



An evaluation of the  
CareUp first design  
cycle: August to  
December 2016  
**FULL REPORT**

10th April 2017

**Kelello, in partnership with Cen-  
tre for Education Practice Research  
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## Acronyms

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DoH	Department of Health
WCDS	Western Cape Department of Social Development
ECD	Early Childhood Development
TLII	The Learning Initiative intervention
ToC	Theory of Change
WCED	Western Cape Education Department

## Acknowledgements

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The authors wish to express their deepest appreciation to a number of different people who have enabled the completion of this report.

We first acknowledge the CareUp beneficiaries who embraced the project, while offering important and critical feedback on all of its components. The Early Childhood Development practitioners, parents and their learners who willingly opted in to participate in this first design cycle are to be applauded. They showed a willingness to engage with a new intervention, and offered valuable feedback on how this could be improved for future design cycles. Parents and practitioners completed surveys and participated in focus groups. Case study practitioners welcomed researchers into their ECD centres and their classrooms. Some parents offered telephonic feedback on the intervention, and the case study parents allowed researchers into their homes and commented on their experience of the intervention. Without the active contribution of all of these beneficiaries and their willingness to participate in this study, there would be no data on which to report.

At the management level of CareUp there were two main partners who conceptualised, funded and supported CareUp initiative: The Western Cape Department of Social Development and Innovation Edge.

The Western Cape Department of Social Development are to be acknowledged for initiating the CareUp intervention. Kamesh Flynn has had a large role in this innovation, approaching her task professionally and with passion. The original conceptualisation of an intervention using a mobile application to provide knowledge and support to pre-school practitioners and parents, was a risk, but was in a response to the need to equip ECD practitioners and parents, in their own context, with easy access to quality focused ECD material. The Western Cape DSD supported the first design cycle by funding its monthly ongoing costs, identifying and engaging with registered centres for inclusion in this first design cycle.

Innovation Edge has also played an important role by funding the development of the CareUp application and investing in design-based evaluation research. Sonja Giese and Erika Wiese have hosted the monthly stakeholder meetings, and been available to ensure partner alignment and the project conceptualisation and implementation direction.

There were several service providers supporting the vision and intention of the funding partners: The Reach Trust, Wordworks and Kelello, in partnership with the University of Johannesburg.

The Reach Trust played the key role in the application design and project management of the activation process, in compiling analytical reports of uptake and usage, as well as marketing material on CareUp. The Reach Trust team: Andrew Rudge, the ever-helpful Mariska Burger, and Natasha Verity have worked hard and professionally to develop the application and ensure that feedback obtained from data analytics as well as on the ground engagement with practitioners and parents has been fed back into the CareUp application and activation process. Numerous additional Reach Trust team members also participated in the onboarding workshops.

The Wordworks team, especially Shelley O'Carroll, Brigid Comrie and Lynn Stefano, developed the print-based versions of the content used in the application. This content is the basis of the Wordworks *Every word counts* programme and was developed through funding from the DG Murray Trust and Claude Leon Foundation prior to the inception of the CareUp project. The Wordworks team was integrally involved in re-versioning this content for the mobile application, supported the onboarding process and ensured that lessons from how content is received in face-to-face contexts were integrated into the CareUp design and implementation.

Huge thanks to all the members of the steering committee – named above - who made themselves available for interview processes and to comment on draft versions of the evaluation report.

The Kelello fieldworker team comprised of Zola Thompson, Vuyi Majali, Busi Maho, and Sanele Krishe undertook all isiXhosa field work when observing onboarding sessions, observing lessons, interviewing parents and practitioners. Dr Patrick Barmby supported the quantitative analysis design and planning stages. Fikile Simelane and Prof Elbie Henning set up the criteria for language richness, and analysed the exemplar video lessons. Ingrid Mostert completed a copy edit to ensure a highly readable report.

We would like to thank all of the above contributors to the CareUp intervention.

**Garth Spencer-Smith (research manager) and Nicky Roberts (project leader)**

## Chapter 1: Introduction

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The CareUp project is a mobile communication intervention initiated by the Department of Social Development in the Western Cape, and jointly funded by the WCDS and Innovation Edge. It targets both

- practitioners at Early Childhood Development (ECD) centres working with classes of 4 to 5-year old children; and
- parents of the children in their classes.

CareUp aims to support quality communication between the parent, caregivers and their children, to promote early language development and lay the foundations for reading.

The long-term vision of the CareUp intervention is that 'Children in disadvantaged communities in the Western Cape can 'read for meaning' in their home language (limited to English, Afrikaans or isiXhosa for now) by the time they leave Grade 3 (using a WCED systemic assessment measure)'. CareUp's aim is to contribute to 'children being more proficient in their home language' when they enter Grade R, as this is considered a prerequisite for the longer-term aim of these children being able to 'read for meaning in their home language (limited to English, Afrikaans or isiXhosa for now) by the time they leave Grade 3 (WCED systemic measure)'.

Before the first design cycle intervention (August to December 2016) started, several recommended, DSD-registered ECD centres (8 in Philippi; and 9 in Khayelitsha) underwent a quality assurance process conducted by the Early Learning Research Unit (ELRU), and were subsequently visited by the Western Cape DSD Deputy-Director acting as the project liaison. On the basis of the level of engagement of the principals, ten ECD centres were selected for inclusion in the first design cycle of the CareUp intervention. The ECD centres were located in four communities (four sites in Khayelitsha, four sites in Philippi, one in Stellenbosch and one in Mitchell's Plain). Children at eight of the sites were mainly isiXhosa-speaking; while at the other two they were mainly Afrikaans/English-speaking.

The CareUp project was conceptualised as having distinct development periods or cycles of testing and reflection. The first design cycle evaluated here was a proof of concept

phase, designed to test the viability of the application in ten Early Childhood Development centres.

The pilot study was undertaken over 12 to 16 weeks<sup>1</sup> in the selected ten ECD centres, from mid-August to early December 2016. This report describes the design, research methodology and findings of the pilot.

In this first design cycle, the CareUp intervention comprised of an 'on-boarding' process where practitioners and parents were made aware of the project and the CareUp mobile application (app) and related mobi-site, and were given, inter alia, data so that they could download the app.

The CareUp application and mobi-site included messaging, instructions, activities and resources which guided practitioners and parents on appropriate ways in which to engage with the children in their care. The application and mobi-site were developed by The Reach Trust and made available in three languages (English, Afrikaans and isiXhosa). Users were given the option to change languages in the settings of the application, at will. The content was drawn from established language materials developed by Wordworks. The focus was thus primarily on early literacy and language development, although numeracy was also covered to a lesser degree. The same mobile content was provided to the ECD practitioner of a class of 4 to 5-year olds, and to the parents of the children in this class.

This evaluation focuses on the first design cycle, where the initial content design (focussing on emergent literacy) was tested in ECD centres and homes. If the evaluation of the proof-of-concept phase was found to be positive, then the project partners plan to extend the scope of CareUp, to target a broader audience and potentially expand content beyond support for early language development.

The second design cycle will be intended to create a feedback loop between the parents and practitioners, with ideas on how to stimulate certain areas of development at home/in the crèches. This is built into the budget for Year 2, and will include more numeracy content along with other developmentally-appropriate content specific to geographical

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<sup>1</sup> The precise length of time varied from community to community, depending on the data of the first onboarding workshop

locations. For example, children in Khayelitsha may require more input on gross motor skills, while the Winelands children may need more input on fine motor skills. The application allows the CareUp team to customize and filter through relevant content provided by the therapists and other quality-assured partners (Kamesh Flynn, personal communication, 24 March 2017).

A brief timeline for implementation is provided in the table below.

*Table 1: CareUp implementation timeline*

<b>Date</b>	<b>Detail</b>
20 February 2016	Signing of contract between WCDS and the Reach Trust re development of the app
22 February 2016	Signing of contract between Innovation Edge and the Reach Trust re development of the app
8 August 2016	Launch of the CareUp application
11 August – 10 September 2016	First set of on-boarding workshops for parents and practitioners
22 October – 5 November 2016	First set of on-boarding workshops for parents and practitioners
4 December 2016	End of the evaluation monitoring phase

## Chapter 2: Evaluation methodology

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This chapter describes the methodology employed by the evaluators, including the evaluation questions and design, and the data collection and analysis activities.

### Methodology

The evaluation adopted a design-based research approach where a project steering group (comprising representative from Innovation Edge, Western Cape DSD and Reach Trust) participated in the design and implementation of the evaluation methodology. The steering group was established to ensure that data collection was as far as possible integrated into the implementation of the project; and that feedback from the evaluation process could be used to inform future project design and direction.

As this was the first intervention cycle, the focus of the evaluation was on improving the design of the application and how it was integrated into communities. The feedback obtained via the data collection processes was intended to inform the revised design for use in subsequent design cycles. While data was collected pertaining to efficacy and impact, this was done in order to establish whether the CareUp intervention held promise or caused unintended harm in any way.

The first design cycle was deliberately limited to a small scale of 10 ECD sites, in order to limit risk of failure, or harm. The uptake and usage data reported here therefore pertains to the 10 ECD centres, which are considered to be the entire population for the first design cycle intervention. The findings are not intended to be generalised to a wider South African population.

The evaluation was intended to provide monitoring and evaluation support to the CareUp project team in order to ensure that the programme design – and changes that occur as a result of the community context – are documented and reflected upon against a theory of change. The evaluation sought to develop and test evaluation tools and monitoring approaches which can be adopted by the project team if and when the programme intervention is expanded to reach to a wider scale.

This evaluation research work was undertaken in three phases:

1. A **structured conceptualisation process** (determining the precise details of the programme, its theory of change, logic model, and other related features);

2. An **implementation evaluation** (determining whether the intervention is implemented as planned); and
3. An **outcomes evaluation** (determining whether certain pre-specified outcomes have been achieved).

The design employed mixed methods in that both qualitative and quantitative data was utilised to answer the evaluation questions.

The quantitative data on uptake and use of the CareUp application and mobi-site is from all ten ECD centres. However, all the qualitative data collected for this evaluation restricted attention to four mainly isiXhosa-speaking case study sites: two sites in Philippi, and two in Khayelitsha. All interactions with ECD practitioners, parents and children in these centres were conducted by isiXhosa-speaking researchers.

There are four primary stakeholder groups relevant to this first phase evaluation:

1. The Western Cape Department of Social Development, which was part-funding this first design cycle;
2. Innovation Edge, which was also part-funding this first design cycle;
3. The Reach Trust, which developed the CareUp app and mobi-site; and
4. Wordworks, whose content has been used for all of the communications sent out via the app and most of the content in the resource section

## Evaluation questions

The evaluation of the first design cycle set out to answer evaluation questions related to an implementation and outcomes evaluation for the pilot intervention:

### Implementation evaluation

1. Has the programme been implemented as planned (in terms of both the details and timelines described prior to the intervention)?
2. Where deviations to the original plan and/or timelines are observed, what are these deviations and why did they occur?

### Outcomes evaluation

3. To what extent did the practitioners and parents engage with the CareUp messages?

4. What facilitated or hampered the engagement of the practitioners and parents with the CareUp service?
5. To what extent, and in which areas, did the intervention improve **practitioners' knowledge** of
  - a. the importance of early language development?
  - b. how to support language development in their classes?
6. To what extent, and in what ways, did the CareUp messages change the **practitioners' practices** with regard to
  - a. their interactions with the 4 to 5-year old children in their care?
  - b. their communication with parents of the 4 to 5-year old children in their care?<sup>2</sup>
7. To what extent, and in which areas, did the CareUp intervention improve a sample of **parents' self-reported knowledge** of:
  - a. the importance of early language development in their 4 to 5-year old children?
  - b. how to support the language development of their children?
8. To what extent, and in what ways, did the CareUp messages change a sample of the **parents' self-reported practices** with regard to:
  - a. their interactions with their 4 to 5-year old children?
  - b. their communication with the ECD practitioner?<sup>3</sup>
9. What were the perceptions of the stakeholders and practitioners about the strengths and weaknesses of the CareUp intervention?
10. What lessons have been learnt, and what recommendations can be made, as a result of this first design cycle?

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<sup>2</sup> Note: While data was collected for four teachers, detailed academic analysis of this data was only conducted for one teacher to illustrate this analytical process.

<sup>3</sup> Note: Data was collected for four parent-child relationships, but detailed academic analysis of this data was to be conducted for one home-visit to illustrate this analytical process.

## Conceptualisation activities

During this process, the evaluators provided support to ensure that the intervention was tightly focused, and designed from the outset to ensure programme reflection and measurable outcomes in relation to the programme purpose.

The Kelello team undertook the following conceptualisation activities from May to July 2016:

1. Facilitated a two-day Theory of Change (ToC) and evaluation design workshop with the WCDS, RT, and Innovation Edge staff;
2. Facilitated a Logic Model workshop with the WCDS, RT and Innovation Edge staff;
3. Reviewed and commented on written descriptions of programme scope; theory of change, and evaluation design.

The CareUp Theory of Change and Logic Model were developed at the workshop and subsequently fine-tuned with all stakeholders via email.

## Data collection and analysis

The various data collection processes carried out in this evaluation are illustrated in the figure below. A detailed description of the data collection and analysis processes can be found in Addendum B.

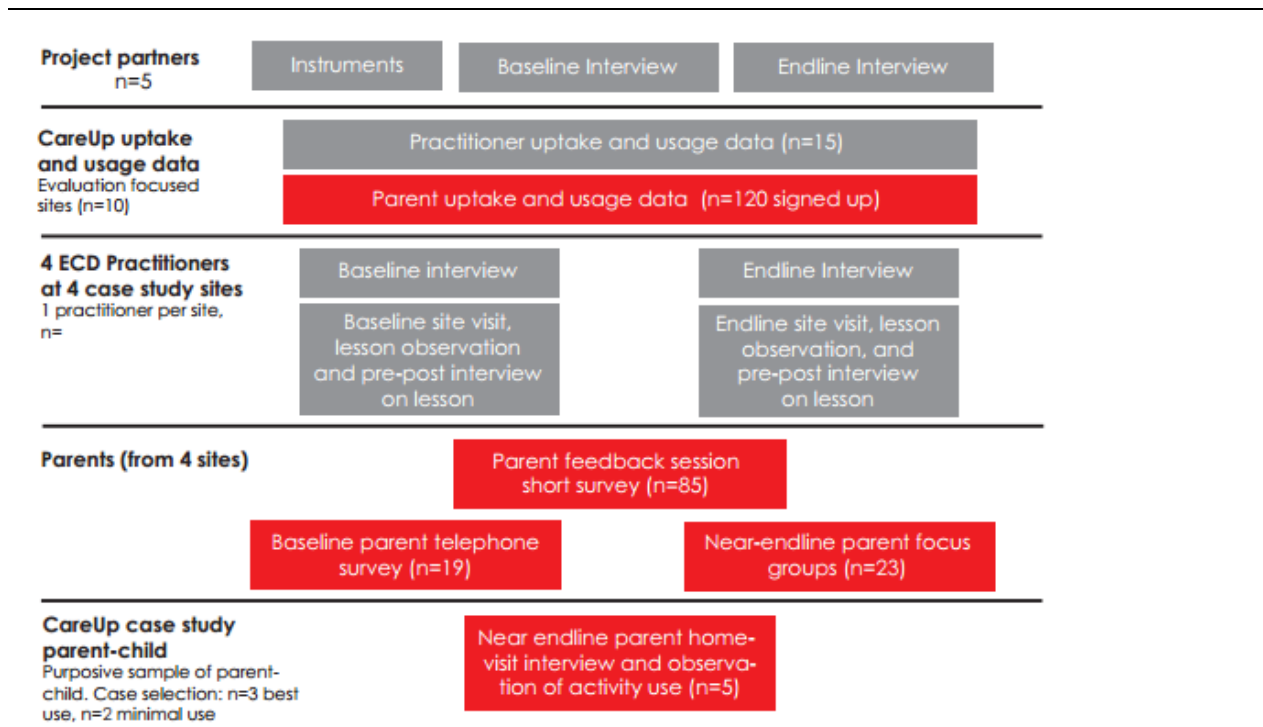


Figure 1: The CareUp evaluation data collection process

## Ethical considerations

The evaluation followed well-established ethical guidelines on the participation of children and other respondents. In particular, the principles of voluntary, informed consent for research participation were applied, in that all participants in the study were fully informed about the nature and purpose of the research and their requested involvement. Only participants who gave their written or verbal consent (documented) were included in the research.

