu academics to review the strategies/tips for the app.
- They are being asked, from a reading teacher's perspective  
if:
  1. The tip should be included or excluded
  2. Any tips need to be added
  3. Tips should be re-worded for clarity and sense in the SA context

What should we make sure we don't miss?  
What is the most important approach you  
suggest we make sure we include?



## Step 2: Pilot 1

Working initially with a small group of teachers in Bristol: a task based ‘think aloud’ approach to an evaluation of the pilot app.

1. Does it work!
2. Is the app intuitive enough to categorise a book?
3. Is it easy to navigate from categorising a book to matching it to a child?
4. If a child has a specific difficulty can you find how to support the child?
5. Is the ‘tip of the day’ useful?
6. Can specific tips for particular areas be easily found?
7. Navigational elements – do they ‘work’?
8. What more would help?
9. What is additional and could be taken away?

## Step 3

- Pilot: SA small group to test - Pre app use in-service and pre-service teachers questionnaire; app use and then post app questionnaire pilot

## Step 4

- Adapt app and questionnaires
- 100 pre-service teachers and 60 in-service teachers to do pre-app questionnaire
- All to use app
- 100 pre-service teachers and 60 in-service teachers to do post-app questionnaire
- 30 pre-service teachers: focus group feedback
- 10 in-service teachers: focus group feedback

# What have we missed!



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