## Limitations of the evaluation

The CareUp intervention was undertaken as one part of a multi-site Provincial strategic pilot project to improve education outcomes. The Learning Initiative intervention (TLII) formed the second part of the intervention, and therefore took place at the same time and in the same ECD centres. While the CareUp intervention focused on parents and practitioners, the TLII intervention was a child outcomes-focused intervention of professional therapists working directly in bi-weekly sessions with identified at-risk children.

Having two interventions take place simultaneously in the same centres was a research limitation. The CareUp intervention benefitted from the relationship with the WCDS, who supported the selection of sites, conceptualised the intervention and were responsible for roll out (through the contracting in and managing of service providers). However, this meant that the other part of the WCDS intervention (the Learning Initiative Intervention) ran concurrently in the same ECD centres; the premise being that both interventions would work together to add quality. While the TLI intervention had a direct child outcomes focus, there was a risk of project contamination. Changes observed in teaching practice, and in the responsiveness of parents, could not be linked solely to either project.

To reduce contamination between projects the TLII therapists and project team were advised to not yet engage with parents and practitioners for the first phase of the project roll out. However, it was evident in our evaluation data that not all parents and practitioners separated the two interventions. For example, a practitioner commented on the impact of the CareUp intervention by referring to how the learners had benefitted from the therapy sessions. As our engagement with parents and practitioners was direct (through interviews and focus groups) this misconception was pointed out; and attention directed to the CareUp application and its use.

The evaluation research for the first design cycle was limited to only two communities: Khayelitsha and Philippi. This allowed for a focus on the isiXhosa version of the application and mobi-site. Uptake and usage data was collated and analysed for the other communities – Mitchell's Plain and Stellenbosch – as well. These communities were not the focus of this evaluation, and as such no qualitative data has been reported on these additional communities.

Although data was collected from four practitioners by observing a lesson near the outset and near the endline, only one teacher's practice was analysed in detail. This was a result of budget constraints. The analysis was included to exemplify the process of detailed analysis in order to determine whether this kind of data collection and analysis contributed in a useful way to the overall evaluation report.

## Chapter 3: Description of the project

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The CareUp intervention was briefly described in the Chapter 1: Introduction. In this chapter, we offer a more detailed account of the project design in the first intervention design cycle. The intention of the description is to make clear the project goals, inputs and hoped-for outcomes in order to ensure that the project is replicable.

### Theory of Change

In the conceptualisation stage of the evaluation, a detailed theory of change (and associated logic model) was developed by the various stakeholders in CareUp, with support and guidance from the evaluators. This was expressed in both a narrative and a diagrammatic form, as provided below.

#### Narrative Theory of Change

Children in disadvantaged communities are typically not exposed to quality ECD services, resulting in poor levels of literacy and numeracy which impact long-term educational outcomes. Further, many parents and caregivers lack understanding of the important role they can play in stimulating their child's early learning through simple everyday interactions.

When primary caregivers stimulate early childhood development in language and literacy, a long-term improvement in a child's educational outcomes - particularly the ability to 'read for meaning' - is expected. Through the literacy/language resources, instructions and activities received via the CareUp mobile application, parents will be made aware of their critical role in developing their 4 to 5-year old children, particularly in the area of home language. The potential to enrich parent child relationships through this process has also been shown to have lasting positive effects for the all-important primary caregiver attachment. If the CareUp instructions are internalised and the activities practiced, then a rich home language environment for their 4 to 5-year old children will be created. Similarly, the CareUp application will provide quality resources and activities for ECD practitioners, which if used regularly by means of incorporation into the daily ECD Centre routine, will ensure a rich home language environment for the 4 to 5-year old children in their care. The co-ordination of activities across the home and preschool spaces will serve to strengthen the impact of the intervention in each.

Such home language-stimulating, quality-communication home and pre-school environments will result in the children being more proficient in their home language when entering Grade R.

Moderating factors that may restrict the caregiver's ability to benefit from the intervention include lack of interest or confidence in signing up for the service and/or attending Educare meetings and/or communicating frequently with their child's teacher; lack of access to an Android phone; and a lack of data to upload responses. Challenging home circumstances may also play a part in preventing caregivers from fully engaging with the app and associated resources.

Diagrammatic Theory of Change

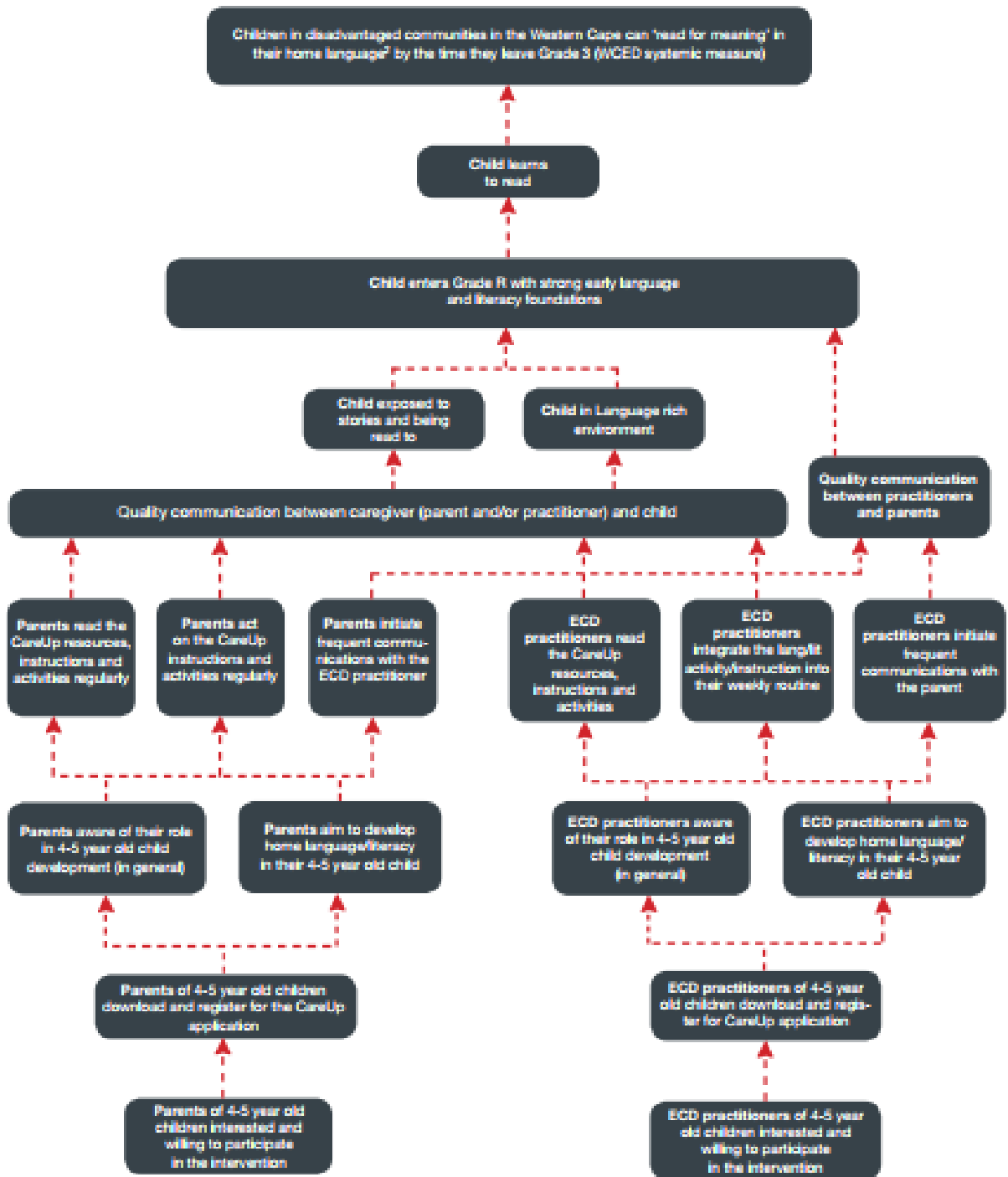


Figure 2: CareUp Theory of Change

## Logic model

A basic logic model was developed which aimed to make explicit the project inputs (what resources were invested into the project), the activities (the events and actions taken as part of the project design), the resulting outputs (what was created or generated) and the hoped-for outcomes (what was expected to be achieved). The outcomes were separated into knowledge and awareness outcomes; behaviour outcomes and impact outcomes.

Table 2: CareUp Logic model

Inputs	Activities	Outputs	Outcomes		
			Knowledge and awareness outcomes	Behaviour outcomes	Impact
Project team (onboarding) Marketing material for onboarding workshop The CareUp application Mobile phone for ECD practitioner Data for ECD practitioners (R10 per month), possibility to offer to parent if necessary Funding	1 site meeting introduction (principal and ECD practitioner - user feedback; expectations of them; how it helps them) 1 follow-up meeting including letter of agreement for participate in the project and mobile phone for ECD practitioner	CareUp downloads by practitioners CareUp registrations by practitioners Attendance register from the meeting Letter of agreement to participate in the intervention (granting permission from principal and ECD practitioner) List of parents' and children's' names, and parent contact details	ECD practitioners aware of their role in offering quality ECD ECD practitioners <u>know how</u> to offer a rich home language environment for 4-5 year olds	ECD practitioners read the CareUp resources, instructions and activities ECD practitioners integrate the lang/lit activity/instruction into their weekly routine Principal/ECD practitioner convenes 3 Educare parent workshops on CareUp intervention ECD practitioners offer a rich home language environment for 4-5 year olds ECD practitioners initiate frequent communication (verbally and/or through notes) with parent	ECD practitioners are more engaged with parents, and better support children's' home language development
Project team (onboarding) Marketing material for onboarding workshop (e.g. letters for parents) CareUp application Funding	Onboarding parents (two 2-hour workshops and additional activities such as SMS campaign) Third 2-hour workshop (to provide feedback) OR Light touch model (only visits to ECD principals and letters to parents)	CareUp downloads by parents CareUp registrations by parents Attendance register from the parents meetings Letter of permission from the parents to participate	Parents aware of their role in 4-5 year old child development (in early language development and in relation to the school-child-parent partnership) Parents aware of their role in home language development of their child	Parents read and use the CareUp resources, instructions and activities regularly Parents attend quarterly ECD centre/Educare parent meetings Parents initiate frequent communication (verbally and/or through notes) with ECD practitioner	Parents are more engaged in their child's education, have higher expectations of their child and school in future, and understand the school-child-parent partnership

The indicators of success and related sources of evidence for these are described in Addendum A.

The long-term vision for the CareUp intervention is that 'children in disadvantaged communities in the Western Cape can 'read for meaning' in their home language (limited

to English, Afrikaans or isiXhosa for now) by the time they leave Grade 3 (using a WCED systemic assessment measure)'.

The medium-term goals of the first design cycle were for the CareUp intervention to contribute to 'children being more proficient in their home language' when they enter Grade R as this is considered a prerequisite for the longer-term aim of these children being able to 'read for meaning in their home language (limited to English, Afrikaans or isiXhosa for now) by the time they leave Grade 3 (WCED systemic measure)'.

The short-term vision for the first design cycle was to contribute to this ECD child outcome, by focusing on and supporting the parents and ECD practitioners of 4 to 5-year old children in the 10 ECD centres in the two communities. For each target group (parents and practitioners), there was a general aim relating to improved awareness of role definition (in general), and then specific aims in relation to their role in language development.

With the theory of change of the intervention clear, it is now possible to describe the main project input – the CareUp application and mobi-site – and the key activity – the on-boarding or activation workshops – in detail.

## The CareUp application and mobi-site



*Figure 3: CareUp logo*

Both a CareUp application for Android phones and a CareUp mobi-site were developed. The application can be downloaded to an android mobile phone and the resources and materials could be used when the user was not online. When users were connected to the Internet they could refresh their application. The CareUp mobi-site required the users to be online to access the materials and resources – however, the mobi-site was compatible with any mobile phone that could access the Internet via a browser. It was expected that most use would be on the application, where the requirement to be online was not a

barrier to access. The content and functionality of the application and mobi-site were the same.

The CareUp application and mobi-site delivered 18 weeks of co-ordinated messages to parents and practitioners of 4 to 5-year old children, aimed at stimulating early language development and literacy.

Registered users received eight communications a week: three instructions; three activities; one motivational message; and one summary message. These are described in more detail below. Most of the content for the pilot project came from the Wordworks 'Every Word Counts' books, focussed on deepening language development and literacy. There were also resource story books in English, Afrikaans and isiXhosa provided by Nal'iBali.

There was one version of the application for use by both parents and practitioners. When a user registered for the service they had to indicate whether they were a practitioner or parent, and choose the language by which they wish to receive communications (either English, Afrikaans or isiXhosa). It was possible for a user to change their language choice at any stage. All communications and resources are available in English, Afrikaans and isiXhosa.

The navigation dropdown menu (home, instructions, activities, resources, messages, communicate, user profile, settings and about) was provided in English only. Similarly, the icons for navigating from the homepage, as well as all the page headings (instructions, activities, resources, messages), were provided only in English.

The content was structured in the same way on both application and mobi-site, although the layout between the two was slightly different, as shown below.

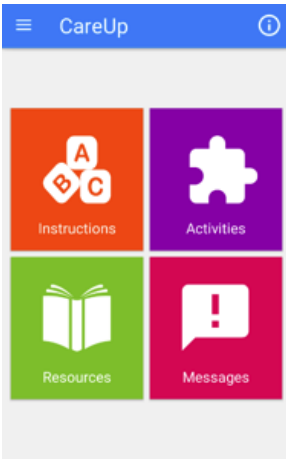


Figure 4: CareUp app home screen

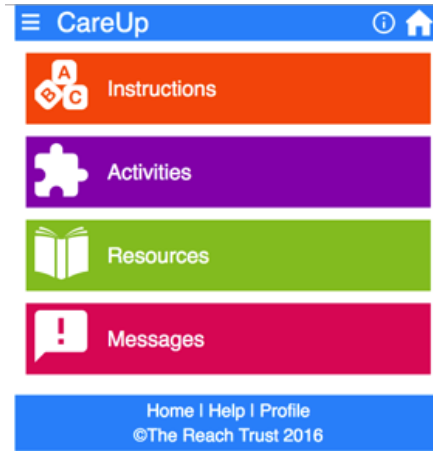


Figure 5: CareUp mobi-site home screen

As the four different content types – instructions, activities, resources and messages – play different roles and are used in the analysis of usage data, we describe and exemplify each content type.

The Instructions are labelled by calendar day and date, and users have the option to browse previous instructions, but not go ahead of the current date.



Figure 6: CareUp app instruction (example)

Each Instruction commonly comprised a graphic image with three audio clips that could be clicked to hear the instruction relating to the image. A book icon allowed users to click to read the Instruction in written text. This aspect was considered an important component of the CareUp app, as the potential to use audio files to support language comprehension can be considered innovative and supportive of the primary target

audience of low-literacy adults. The written-text version of the instruction also included some additional probing questions, as well as ‘more ideas’, which were not included in the audio files. A ‘vote’ button has been included which asks ‘was this instruction useful?’ to which the user had an option to remove (ignore) the vote, or respond by clicking on a ‘thumbs up’ or ‘thumbs down’ icon<sup>4</sup>.

The Activities were similarly labelled by calendar day and date, and allowed an option to browse previous activities.



Figure 7: CareUp app activity (example)

Each Activity was a written instruction of a task to undertake, with some guiding questions to pose. A link was provided to access further reading resources. As for the Instructions, a ‘vote’ button has been included which asks ‘was this activity useful?’ to which the user had an option to remove (ignore) the vote, or respond by clicking on a ‘thumbs up’ or ‘thumbs down’ icon.

The Resources section provided two sets of resources: the same content in more depth (from Wordworks) with ideas for parents to complete with their children to improve early language and literacy; and age-appropriate stories (from Nal’iBali) in the language chosen by the user.

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<sup>4</sup> The feedback icon only appears after all 3 audio files have been listened to



Figure 8: CareUp app Nal'iBali stories (home page)



Figure 9: CareUp app Wordworks resources (home page)

The Messages section shows a collation of the messages broadcast to users. There were two types: motivational messages and summary messages. Past messages could be browsed. There was no option for the user to reply to a message or compose a message.

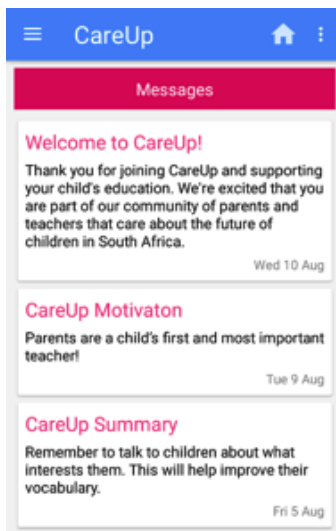


Figure 10: CareUp app messages (example)

Messages were arranged in a long list of all messages broadcast by the service to the user group. These were arranged by date with the most recent message appearing at the top of the list.

In this pilot phase, the messages were hardcoded to particular dates and ran strictly by calendar date. As such users who joined the pilot intervention after the start date received all the previous message on their first download experience.

In the pilot phase, if an individual was using the CareUp app within a new version of Android, if they had not disabled notifications they were notified of each new communication (e.g. activity, instruction or message) by a push notification from CareUp, which appeared as a pop-up on their screens. If, however, they were using an older version of Android, the presence of a new communication would be shown by means of a small CareUp caterpillar icon appearing on the home-screen. This could easily be missed by some users. Individuals who signed up for CareUp and indicated that they were using the mobi-site received an sms with a link (e.g. <http://careup.mobi/activity/36>) to the relevant activity, message, etc., on the same days of the week that the app users received their push notifications.

## User testing

User feedback from testing was incorporated into the improvement of the CareUp app prior to its initial launch. This testing occurred at the same time as introducing the app to the practitioners for the first time: in Philippi on 21 June, and Khayelitsha on 7 July. One design change that occurred as a result of this process was changing important sections and actions to an orange colour.

## CareUp on-boarding process

The activation / on-boarding process adopted in the first phase intervention cycle included a number of aspects, and is summarised briefly here. The full description can be found in Addendum E.

Prior to the launch of the intervention, in May to July 2016, WCDS, Reach Trust and local NGO reps visited the ECD centres to meet the principals and practitioners to brief them. In early August 2016, the practitioners were given their (loan) smartphone, loaded with data.

The parents were onboarded by means of two series of Saturday morning workshops; the first in August or September 2016, and the second in October or November 2016. A

number of topics were covered at these workshops, most notably a presentation on the importance of the parents' role in assisting the early literacy development of their children; and another that provided information on the CareUp app; and showed the parents how to use it. Parents were also assisted with the downloading of the CareUp app onto their phones.

Parents were incentivised to attend these sessions by means of the provision of the following items: transport money; tea and lunch; free 100 MB of data; and a 'goodie bag' of stationery and educational items.

## Chapter 4: Findings

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This chapter provides the evaluation findings, presented as answers to the evaluation questions presented in Chapter 2. The implementation evaluation findings are discussed, before considering the outcome evaluation findings.

### Implementation evaluation

There were two evaluation questions posed which are tightly related to each other:

- Evaluation question 1: Has the programme been implemented as planned?
- Evaluation question 2: Where deviations to the original plan and/or timelines are observed, what are these deviations and why did they occur?

We answer these two questions together, as the discussion on the latter provides examples to illustrate the findings relating to the former.

The evidence for answering these questions was drawn from the following data sources:

- The interviews with high-level roleplayers;
- Observations by the evaluation team; and
- Engagements in the monthly steering group meetings.

The high-level stakeholders are generally in agreement that the project has largely been implemented as planned, with most of the changes being of a minor nature, with some of the stakeholders referring to a 'natural evolution' of the implementation plan due to the (agreed) iterative process of this pilot phase.

Several changes to the original implementation plan were noted by the stakeholders, and we discuss each briefly.

The number of ECD sites were reduced. It was originally envisaged that there would be 20 ECD sites, but this was reduced to ten sites for roll-out. This change was due to the fact that it was realised early on that sufficient data could be collected from the reduced number of sites.

Some changes were made to the technology product to improve it. Some of the more substantial of these changes were:

- Extending the Wordworks content to allow for greater accessibility amongst low-literacy adults, through the adding of audio clips embedded on the 'instructions' pages (Andrew Rudge, personal communication, 31 March 2017); and
- A richer interface than originally envisaged was developed – e.g. caterpillar appearing on screen if user has been quiet a while; change to orange colour for instructions. The change was due to feedback from Reach Trust user testing sessions that users preferred orange (thus, all important sections and actions were changed to that colour).

Some changes were made to the communications:

- The number of communications (per week) was increased from three to eight. The reason for this is as follows: As the content (i.e. splitting the instructions and activities) and logic of how the app was going to work evolved, it made more sense to include a message/ reminder for every piece of content that needed to be accessed per day. Overall the app became slightly more complex than originally envisioned, and 3 messages per week would not have been sufficient (Mariska Burger, personal communication, 10 February 2017);
- The originally-envisaged health-related messaging from the government (to be included from the Department of Health) was not included in the offering. This was because the messages were not received in time, and so it was decided to launch the app without these messages and work them into future versions (Mariska Burger, personal communication, 10 February 2017).

There were a few changes to the project timelines:

- The launch of the CareUp application was meant to be in April 2016 but actually took place in August 2016. The reason for this change is that there was a delay in the payment to the app developer (the Reach Trust) until February 2016, only after which they were able to start work on developing the app. The app development was always expected to take about 6 months (Andrew Rudge, personal communication, 10 February 2017).
- More time was spent on the activation component than originally anticipated.

Further, the process of marketing the application and supporting the uptake of the CareUp application amongst the targeted parents changed. The originally-envisaged minimum viable intervention (MVI) was intended to ensure that the targeted participants knew about the CareUp project. The MVI was intended to comprise of meeting with the ECD centre management and the relevant practitioner, sending a letter home to parents informing them of how to download the CareUp application and how to use it, and rewarding parents who responded to the letter with 100 MB of data to support the download. However, this process was intensified to involve two activation workshops where parents and practitioners met face-to-face with the project implementers in a central venue in their community. The workshops evolved into something different to what was expected, described by one of the high-level respondents as becoming a 'different beast'. There were brief inputs on TLII, Wordworks and CareUp. The second workshop focused more on on-boarding than originally envisaged, to try to get more parents to sign up. The Reach Trust was originally meant to be involved at only a technical level – but did quite a bit of project management work around the activation process and facilitation.

As is appropriate for the first design cycle, the data collection and reporting on uptake and usage evolved over the intervention period. The way of reporting on uptake and usage data evolved over time as there was discussion and agreement in the steering group to decide exactly what data to collect. This was due to discussions between all stakeholders, but particularly Reach Trust and Kelello, about what data should be collected and how it should be reported.

In terms of changes to the monitoring and evaluation design, data collection changed from telephone interviews to focus groups for endline parent feedback. This was due to the difficulty of obtaining sufficient parental feedback by means of telephone calls.

In our opinion, the changes made to the implementation plan were almost all positive and made in the spirit of the iterative nature of this trial phase. The 'negative' changes were few in number compared to what often happens in interventions of this nature.

The practitioners interviewed at endline were asked whether the CareUp project had 'happen[ed] as you expected', and all agreed that it had indeed been implemented as expected. For example, one practitioner said:

‘As it was the first time for the CareUp project, to be introduced and conducted to us, all the things that I expected and were said on the onboard workshops has been delivered.’

This positive finding implies that any changes made to the intervention by the role-players were not experienced as ‘deviations’ by the beneficiaries.

## Outcomes evaluation

### Practitioner and parent engagement with the CareUp service

In this section, we discuss the findings relating to the following evaluation question:

- Evaluation question 3: To what extent did the practitioners and parents engage with the CareUp messages?

The evidence for answering these questions was drawn from uptake and usage data provided by the Reach Trust. It should be born in mind that this quantitative data refers to all ten sites (including two which were predominantly Afrikaans/English in Stellenbosch and Michell’s Plain).

We distinguish between ‘uptake’ (how many of the people targeted registered for the CareUp service), and ‘use’ (how registered users utilised the service over time and in relation to the different content types).

### Uptake by the practitioners

The uptake of the **practitioners** at the ten pilot sites is shown below.



Figure 11: Uptake of the CareUp practitioners, by area

This data indicates that all 15 of the practitioners (including their assistants) at the ten sites attended the on-boarding workshop, and all but one signed up to receive CareUp notifications<sup>5</sup>. All but two of those who signed up chose to use the Android app, rather than the mobi-site. Focusing on the 8 isiXhosa sites (the focus of the evaluation), there was 100% uptake in both Khayelitsha and Philippi, with a total of 12 practitioners signing up and one choosing to use the mobi-site.

This is an outstanding level of uptake by the practitioners. However, this level of uptake needs to be considered in relation to the way in which the CareUp intervention was introduced to practitioners, and the key project inputs offered to the practitioners. In larger-scale roll out, this level of uptake by practitioners is unlikely to be replicated. The sign up of all practitioners has been helped by:

- The buy-in from ECD centre managers and practitioners via the meetings with the DSD and Reach Trust;

<sup>5</sup> One teacher's assistant was unable to sign up to use CareUp as their personal phone did not have Internet capabilities

- The fact that all the practitioners were provided with an android smartphone and data for their use, which ensured they would have no device or data problems when trying to access CareUp;
- The direct contact between implementing agents and the practitioners.

Uptake by the parents

The uptake of the **parents** at the ten pilot sites is shown below.





Figure 12: Uptake of the CareUp parents, by area

This data shows that 348 parents were invited to download CareUp, but only 120 (34% of the total) actually completed the download (and signed up to receive CareUp notifications). The percentage uptake varied from 29% (in Khayelitsha) to 50% (in Stellenbosch). It is clear that most of the sign ups took place at or immediately after the first on-boarding workshops, with only about a fifth (19.1%) signing up due to the second on-boarding workshops. About two-thirds (65%) of the parents that signed up chose to use the Android app<sup>6</sup>; and the rest the mobi-site.

What is somewhat surprising is that of those 254 parents<sup>7</sup> who attended the on-boarding workshops, fewer than half (47%) actually signed up. It is unclear why such a high percentage attended the workshop, where they were given data to download the app, and yet failed to download the app, since that was one of the primary purposes of the meeting. We have two conjectures that may explain this. First, at least some of this group attended in order to access the incentives<sup>8</sup>, rather than with a genuine interest in the real purpose of the workshop. Second, it is possible that the parents were not able to use their mobile devices, or did not have appropriate devices to download the service. The 'skills'

<sup>6</sup> This percentage might possibly have been limited by some of the parents having non-Android smartphones

<sup>7</sup> The total of 'unique' parents attending the first and/or the second workshops

<sup>8</sup> The precise incentives offered were covered in detail in the project description chapter

of downloading an application, accessing the internet and interacting with mobile devices to undertake tasks other than sending or receiving messages or sending and receiving phone calls may not be developed in the targeted parent group. Although help was available and provided at the on-boarding sessions, this was not utilised to the point of successfully downloading the application by about half of the participants.

This parent uptake appears reasonable, but unfortunately there is only one mobile education intervention in South Africa which we have evaluated (or have data for) which targeted parents. In this country-wide intervention, 21,463 parents signed up for the service (approximately 3-4% of all parents targeted by the intervention). However, it is difficult to make direct comparisons as in this other intervention the service was not advocated for via on-boarding workshops involving parents, there was no incentive, and no support to facilitate the download process, and the service was obtainable through Mxit, which the parents had already previously downloaded. A few marketing events were held, and learners were encouraged to get their parents to download the service.

Attendance at the on-boarding sessions was good: 194 parents attended the first sessions, and another 59 'new' parents (plus other repeats) at the second sessions. This equates to 56% of the invited parents attending the first session, and – by the end of the second session – 73% of invited parents attending at least one of the workshops.

It remains a question whether the second workshop was advisable, considering the cost of running it, as it resulted in only 23 additional CareUp sign-ups<sup>9</sup>.

In future iterations of the service, the on-boarding process is not likely to be so intensive and so supported. The following uptake targets emerge for future design cycles:

- Targeted parents: 100%
- Invited to participate in an on-boarding session: 100%
- Parents attending the first on-boarding session: 56%
- Parents attending the first or second on-boarding session: 73%
- Parents signing up for the application: 47% of those who attended at least one workshop (34% of all the targeted parents)

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<sup>9</sup> Although this workshop also had the purpose of getting feedback from parents on their use / non-use of the service, and this was helpful data.

### Usage by the practitioners and parents

'Usage' is considered in relation to registered/signed-up individual users, who then open notifications (e.g. messages) sent by CareUp. This measure therefore excludes parents or practitioners who were targeted for the CareUp service, but who never registered or signed up for the service.

Usage is a measure of the registered users' level of engagement with the CareUp content. It is considered over time, and in relation to the types of content available on the service.

### Usage week-by-week

The line graph below shows the week-by-week percentage of registered practitioners and parents (denoted  $n_{pr}$  and  $n_{pa}$  for each user group, respectively) at the ten sites who were active at least once in each week.

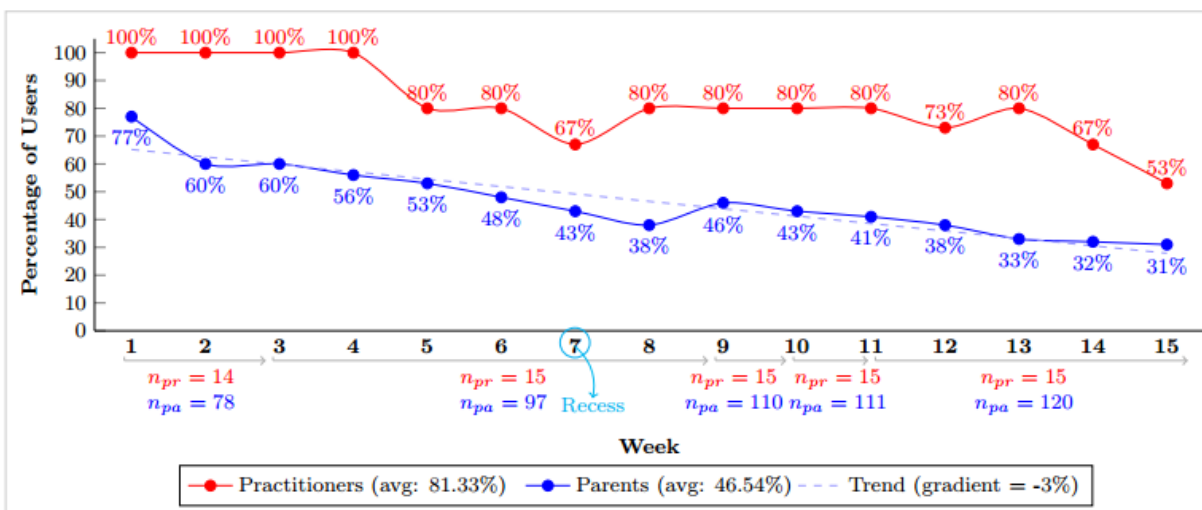


Figure 13: CareUp usage by practitioners and parents, week-by-week

This data shows that all registered practitioners used CareUp at least once in each of the first four weeks. This 100% usage was not sustained beyond that, but remained very high (80% or above) for most of the pilot phase. Lower usage was measured in Weeks 7, 14 and 15. Week 7 coincided with the holiday between Terms 3 and 4, and so is likely to explain the (temporary) drop. We speculate that the sharp decline in the final two weeks of the intervention (Weeks 14 and 15; ending at 53% usage) was due to the fact that the school year was nearing an end, and the practitioners became focussed on other matters, like final reports.

Even taking into account the late decline, this usage by the practitioners is very good, and indicates a sustained engagement with CareUp over (almost) the full 15 weeks of the pilot intervention.

The data for the parents show that the usage peaked in the first week at 77%, and generally declined steadily thereafter, to a value of 31% usage in Week 15. The only week where there was an increase in usage compared with the previous week was in Week 9. This is likely to be due to the influx of enthusiastic new parent users due to the second on-boarding workshops that week.

Usage data for each area – not shown here – indicates that although all the communities showed very high usage early on, by the last measuring period (weeks 12-15) there was a substantial difference in the level of usage from community to community: Mitchell's Plain: 13%; Stellenbosch: 25%; Philippi: 40%; Khayelitsha: 62%. The reasons for these dramatic variations is unknown, but it might be worth noting that the highest sustained use was in the two predominantly 'black African' townships, where there is more isiXhosa spoken, and the lowest in the two predominantly 'Coloured' areas where English or Afrikaans is the more dominant language.

It is common to see declining use for mobile educational services, and sustaining usage over a 50% threshold (in the case of the practitioners) is to be commended. However, it should be noted that this intervention was of relatively short duration (15 weeks). In other studies we have undertaken, we have observed usage over 6 months to 1 year. It may be that the high usage evident would decline further as the duration of the intervention is extended. The pilot findings are, however, promising for the sustained usage by both parents and practitioners.

A further consideration is the technical aspect of 'joining up' the CareUp service with other commonly-used platforms. It is a design constraint that the messaging is all internal to the service, and cannot be shared more broadly, on other platforms.

The following practitioner usage targets emerge for future design cycles:

- Registered practitioners using the application each week in the first 4 weeks: 100%;
- Registered practitioners using the application each week after the first 4 weeks: 75%;

- Registered practitioners using the application during holiday periods: 50%.

The following parent usage targets emerge for future design cycles:

- Registered parents using the application each week in the first 4 weeks: 60%;
- Registered parents using the application each week after the first 4 weeks: 40%;
- Registered parents using the application during holiday periods: 30%.

While the above analysis shows the proportion of each user group (practitioners and parents) who were using the CareUp service in each week of the intervention, it is also informative to consider for how many weeks each user accessed the CareUp service.

The pie chart below shows the number of weeks (out of the maximum of 15) that individual practitioners used CareUp.

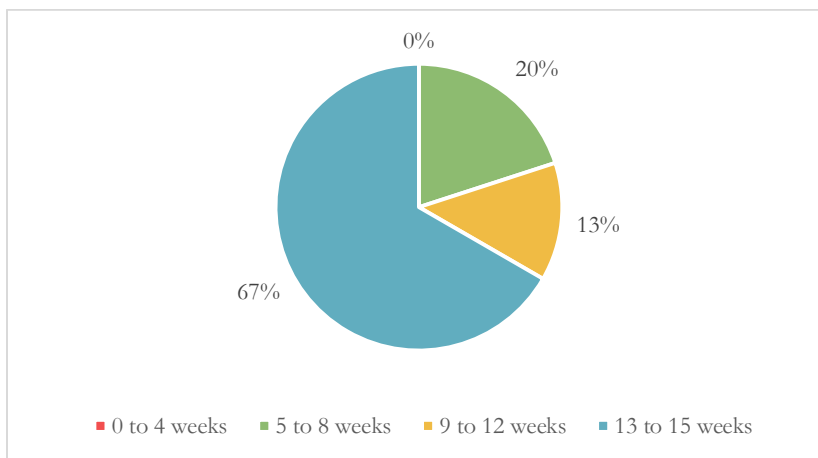


Figure 14: Number of weeks CareUp was used by individual practitioners

This shows that two-thirds of the practitioners (10 out of the 15) used the service at least 13 out of the 15 weeks (in fact, 40% used it every week of the pilot). This provides another indication of the sustained usage of the practitioners.

The bar chart below shows the same data, but for the parents that were registered at the first on-boarding workshop in Khayelitsha, Philippi and Mitchell's Plain (where the maximum number of possible weeks of usage was 15)<sup>10</sup>.

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<sup>10</sup> Similar graphs could be drawn for the Stellenbosch group, and for those onboarded at the second workshops, but the data for these does not add any great new insights to what can be seen in the graph below.

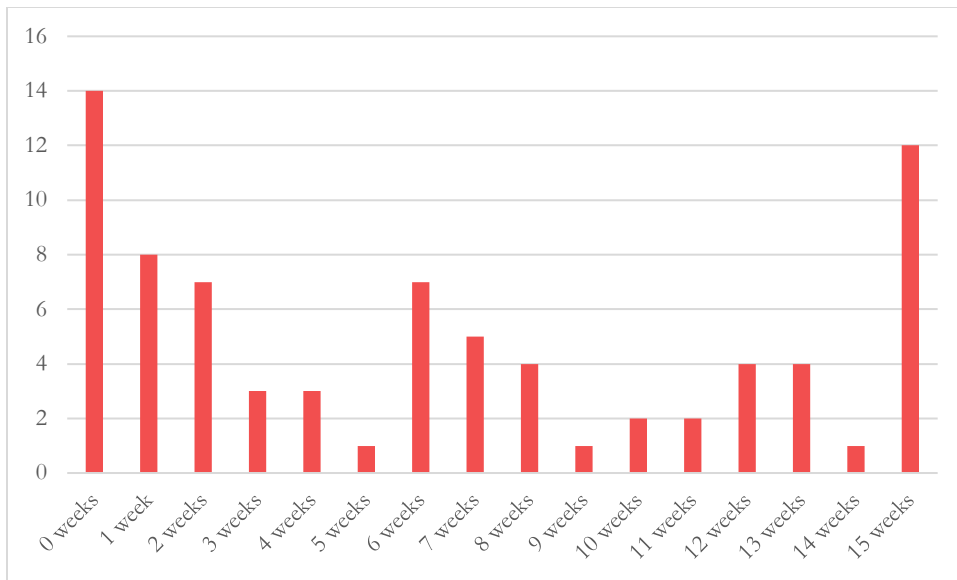


Figure 15: Number of weeks CareUp was used by individual parents (first on-boarding group only, n=83)

This shows that there was a wide variation in the number of weeks that individual parents used the service. The highest number of registered users, fourteen (18% of the total), did not use the service at all. However, the second highest number (12, or 15%) used the service every week of the pilot. The mean (average) number of weeks that this group of parents was active was 6.4 weeks, slightly less than half the number of weeks in the pilot.

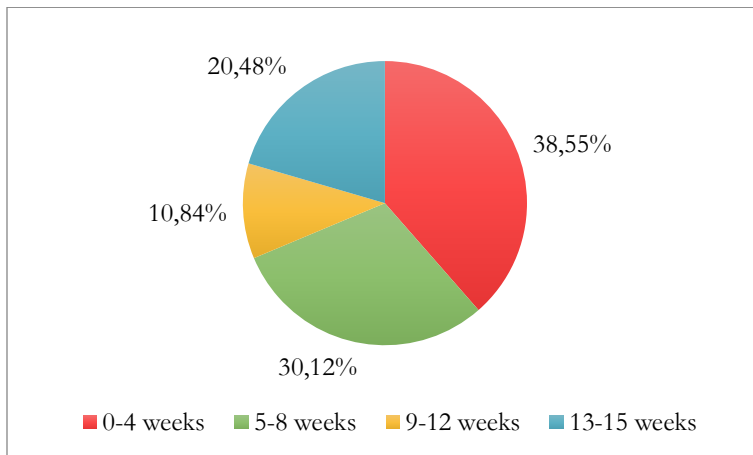


Figure 16: Number of weeks CareUp was used by individual parents (n=83, first on-boarding signups)

Extent of use

The above gives some indication of the extent of use: how many of the registered users were using the service each week, and how this changed over time. We now turn our attention to the extent of use – how *frequently* were users utilising CareUp? Of the users (referred to as ‘user parents’ or ‘user practitioners’) who were active in each week, the percentage who were active for 3 or more days is shown in the figure below, along with the average percentage for the 15-week period.

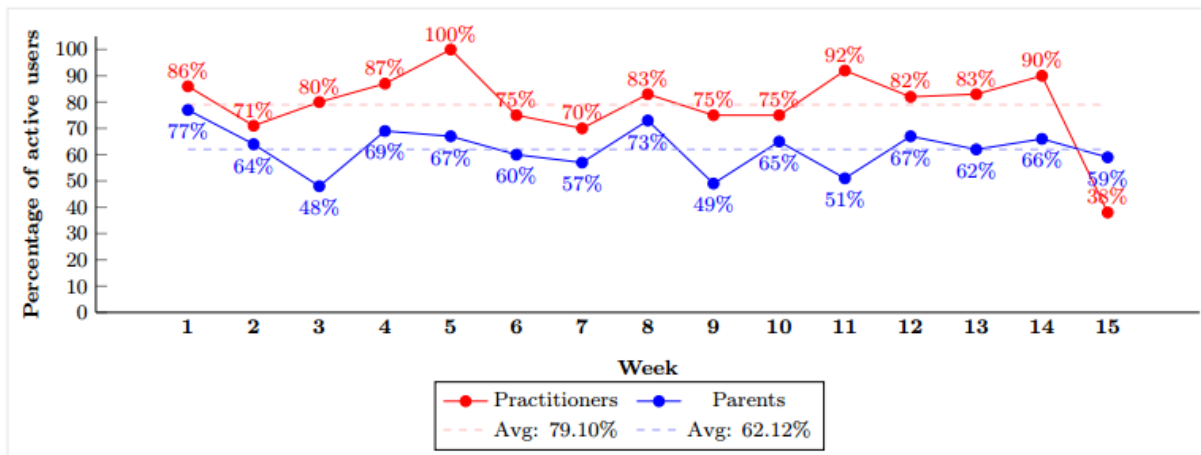


Figure 17: CareUp users using the service frequently (3 or more times per week), week-by-week

This shows that, in all weeks barring the final one, at least 70% of the user practitioners accessed CareUp at least three times per week. In the case of the parents, in most weeks around two-thirds of the user parents accessed CareUp at least three times per week. For both groups, the fluctuation from week to week appears haphazard, without obvious pattern or reason.

Based on our prior experience, such frequent use by the user groups of both parents and practitioners is excellent. That this was largely sustained over the duration of the intervention is a further encouraging finding.

The following targets emerge for extent of use (amongst the parents and practitioners using the service):

- Percentage of user practitioners using CareUp more than 3 times in a week: 75%
- Percentage of user parents using CareUp more than 3 times in a week: 55%

### Total usage

The table below provides a measure of the total number of unique instructions, activities and notifications (of three types) opened over the period of the intervention. In the case of the instructions and activities, only those opened for longer than seven seconds (and therefore more likely to represent genuine engagements with the material) are counted.

Table 3: Total numbers of CareUp instructions, activities and notifications opened, by user group

	Instructions	Activities	Notifications		
	Number of unique instructions opened > 7 seconds	Number of unique activities opened > 7 seconds	Number of unique instruction notifications opened	Number of unique activity notifications opened	Number of unique motivational/factual notifications opened
<b>Parents</b>	1502	1085	733	901	586
<b>Practitioners</b>	408	387	221	247	133
<b>TOTAL</b>	<b>1910</b>	<b>1472</b>	<b>954</b>	<b>1148</b>	<b>719</b>

The table below shows the total number of resource (Nal'ibali and Wordworks) pages opened over the period of the intervention.

Table 4: Total numbers of CareUp resource pages opened, by user group

	Nal'ibali		Wordworks	
	Number of unique Nal'ibali pages opened > 7 seconds	Total number of Nal'ibali pages opened > 7 seconds	Number of unique Wordworks pages opened > 7 seconds	Total number of Wordworks pages opened > 7 seconds
<b>Parents</b>	565	1974	780	1298
<b>Practitioners</b>	130	536	221	541
<b>TOTAL</b>	<b>695</b>	<b>2510</b>	<b>1001</b>	<b>1839</b>

### Usage by individuals

Data has been provided by the Reach Trust indicating the number of unique instructions and activities<sup>11</sup> that were opened by users for longer than seven seconds<sup>12</sup>. This has been quantitatively analysed, with the results provided below.

The number of times the different types of communications and resources provided on CareUp were opened for more than 7 seconds is shown in the table below, separately for the practitioners and parents. It should be noted that the maximum number of unique instructions and activities that could have been opened is 54 instructions and 54 activities; while 79 unique Wordworks pages and 16 Nal'ibali stories are available on the application. Further, some of the users in the parents' group were only onboarded with a few weeks of the pilot intervention to go, which means that those individuals would have had a shorter time period to open communications (and hence would have reduced the parent's averages, compared to the practitioners, who were all onboarded at the start).

Table 5: The number of unique openings of different CareUp communications and resources, by user group

	Instructions	Activities	Nal'ibali		Wordworks	
	Average number of unique instructions opened	Average number of unique activities opened	Average number of unique Nal'ibali pages opened	Total number of Nal'ibali pages opened	Average number of unique Wordworks pages opened	Total number of Wordworks pages opened
<b>Practitioners (n=15)</b>	27.2	25.8	8.7	35.7	14.7	36.1
<b>All parents (n=120)</b>	12.5	9.0	4.7	16.5	6.5	10.8
<b>User parents (n=102)</b>	14.7	10.6	5.5	19.4	7.6	12.7

The table above shows that, on average and for all types, practitioners opened more communications and resources than parents. This is further evidence of their higher level of engagement with the service. On average, the practitioners opened just over half

<sup>11</sup> Messages (summary and motivational) are visible without needing to go into the CareUp app (either on the notification sent to an Android user, or the SMS sent to a mobi-site user). Thus, any count of actual visits to the app to read messages would be a substantial under-count of actual reading of messages.

<sup>12</sup> This 'minimum open' time was set so that if someone was just scrolling past a message (or in any other way not truly engaging with it) then that would not count as the instruction/activity being opened.

(50.4%) the instructions, and just under half (47.8%) the activities, whereas for user parents it was just over a quarter (27.2%), and just less than one-fifth (19.6%), respectively.

The box plots<sup>13</sup> below illustrate the spread of data for the number of unique openings of various types of communications.

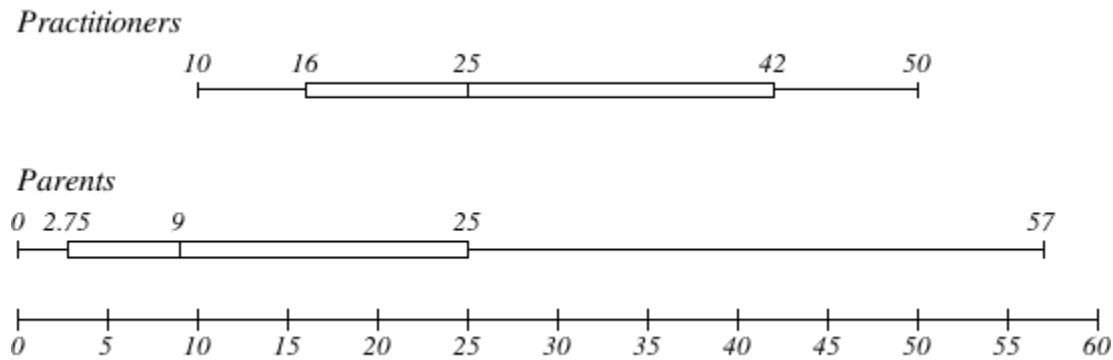


Figure 18: Box plot of number of unique instructions opened, by user group

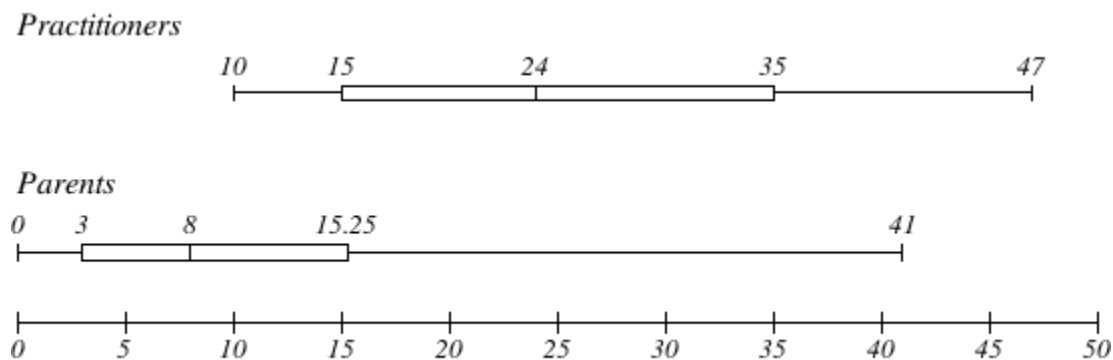


Figure 19: Box plot of number of unique activities opened, by user group

What is interesting to note from the above box plots is that for both instructions and activities, the minimum value for the practitioners is higher than the median for the parents. One slightly anomalous finding is that the maximum value for the number of

<sup>13</sup> Box plots illustrate the spread of data in a data set. The five points shown on each box are, in order from left to right, the minimum value, lower quartile, median, upper quartile, and maximum value

instructions opened by a parent is higher than for any practitioner (i.e. there was one parent who opened more instructions than any of the practitioners).

The parent box plots are highly positively skewed, whereas the practitioner box plots are closer to being normally distributed. The positive skew of the parent box plots means that most of the parents in the user population opened the different communications a small number of times, but that there were some very high users too.

### Feedback from users on activities and instructions

Users can provide feedback on instructions and activities received by voting with a 'thumbs up' or 'thumbs down'. Of the users who opened instruction(s)/activity(ies) for more than 7 seconds in each week, the percentage who provide feedback is shown in the figures below.

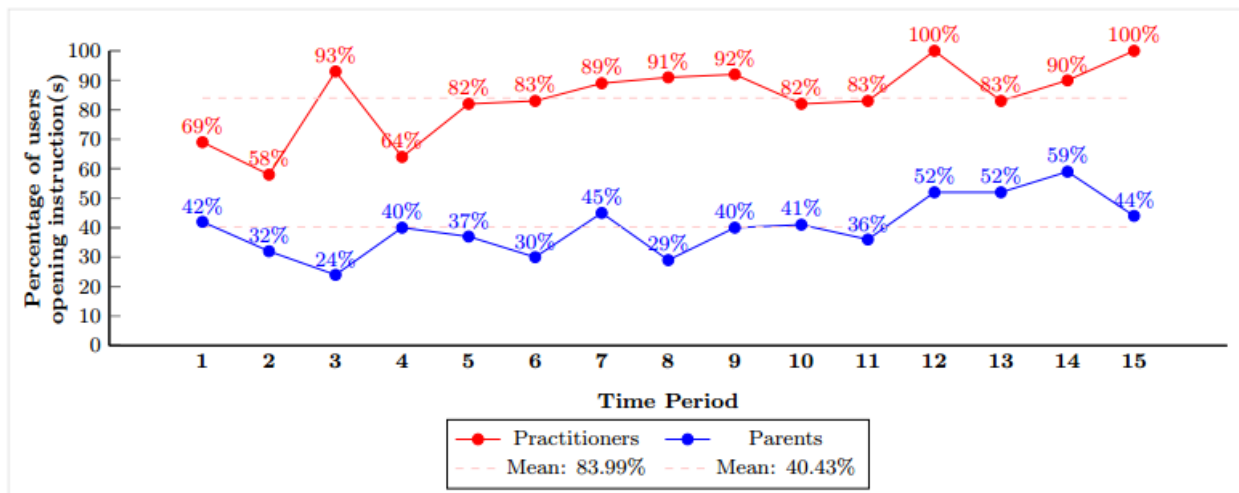


Figure 20: CareUp users providing feedback to instructions, week-by-week

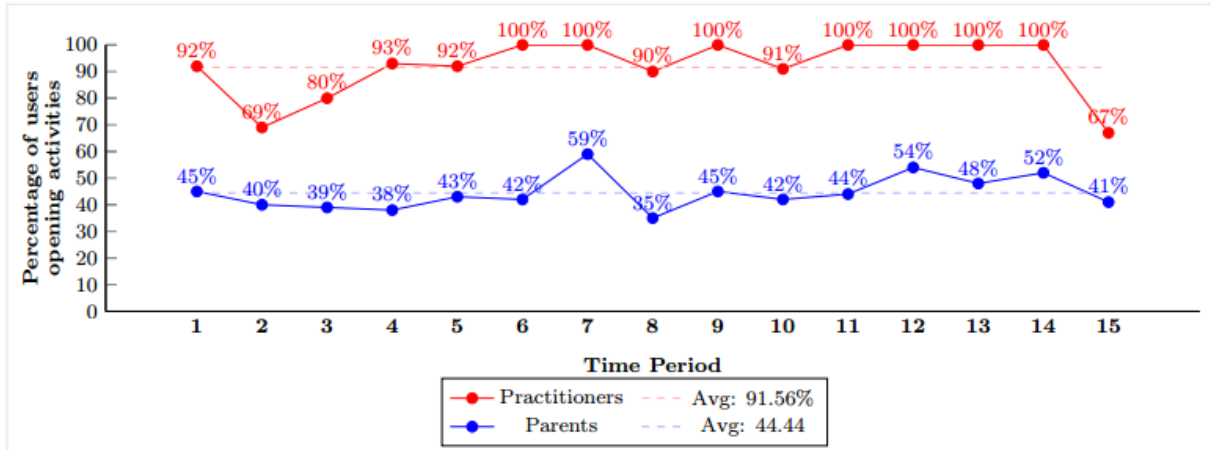


Figure 21: CareUp users providing feedback to activities, week-by-week

These graphs show that a higher percentage of feedback was given by practitioner users, compared with parent users. The feedback on activities is generally higher than for instructions, particularly amongst the practitioners. The general trend amongst both groups (but especially the practitioners) with respect to the instructions feedback, is to see a higher percentage of individuals providing feedback as the weeks passed and the intervention progressed. For the last ten weeks of the intervention, over 80% of the user practitioners provided at least one instruction feedback per week.

The pie charts below show that all the practitioners provided feedback for both instructions and activities at least once over the intervention, and just over half of the parent users the same (slightly higher for instructions).

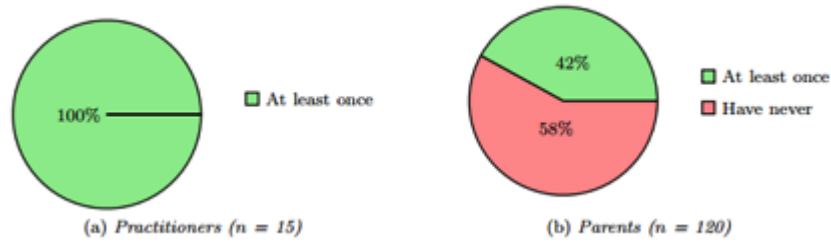


Figure 22: Percentage of users providing feedback on instructions, by user group



Figure 23: Percentage of users providing feedback on activities, by user group

Feedback is generally seen as an indication of engagement with the service, so to have such high percentages of feedback by practitioners is excellent. The percentages of feedback by parents is good.

Looking at the feedback itself, one finds the gratifying figures below, showing that, overwhelmingly, those that responded to messages positively. This is particularly true of practitioners, but in all cases over 90% of the feedback was a ‘thumbs up’.



Figure 24: Percentage of positive feedback for instructions, by user group



Figure 25: Percentage of positive feedback for activities, by user group

This level of positive feedback is most encouraging, and points to a user group that finds the instructions and activities (but especially the instructions – in the form of audio files) sent by CareUp to be beneficial to them.

### Concluding comments on parent and practitioner engagement

The uptake and usage data from CareUp provides a positive picture, particularly in the case of the practitioners where the uptake was 100%, the usage levels high throughout the pilot intervention period (15 weeks), and the feedback from them almost uniformly positive. This indicates an excellent level of buy-in from the practitioners towards the application. One may infer that practitioners believe that CareUp benefits them in their role as ECD practitioner

The data for the parents group is a little less positive, with a notably poor conversion from attendance at the on-boarding workshops to registered users. Nonetheless, uptake and usage was reasonable to good when compared with other mobile interventions, with very high-levels of positive feedback about the usefulness of the communications.

### Factors facilitating and hampering engagement with CareUp

This section answers the following evaluation question:

- Evaluation question 4: What facilitated or hampered the engagement of the practitioners and parents with the CareUp service?

The evidence for answering this question came from the following sources:

- Near-baseline interviews with parents and practitioners;
- Near-endline focus groups with parents;
- Near-endline questionnaires completed by parents and practitioners;
- Endline interviews with practitioners; and
- Home visits to case study children.

### Facilitating practitioner engagement

For all four practitioners interviewed, the fact that people had visited the ECD centres where they worked at to introduce the CareUp project to them was a positive. The on-boarding workshop was also viewed in a positive light, although one practitioner who had been at college when the ECD centres were visited, felt that the workshop had not clarified the project for her:

‘On that day of the workshop, the introduction was not clear for me. They only tell us briefly how CareUp works, not the full idea.’

There was also a general (though not universal) feeling that the activities were useful to them, which would clearly foster engagement (for example, 'The project has been running well because its activities have been helping us a lot', and 'they were sending activities to us which relate to the kids'). One practitioner also highlighted as positive that Reach Trust followed up with them about how the activities were working.

Three of the practitioners highlighted how the app supported them and linked to their work with children<sup>14</sup>:

'The app is so useful and important because at work there is something that is called advanced planned theme for the day. The app tells you how to ask certain questions.'

'The experience is very good, I know now how to talk with kids properly and also listen to what the kid had to say, even if they say something wrong, I encourage them to right again.'

'I have started to use the app and it is very interesting because some of the stories you find in the app are related to the topic that we teach.'

What is interesting is that none of the practitioners, in any of the interviews or surveys, mentioned as a factor in their engagement with the project the provision of smartphones and free data. However, it is highly likely that without these, the exceptional usage by the practitioners would have been held back by the lack of access to a suitable device.

### Facilitating parent engagement

In the near-outset interviews with 19 parents selected randomly from all parents at the eight ECD centres, parents were asked if they had the CareUp app on their phone already. Only three parents replied in the affirmative. One parent highlighted the usefulness of the messages:

'I like the idea that the CareUp people send us SMSs to our phone to encourage us as parent to not forget to expose our kids to different learning areas like reading stories and learning about animals.'

One of the other parents highlighted the availability of the stories on their phone to be a positive aspect of the messages.

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<sup>14</sup> Additional strengths of the project for the practitioners of found in Chapter 5. All these would also provide reason why the practitioners engaged with the app.

'Yes I'm using CareUp on my phone especially on weekends. I like the stories that are on the App, it's like you have a mobile library on your phone.'

In one other case, an 85-year old grandmother, her own motivation to take part in the project, through accessing the application through a neighbour, was a factor in facilitating her engagement.

'There's a lady who stay on my street that has a CareUp on her phone. She assists my grandkids with all the activities that are sent to the parents.'

In the endline user parent/carer focus group as well, one parent/carer highlighted how the CareUp messages had helped her to manage her time with her child:

'CareUp helped me with the management of time when we get home. When she comes back from the crèche she reminds me of the activities done at school. There's far more communication and this has led to my child being far more organized. This has helped me to have more time to sort out other household chores so that I have enough time to spend with her when she needs to do her activities.'

### Hampering practitioners' engagement

Although most of the feedback was positive about what facilitated engagement with the application, there were also a few challenges with engaging with the application. Most of these related to the stories being too long, or not including enough pictures. For example:

'In their stories, we do not have all the resources to illustrate the story to the kids. If they could give us pictures, that could assist us a lot because when we tell the stories to the kids they could see the characters of the story.'

'The only challenges that I had with the project is that, when reading the story from the phone, the kids got confused because they are used to see(ing) the picture of what we are talking about. The phone is small for all the kids to see the picture of the story and also to go around to 23 kids would end up being chaotic. To the kids, a story, it's about the picture.'

Two practitioners spoke about problems with incorporating the CareUp materials into their weekly schedules.

'The challenge will be activities that they ask us to do on a certain day and I don't know how to do it. But, so far, I know and understand what they ask us to do, some of the things that are on the App are not on the daily theme.'

'How do we use the CareUp information and infuse it with our weekly planning that the teachers need to do?'

One practitioner also spoke about the fact that using the application added to their workload ('There have not been problems except there's more workload. It's more information and more work'). One can infer from this statement that it is likely that this practitioner on occasion did not engage with the messages due to feeling under time pressure.

Two of the practitioners (out of the four interviewed) felt that there was nothing hindering them from using the app (and hence engaging with the messages). This is an encouraging finding.

### Hampering parents' engagement

The near-outset interview with the 19 parents/carers also highlighted a number of factors that hampered their access to the CareUp messages or the application. For some parents, a lack of support in downloading the application was a problem (this is despite the assistance provided by Reach Trust staff at the on-boarding workshop), with five parent/carers specifically stating that they did not know how to download the application. For example:

'No, I don't use CareUp on my phone because I didn't know how it works.'

'I have a problem to download the App on my phone, if only someone could show me how to do it on my phone I would gladly appreciate.'

With regards to the hardware, seven of the parent/carers did not have android phones or an internet connection. One typical comment is this:

'No I don't use CareUp on my phone because my phone is non-android, does not have internet. Even my daughter has not been able to buy herself a smart phone that we can download the app on.'

The workshops were intended to be the means by which the parents could be assisted in downloading the CareUp app, and motivated to use it. Unfortunately, though generally well attended with seven of the parents/carers in the near-outset interview attending, 12 of the parents/carers could not attend one the workshops because of a number of reasons, such as working on that day, not knowing what the initial meeting was for, not being on the initial list of parents/carers, not knowing where the venue was, personal commitments (e.g. a family funeral), not having paid fees, and because other (non-carer) members of the family attended. For example:

'No, I didn't attend the parent on-board workshop because I was working on that Saturday.'

'I didn't attend the workshop because I didn't know the venue that they said the meeting will be held in but I did receive the meeting invitation and a SMS.'

Lack of attendance at the on-boarding workshop would have been a major hindrance to engaging with the messages, since it meant that the individual would have missed out on the motivation that the workshop provided; and would have had to purchase their own data to download the application.

Not receiving advance information was also a hindering factor for attendance for two parents/carers in the near-outset interviews. In addition to not knowing the venue, one parent/carer did not know what the meeting was for.

'No, I didn't attend the parent on-board workshop because the time I receive an sms inviting me to the meeting in Ikamva Labantu, I didn't know what for.'

Similar problems with engaging with the CareUp messages or application were identified in the endline non-user focus groups. In addition to problems with not having an android phone, or not knowing what the messages were about, one parent/carer reported that the phone froze after the application was downloaded. In addition, in terms of using the mobi-site, many of the parents/carers in the endline non-user focus groups had similar problems to the above. In addition, in one case, the husband (of the person interviewed) had downloaded the application so only he knew how to use it and not the mother.

In another case, a mother reported that she usually received the stories when the child is at pre-school, and by the time the child comes back she would be busy with house chores and have no time to sit and read the stories and do the activities with her child.

In the endline user focus groups, other difficulties were identified in terms of engaging with the application. One problem was the length of one of the stories:

'The Tshabalala story is too long and by the time we're meant to do the questions sometimes he's sleepy or has fallen asleep. It's also hard for him to remember the details in order to be able to answer the questions.'

In addition, as in the case of the non-user focus group, one user parent/carer also identified that the messages came at an inconvenient time:

'The messages come at an inopportune time, when I'm getting my children ready for school. I hear the message then don't have time to pay attention to it.'

These hindrances provide some important checks on the general enthusiasm for the app. Clearly, if usage of the app is to increase amongst parents like those of the pilot group, some or preferably all of these hindrances need to be dealt with in future versions of the app.

### Effect on practitioners' knowledge

In this section, we discuss the findings relating to:

- Evaluation question 5: To what extent, and in which areas, did the intervention improve **practitioners' knowledge** of
  - a. the importance of early language development?
  - b. how to support language development in their classes?

The evidence for answering this question came from the following sources:

- Base- and endline interviews with practitioners (self-reported); and
- Base- and endline lesson observations.

### Self-reported changes in knowledge

In the baseline interview, the practitioners were asked about the extent to which they agreed with the following statements:

- Before CareUp, I knew that I have an important role to play in the children's development
- Before CareUp, I knew that I have an important role to play in helping children use and understand language
- Before CareUp, I knew how to help children develop and be ready to learn at school
- Before CareUp, I knew how to help children use and understand language

Three of the practitioners interviewed 'agreed' with the above statements and one 'strongly agreed'. Therefore, it might be concluded that the practitioners were already very confident about their knowledge of child development and language development. However, looking at other data shows the subsequent impact of the project on practitioner knowledge, and perhaps indicates an over-confidence at baseline. One of the items from the paper-based survey (n = 11) completed near endline looked at the preparedness of the practitioners as a result of the CareUp project:

Table 6: Influence of CareUp on practitioners 1

Question	Strongly agree	Agree	Disagree	Strongly disagree
Because of CareUp, I am better prepared for the literacy/language lessons	90%	10%	0%	0%

All the practitioners surveyed agreed or strongly agreed that they were better prepared for the literacy/language lessons with the children, now that they had used CareUp. This support for their knowledge was also reflected in one of the general comments made on the survey:

‘We wish that this CareUp project could continue as it has helped us become teachers with advanced knowledge.’

Further, a specific question was asked in the endline interview about whether the project had developed the practitioners’ knowledge of child development. All four practitioners replied that the project had improved their knowledge in this area. Two practitioners highlighted their improved knowledge in conjunction with knowing about activities to use with children:

‘CareUp has improved my knowledge of child development by giving/showing us activities that are different which are new to me and add to my knowledge which is good for the children.’

‘CareUp has improved my knowledge of child development. The little things that we take for granted are the important building block in kids’ development, like doing shopping list with them.’

For another practitioner, they had developed a greater understanding of the literacy curriculum:

‘CareUp has improved my knowledge of child development in many ways, for example I now know that the alphabet is taught in the 4 to 5-years old class and continues in the Grade-R class.’

With the other practitioner, the CareUp project had become their resource for knowledge development in this area:

‘CareUp has improved my knowledge of child development because we don’t have books on our book shelf and the community library closes early; I work from 08h00 up until 17h00. CareUp makes things easy now.’

Related to the above comments, but looking more specifically at how to support language development, again in the endline interview all four practitioners stated that the project had improved their knowledge in this area. As above, for one practitioner, the project had developed their knowledge of activities with children:

‘The messages improved my knowledge of how to support language development because now I know how to do many things with the kids and sometimes the stories interlink which makes things easier.’

The other three practitioners reported that the project had increased their knowledge of how to interact with the children, including the importance of play and the children reading themselves:

‘CareUp messages are encouraging, makes us to be more involved and have a sharp eye to the kids. We always socialise more, play more and read stories more. In my class, they are free to talk about everything and language does develop every time.’

‘CareUp messages have improved my knowledge of how to support language development because in most cases we read to the kids instead of giving them a chance to read to us using pictures and telling us a story of what they see in the picture. When you give the kids a chance to read, you find out what they are telling or saying about the picture, what the story is all about.’

‘CareUp messages have improved my knowledge of how to support language development in the class by reading to the kids - they must pay attention when reading to them and showing pictures to the kids when reading a story.’

### Changes in knowledge (from lesson observations)

Researchers observed eight lessons – four near the baseline and four near the endline – of two practitioners in each of the Khayelitsha and Philippi communities. Descriptive accounts have been written on the changes in knowledge for three of the practitioners: Lunga<sup>15</sup> (Khayelitsha), Lebo (Philippi), and Ayanda (Khayelitsha)<sup>16</sup>.

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<sup>15</sup> All names of individuals used in this report are pseudonyms

<sup>16</sup> The fourth teacher case study is of Thulelah (Philippi). This extended case is presented in a later section on effect on practitioners’ practice.

These three case studies are descriptive accounts of what was observed in the lessons and how the case study teachers described their planning before each lesson and reflected after the lesson. The analysis is constrained to considerations about evidence of shifts on practitioner knowledge. A summary discussion of changes evident in Lunga's lesson is provided below. For a detailed analysis of her lesson, and those of Lebo and Ayanda, please refer to Addendum D.

### Discussion on Lunga

Both lessons reflect positively on Lunga and her teacher knowledge. What is most starkly different, however, is that in the near-endline lesson Lunga is focusing the lesson on a specific topic (transport) and encouraging age-appropriate pre-literacy activities, though this may be true simply because this was a different type of activity that took place at a different time on the daily schedule. The endline lesson involved the learners interpreting and talking about road signs in small groups. This is a far more grounded and language-rich lesson than her near-baseline lesson where the topic in focus was the 'letter j'. This near-baseline lesson was well structured and involved learner participation; however, its dominant focus was on the abstract notion of a letter symbol. This was done in a way that children were expected to draw on their experiences (by offering words that start with j), and there was discussion about sounding out words considering first, middle and end sounds.

In both lessons, it was pleasing to see Lunga directing attention to the learner responses and paying attention to their participation. She shows that she was aware of a need to involve learners. By the near-endline lesson she planned to focus attention on 'non-participating' learners, which is a very positive awareness for a teacher to articulate. Lunga seemed to effortlessly connect lessons and her plan to develop the transport theme by allowing learners to make cars out of boxes and paint them seemed to be age-appropriate. The near-endline lesson seemed to be more grounded in learners' experience, with specific attention to communicating about transport and interpreting pictorial symbols (road signs). This was more age-appropriate than her previously articulated plan for spending a week on each letter for the alphabet.

The change in Lunga's knowledge – from considering letter formation and a focus on a particular letter of the alphabet as an age appropriate activity, to using a rich thematic approach on transport where learners worked in groups and were encouraged to make meaning for symbols (road signs) – is a positive finding. Again, this change cannot be

attributed solely to the CareUp intervention. It is however, a positive finding, indicating some professional growth of age-appropriate pre-literacy activities.

### Effect on practitioners' practices

In this section, we discuss the evidence pertaining to:

- Evaluation question 6: To what extent, and in what ways, did the CareUp messages change the **practitioners' practices** with regard to
  - a. their interactions with the 4 to 5-year old children in their care?
  - b. their communication with parents of the 4 to 5-year old children in their care?

The evidence for answering this question came from the following sources:

- Base- and endline interviews with practitioners;
- Base- and endline lesson observations; and
- Feedback from parents on these issues.

While data was collected for four teachers (two from Philippi and two from Khayelitsha), detailed academic analysis of this data was only conducted for one teacher to illustrate this analytical process.

### Practitioner self-reported practice with children

In the baseline interview, the practitioners were asked about the frequency of different practices that they carried out with the children in their care before the CareUp project:

- How often did you tell your class long stories in isiXhosa?
- How often did you read to your class in isiXhosa?
- How often did each child in your class tell stories or explain ideas in isiXhosa?
- How often did you tell your class long stories in English?
- How often did you read to your class in English?

All the practitioners replied that they completed the first three practices involving isiXhosa at least 2 or 3 times in each week. However, for the practices in English, all the practitioners replied that they never told long stories in English, and only one practitioner replied 'once in a while' (with the others replying 'never') for reading to the class in English. This finding is to be expected, as the ECD centres were selected on the basis of being isiXhosa centres.

Looking further at their practices before the CareUp project, when asked in the baseline interview how they supported the children to speak and understand isiXhosa before the project, three of the practitioners stated that they taught exclusively in isiXhosa, including speaking and reading stories, although one practitioner included a little bit of English:

‘After the short breaks, I teach basic English to the learners, for example, how to say ‘good morning’.’

Trying to ascertain the impact of the project on practitioners’ interactions with children, two items from the second question in the paper-based survey were related to practices with children:

Table 7: Influence of CareUp on practitioners 2

Question	Strongly Agree	Agree	Disagree	Strongly disagree
Because of CareUp, I have more books and stories to read to the children	45%	9%	45%	0%
Because of CareUp, the children talk more during literacy / language lessons	100%	0%	0%	0%

Related to the knowledge about more interactive practices raised previously, all the practitioners strongly agreed that the children talked more during their lessons as a result of the project. The responses to the item about having more books and stories were more mixed with almost half strongly agreeing, and almost half disagreeing. This may be due to the issue raised elsewhere in the survey of wanting more (hard-copy) storybooks to use with the children.

In the endline interview, practitioners were specifically asked whether the project had changed their practice as an ECD practitioner. One of the practitioners replied that it had not changed her practice. However, she did highlight that it had enhanced her practice:

‘CareUp has not changed the way I work as an ECD teacher, it has only enhanced how I teach the kids. The activities that are on CareUp are activities that I knew but now they give us activities that we live by everyday with the kids.’

However, the other three practitioners stated that the project had changed their practice. For two practitioners, the project had provided more ideas and information for lessons which in turn has impacted on their practice:

'CareUp has changed the way I work because they give us many ideas of teaching, for example when you walk with kids on the street/road, you teach them about the things that they see like robots instead of only showing them in the book.'

'CareUp has slightly changed the way I work as an ECD teacher by giving me more information for the lessons and also enabling us to show kids visuals of the things that we are talking about for every lesson.'

The practitioners were also asked in the endline interview whether the way they teach language/literacy had changed. Two replied that they had not, but the two other practitioners said they had changed their approach to teaching language/literacy. For one individual, developing their knowledge had led to changes in practice in this area:

'CareUp has changed the way I teach language/literacy; for example, when teaching alphabets, it has shown me that I need to thoroughly touch base on everything that represents each letter by collecting all the items/things that each alphabet starts with. In that manner CareUp has added valuable information to how I teach. CareUp has also assisted me when teaching language by giving me new ideas which has detailed examples that help kids to get the message a teacher is trying to convey to them.'

For the other, a non-isiXhosa home language individual, the project had developed their teaching in isiXhosa:

'CareUp has changed the way I teach language/ literacy because it has helped me to know isiXhosa words that I didn't know before - as I said before isiXhosa is difficult for me and I prefer to use English, but now I teach English and isiXhosa to the kids.'

In the endline interview, practitioners were asked whether the CareUp project had changed the experiences of learning for the children. All of the practitioners answered in the affirmative. Two of the practitioners answered again that the project had developed children's knowledge:

'CareUp has changed the experience and learning of the children because they have gained more knowledge.'

'CareUp has changed the experiences and learning of the children because they learn through the content of the stories which adds valuable knowledge that the kids could relate to'

One practitioner also highlighted the impact of the project on the children's interest:

'I think CareUp has changed the experiences and learning of the children because they are interested to do any activity in the classroom.'

The parents who were visited at their homes were asked if they had noticed any changes in the way their child’s practitioner has been teaching their child since the start of the of CareUp project. Two useful comments made by parents are the following:

Every term the teacher calls all parents to review the books of my child. I have noticed they do something new every day. Every day has its own activity.

The way they are taught is totally different from the way I was taught. Some of the books do not have text, they have pictures but the kids can narrate a story from the pictures. At first, I did not understand how the teacher has done [this]. But after I have seen him do it, I also can do it for him.

Whilst neither answer clearly identifies changes from the beginning of the project to the end, it is clear that these parents were impressed with the methods used by the practitioners.

#### Practitioner observed practice with children

In this section, we exemplify the process of analysing the lesson observations of a practitioner. As Kelello researchers observed and video-recorded a lesson near the outset of the intervention, and again at the end of the intervention, changes evident in relation to the language richness of the lesson were able to be identified by a linguistics expert contracted to analyse the videos. The full analysis of the changes for one practitioner (Thulelah), against pre-set criteria, can be found in Addendum F. what follows below are concluding remarks.

#### Concluding remarks on the case of Thulelah

Thulelah met more of the criteria for language richness relating to her practice and the responses of children in the near endline lesson observation, than in the near baseline lesson. The extent to which each of the criteria for language richness were met, is summarized in this table.

*Table 8: Evidence of criteria being met*

<b>Practitioner</b>	<b>Evidence near baseline</b>	<b>Evidence near endline</b>
1. Activities grounded in experience and rich narratives	No	Yes
2. Correct language, wide vocabulary	No	Yes

An evaluation of the CareUp service

3. Encourages learners to communicate	No	No
4. Repeats meanings of new vocabulary	No	Yes
5. Attends to learners' responses	No	No
6. Specialized vocabulary	No	Yes
<b>Learners</b>	<b>Evidence near baseline</b>	<b>Evidence near endline</b>
Talk to each other and to practitioner	No	Yes (but limited)
Repeat new words in meaningful situations	No	No
Learner talk quality levels (a-e)	a-c	a-d
<b>Environment</b>	<b>Evidence near baseline</b>	<b>Evidence near endline</b>
Pictures displayed	Yes	Yes
Reading corner	Yes	Yes
Digital resources	No	Yes

There was evidence of Thulelah meeting far more of the criteria in the near-endline lesson, than in the near-baseline lesson. This suggests that there was some improvement in her practice over the intervention period. There remains much to further improve Thulelah's practice, particularly in asking open-ended questions, expecting learners to speak in full sentences, allowing them to express their thoughts to her and each other (related to the lesson topic), and attending to learners' responses (especially those who are silent or not volunteering responses). The most significant shift was that in the near-endline lesson observation she chose more age-appropriate emergent literacy tasks which involved a story and the instruction of new specialized vocabulary for wild animals; instead of choosing to teach 4 to 5-year old children letter formation in a rather abstract way. She asked open questions, and there was some evidence of the learners expressing their own ideas in full sentences in the near endline lesson. This is a substantial change in her practice.

The characteristics of language richness may be used in future to deliberately strengthen the content design. Being explicit about the criteria being used to reflect on success provides the content team an opportunity to purposefully improve the content in relation to each criterion.

## Parents' self-reported knowledge

In this section, we discuss evidence pertaining to:

- Evaluation question 7: To what extent, and in which areas, did the CareUp intervention improve a sample of **parents' self-reported knowledge of**:
  - the importance of early language development in their 4 to 5-year old children?
  - how to support the language development of their children?

The evidence for answering this question came from the following sources:

- Near-baseline interviews with parents
- Near-endline focus groups with parents
- Near-endline questionnaires completed by parents<sup>17</sup>
- Home visits to case study children

For this, we start by drawing on questions asked during the near-outset parent/carer telephone survey with 19 parents, and then the same questions that were asked during the endline parent/carer user survey during the focus groups with 14 parents.

The table below illustrate the possible change in knowledge (bearing in mind the different cohorts surveyed) with the baseline and later focus groups percentages included (the percentages for each top row are from the baseline survey and the bottom percentages from the endline focus group survey):

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<sup>17</sup> It should be noted that the statements in the survey that the parents had to respond to were always positively stated. This is an instrument weakness that will be changed in future iterations.

Table 9: Results of the parent/carer survey – knowledge questions (n=19 near-outset; n=14 endline)

Question	Strongly agree	Agree	Disagree	Strongly disagree
I know I have an important role to play in helping my child develop and be ready to learn at school	0% 100%	100% 0%	0% 0%	0% 0%
I know I have an important role to play in helping my child use and understand language	0% 100%	100% 0%	0% 0%	0% 0%
I know how to help my child develop and be ready to learn at school	0% 85%	100% 15%	0% 0%	0% 0%
I know how to help my child use and understand language	0% 64%	89% 36%	5% 0%	5% 0%

The data appears to show a shift to more positive perceptions of parents'/carers' knowledge, with almost 100% of the 19 parents/carers 'agreeing' with the questions in the near-outset survey, and these numbers shifting to 'strongly agree' in the endline user focus group survey with 14 parents/carers. However, with such small numbers in the interviews/focus group surveys, and different people providing feedback at the different stages, it is not possible to be certain of this change.

Moving on to the qualitative data from the near-outset parent/carer telephone interviews, almost all the interviewees knew that language development was important but the majority did not know how to help their child either in English or in isiXhosa, although the Shona speaker was more confident.

However, subsequently, from the user group feedback near endline, the CareUp application was having a positive impact on their knowledge, as shown by the following parent quotes:

'CareUp is benefiting me and my grandkids a lot. CareUp gets my grandkids excited and they learn with what they see. Using both isiXhosa and English [versions of the app] is helping the children to access English

'I've learnt that I'm the first teacher and the school teacher is the second teacher and also as parent we can learn from the magazines how to be a good parent to your child. We learnt that we need to teach and educate our kids by the things that they see.'

'I have learnt how to raise a child and as parents we need to sit down with our kids and educate them and tell them stories.'

'I learnt that the CareUp activities could actually assist our kids to gain more knowledge about life at large and, what is nice, we get those activities in our phones. They also encourage us to leave the kids to play freely, even if we as parents feel that they are messing up the place, we let them play because through playing we get to discover what our children will be and become when they grow up.'

'I learnt that it's important that we assist our kids with their school work and teach them things that they don't know for example how they say words and how to take care of themselves, like tie-up their shoes.'

Looking now at the endline paper-based survey completed by 72 parents/carers, there were three questions which asked about their (perceived) changes with respect to their knowledge of their parental role in education. The results are shown in the table below:

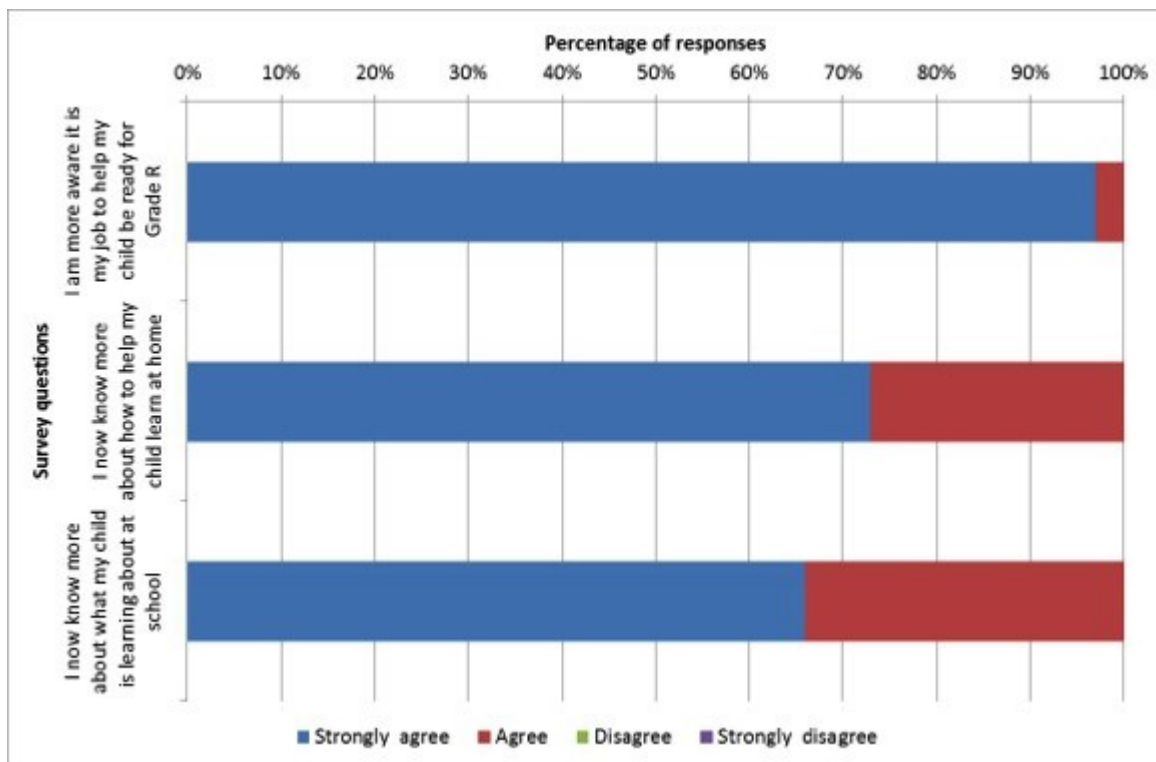


Figure 26: Results of the paper-based parent survey – further information about knowledge (n = 72)

Close to all (97%) of the parents strongly agreed with the following statement: 'I am more aware it is my job to help my child be ready for Grade R'. Further, all parents either agreed or strongly agreed that the intervention has meant that they know more about

how to help their child learn at home, and what their child is learning at the school. In two-thirds or more of the cases, the agreement was strong.

The parent/carer additional comments from the paper-based survey also highlighted how the project had benefited the parents in terms of helping them teach their children and giving them the confidence to do so:

‘I love CareUp because it motivates us and gives us confidence to teach our child on our own now, to have that strong communication.’

‘They help us parents to be able to teach our children.’

‘Even this application has made things easy for us parents on what to teach the children and how to communicate easily with them.’

### Parents self-reported practices

In this section, we discuss:

- Evaluation question 8: To what extent, and in what ways, did the CareUp messages change a sample of the **parents’ self-reported practices** with regard to:
  - their interactions with their 4 to 5-year old children?
  - their communication with the ECD practitioner?

The evidence for answering this question came from the following sources:

- Near-baseline interviews with parents (n=19);
- Near-endline focus groups with parents (n=14);
- Near-endline questionnaires completed by parents; and
- Home visits to case study children.

In the near-outset telephone survey with 19 parents and the endline parent user survey with 14 parents during the focus groups, parents were asked a number of questions around how frequently they do certain activities with their 4 to 5-year old children (with a five-point scale ranging from ‘never’ to ‘almost every day/night’). The results for both of these surveys are shown in the two figures below.

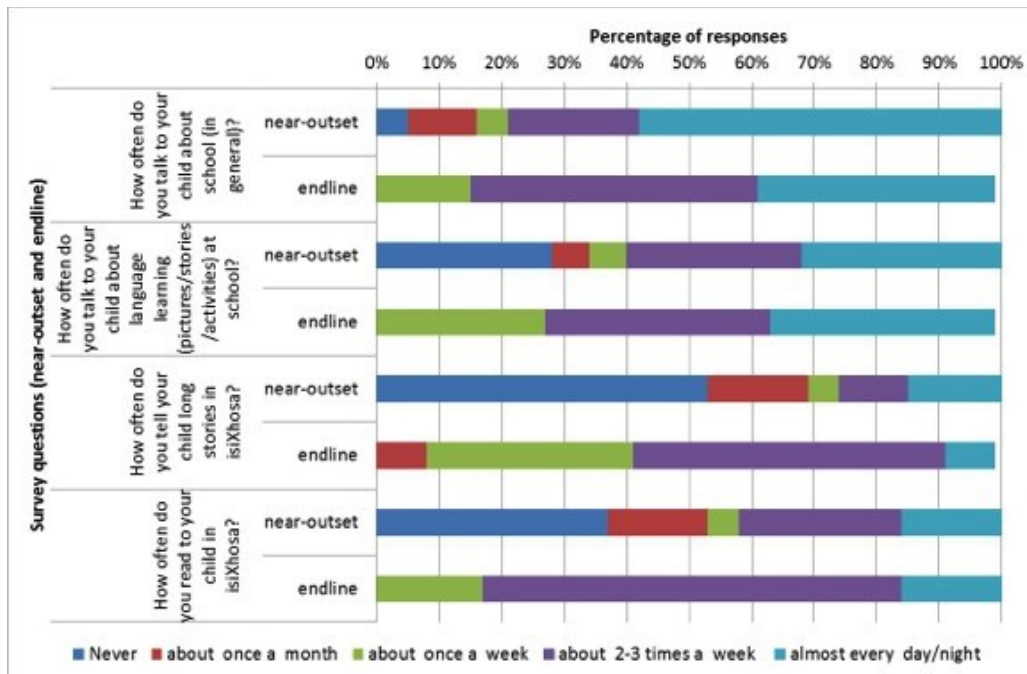


Figure 27: Results of the parent/carer surveys – practice questions 1 (n = 19 near outset; n = 14 endline)

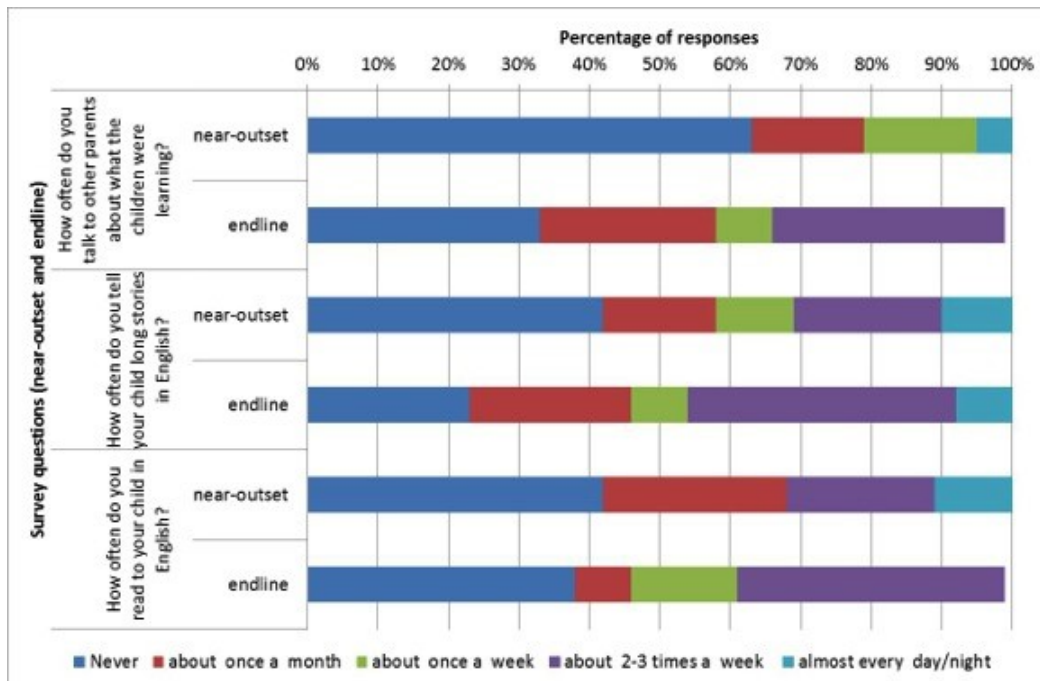


Figure 28: Results of the parent/carer surveys – practice questions 2 (n = 19 near outset; n = 14 endline)

If we examine just the responses for most frequent activity ('2-3 times a week' and 'almost every night'), the percentage of these moved only slightly from an average of 34% to an average of 36%. However, if we look in more detail at the results - in particular, the shift going from the near-outset survey to the endline focus group survey in percentages for

'Never' and 'about once a month' - we see the following declines in every case (where declines imply that these activities are carried out more frequently):

- How often do you talk to your child about school (in general)? 16% to 0%
- How often do you talk to your child about language learning (pictures/stories/activities) at school? 34% to 0%
- How often do you tell your child long stories in isiXhosa? 69% to 8%
- How often do you read to your child in isiXhosa? 53% to 0%
- How often do you talk to other parents about what the children were learning? 79% to 58%
- How often do you tell your child long stories in English? 58% to 46%
- How often do you read to your child in English? 68% to 46%

The parents/carers responding to these questions believe that their practices of parents/carers with their children shift positively in all areas following the CareUp intervention, and in particular relating their engagement with their children in isiXhosa.

To illustrate some of the possible changes in parent/carer practices with their children with regards to using isiXhosa, the following comments were made by 3 parents/carers in the endline user focus group:

'We communicate a lot more than we did because of CareUp. If I ask him to get water often he's unable to say 'how much water?' in Xhosa and so I find opportunities to share the everyday Xhosa vocab with him'

'The small books that they make are very helpful. The pictures have Xhosa captions and they remember the picture and the word. The Xhosa in the books is proper Xhosa which we don't even use and this is important as it teaches them the right words.'

'It's made me aware of my own Xhosa usage because I've come to realise that I mix a lot of English words when I speak and this has led to me consciously teaching my child the correct vocab.'

These are positive findings, as the self-reporting by parents indicate that they think the CareUp intervention has supported their engagement with their child's learning in general, as well as with their (isiXhosa) language development.

### Effect on practitioners' practices with parents

Looking now at possible changes in practice between practitioners and parents, in the baseline interviews, the practitioners were asked about the frequency of different practices that they carried out with parents before the CareUp project:

- How often did you communicate with the parents about their children and school (in general)?
- How often did you communicate with the parents about what their children are learning in language?

Three of the practitioners answered 'once a month' and one respondent replied 'once a term' for the first question, and all the respondents answered 'once a month' for the second question. Again, from the baseline interview, when asked whether the practitioner knew 'what the parents did to help their children speak and understand isiXhosa', all of the practitioners replied that they did not know what the parents did.

In terms of changing practice with parents then, four items from the paper-based survey were related to practices with parents:

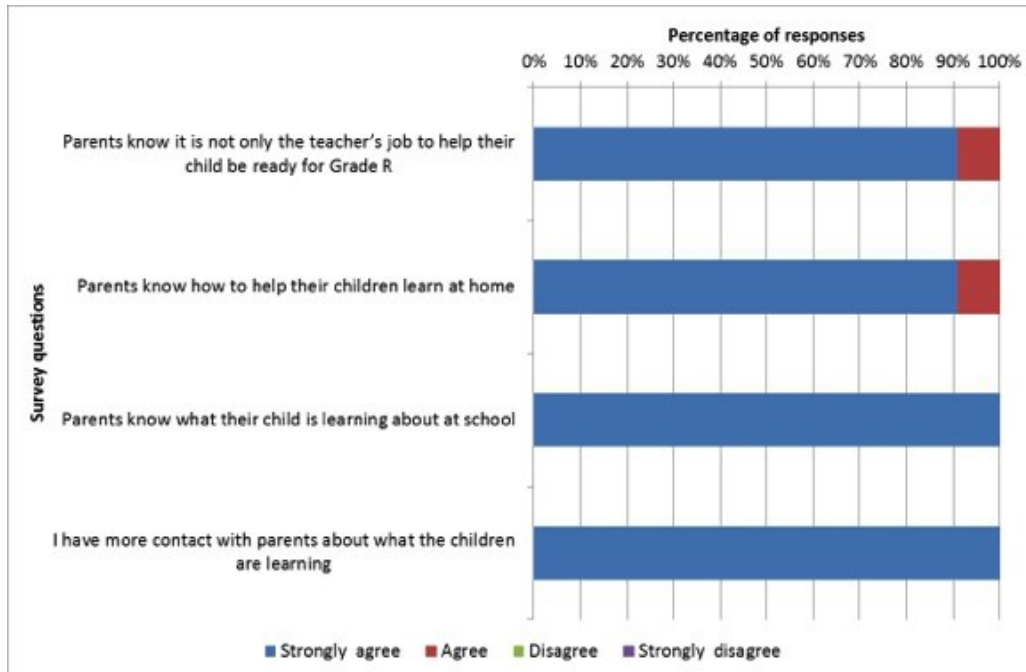


Figure 29: Results from practitioner's endline survey

The data in the figure above show clearly that the 11 practitioners feel strongly that CareUp has improved the involvement of the parents in their children's education, and has increased the practitioner-parent contact frequency.

Further, from the endline interviews there were clear statements of changing practice around communications between parents and practitioners. All the practitioners interviewed provided examples of changing practices. There were four examples of improved communication between parents/carers and practitioners, such as:

'CareUp has changed how I work with the parents because now they are more engaged and if they don't understand anything from the app, they would ask me.'

'With CareUp there have been changes on how we communicate with parents. Now I'm not afraid to give my number to the parents and they are free to ask me anything.'

Two of the practitioners highlighted how they used this communication to encourage the parents/carers to engage with their children's learning:

'... we were encouraging parents to be involved in their kid's education by asking what they have done in school etc.'

'CareUp has changed my knowledge about working with parents because I can now give the kids homework on certain activities and ask the parents to assist the kids. Now all the homework comes back completed.'

As a result, one practitioner highlighted the benefit of this engagement for the interaction between children and their parents/carers:

‘Yes, there are changes, because now the parents are complementing the progress of their kids and are [giving] feedback that they have done certain activities.’

In the endline interview, three of the four practitioners highlighted how the project had changed the engagement of the parents/carers, sometimes at the prompting of their children:

‘The project has changed the parents that had participated and took initiative to be involved in their kids’ education by using CareUp activities because they understand the importance of these activities to their kids.’

‘The project has changed parents for the better because they are interested now through the encouragement that they get from their kids. We do activities here in the classroom and if the kids like it which is most of the time, they would ask their parents to do that activity when they get home again; that is the feedback I received from the parents.’

‘The project has changed parents and carers because now we can see the parents are working with us to teach their children. Now we have feedback that the kids are forcing their parent to read them CareUp stories when they get home which assists us in teaching.’

Therefore, the impact of the project on the relationship between practitioners and parents/carers, and on the parents/carers themselves, was seen to be very positive in the evaluation.

### Exemplar analysis of observed home visits

Five parents agreed to be visited in their homes. Two of these parents were ‘non/minimal users’ of the CareUp application (having downloaded the application, but not used it or hardly used it), and three of these parents were CareUp ‘users’ with evidence of having used the application substantially after the initial sign up period.

It should be noted, that during a home visit, the parent may have responded in a particular way to researcher requests in order to please the researcher, and for the purpose of the video clip. It is not known whether this kind of interaction was the typical approach that the mothers would ordinarily take. However, we think this technique – of asking a parent to show a researcher how they use the application and interact with their child – offers insight into the ‘best case’ interpretation of what is being asked by the parent.

So what is presented here is revealing of how parents thought they were meant to be using the application (and this may not be reflective of their normative at home behaviour with their child).

As the main purpose of the home-visit was to observe how the parents used the CareUp application with their children, during the home visit the parents were asked to read or tell a story to their 4 to 5-year old children. Four of the five mothers chose to read a Nal'ibali story off the CareUp resources. The three 'user' mothers chose to read the story in isiXhosa, the non-user mother in English (with a translation of a phrase into isiXhosa here or there). Other than that difference, there was little difference between the users and non-users in the reading of the story: it was simply read, without stopping, from beginning to end, with the child sometimes standing or sitting by her side and sometimes in front of her (unable to see the screen). Only in one case (a user mother) was the story interrupted on a few occasions to point out pictures on the screen and/or make additional commentary (for example, 'Look, here's Sisanda, here's the giraffe, and here are Sisanda's friends, you see? Here are Sisanda's things, can you see the cakes?')

It is encouraging to see that all of the parent could find the application, and use it to locate a story, demonstrating that they were comfortable with navigating the App. They all managed to read a story from start to finish to their children.

We now discuss the responses to the other components of the home visits, by distinguishing the two non-users from the three user parents.

### Home visits with non-users

Both non-users said that they had downloaded the CareUp application, but weren't using it at all or much. The first parent explained that this was because of a problem with their phone:

'I did not delete it [the app] but after a while I found that the app was uninstalled - I could no longer find it on my phone '

In our m-learning evaluation experience, people who are interviewed about not using a particular service frequently cite technical problems as the main reason for non-use. While some of this may be real, it may also reflect unwillingness to say that they just did not find it useful, or struggled to fit it into their lives. It is a pity that this parent did not try to resolve this technical issue, but that might be because of her lack of technical

knowledge and finance to pay for it to be sorted out. This raises a need to on-going information on how to reinstall the application, or access to help or support when facing technical challenges. The inclusion of a simple “how-to” guide will be tested in the next iteration of the App to help address this challenge.

For the other parent, the reason she gave related to her child’s special needs. She reported that:

‘my daughter has Downs Syndrome. She finds it difficult to pay attention or to stay focused for a long time’

This reason too is unfortunate, as the parent appeared to be missing the point of the app, because CareUp is not about requiring the child to stay focussed for a long time, but rather providing ways of incorporating learning into everyday activities.

The same two parents were asked how CareUp could be improved. Both of their suggestions were consistent with what they identified as main factors hampering their use of CareUp. One parent spoke to technical problems:

‘In the training people had lots of problems with downloading the phone, some were compatibility issues. The CareUp people tried to download it on my phone many times and when it eventually downloaded we couldn’t open it. We only saw the app when they showed [it to] us on the slide presentation’

The other parent made a practical suggestion about the stories:

‘It would be helpful for my child if some of the stories would be in the form of video because it keeps her concentration a little bit longer. The message and story would still be the same but with interesting music’

She also commented on problems she had with carrying out the activities: ‘some of the things they are asking us to do in the activities are not available for us, such as creating patterns’.

Notwithstanding these personal difficulties with using the CareUp application themselves, both of the ‘non-user’ parents commented positively on their perceived changes in their child as a result of the intervention. In response to ‘have you noticed any differences in your child since the beginning of the CareUp project?’, the non-user parents responded as follows:

Yes, I have seen some significant changes, one day my child came back and told me that they learnt about herbivores, I was shocked because I only learnt about herbivores in Standard 5<sup>18</sup>. Every day when he comes from school I asked him what he did, before the CareUp project he would say we sang songs and stop there. Now he is telling me about herbivores and omnivores. And he knows the difference between them. I believe CareUp made the difference because his teacher also attended the CareUp training.

So both non-user parents identified specific knowledge gains: one relating to specialised vocabulary of omnivores and herbivores, and another relating to basic arithmetic.

Similarly, in relation to observed changes with the way the ECD practitioner teaches, both non-user parents responded positively and provided concrete examples of changes:

‘Every term the teacher calls all parents to review the books of my child. I have noticed they do something new every day. Every day has its own activity’.

‘The way they are taught is totally different from the way I was taught. Some of the books do not have text, they have pictures but the kids can narrate a story from the pictures. At first I did not understand how the teacher has done. But after I have seen him do it I also can do it for him’.

The one parent commented positively on noticing a wider variety of activity, referring to ‘something new every day’ as evident in her child’s book. The other parent revealed her own learning about pre-literacy. She now seemed aware that young children could be encouraged to tell stories from a picture and gave an indication that she was now able to do this kind of pre-literacy activity with her child.

### Home visits with users

One of the key questions for the three parents who used the CareUp application, was why they liked to use CareUp. Their answers mostly revolved around the stories:

‘I like it a lot because it keeps me interested to read new stories. I usually didn’t like to read but now I read every day because the App sends us a new story every day’

‘I like the stories; I don’t work so I read them during the day. My child is beginning to get used to them as well. Although he prefers to play with his toys’

‘I use CareUp because it helps me to keep [my child] indoors, most of the time when her grandmother reads a story she listens and forgets about playing outside. Most of the stories in the CareUp have pictures that help the child to know what the story is talking about. For example,

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<sup>18</sup> Equivalent to Grade 7

one story was talking about a girl who had a garden, [my child] was able to see what is a garden. It helps her picture'

It is interesting to note that for two of the parents, their responses related to their own reading habits. One parent reported that 'now she reads every day' and the other made it clear that she reads the stories during the day (when her child is at school). While this was not an explicit intention of the CareUp service, this is a positive finding as for these two user parents they are finding personal value in the service. There was also recognition that the service was useful for reading or engaging their children.

The three user parents were also asked which language they used to access CareUp. One used isiXhosa for all her interactions with the app, but the other two said they received some messages in English, but always used the isiXhosa version for the audio-files and resources. They all said they used isiXhosa for the stories because that was the only language their child understood properly. For example, 'I use isiXhosa because it's the only language my child understands. English is difficult for him - he only understands a few English words'. This is a positive finding, as the main focus of the CareUp intervention was on home language development. It is appropriate that these three parents report using isiXhosa with their children.

In the segment where the user parents were asked to show the researcher how they used CareUp, all were highly proficient in their navigation around the app on their phone, explaining clearly what each section was for (for example, 'Then, here are the games, activities. Maybe you are instructed to do something, like to tell [my child] to draw a circle, to collect shoes and make a circle').

In the segment where the user mothers were asked to show the researcher how they used CareUp with their children, all guided their child through CareUp by either showing them which icon to press to move around the app, or by taking them to the Nal'ibali page, and asking them to scroll up and down so as to pick a story they would like to hear.

In the segment the user mothers were asked to show the researcher how they used a CareUp activity with their child, they had no problem finding the relevant activity on the app. When completing the activity (which was either one involving counting cutlery, or making the shape of a triangle with shoes), the children struggled and the mothers were not easily able to assist in correcting them.



Figure 30: Child carrying out a CareUp shapes activity



Figure 31: Child carrying out a CareUp counting activity

### Concluding comments

The home visits provided some useful evidence of the high-level of proficiency of the users group when accessing and moving around the CareUp app. However, the actual use/application of the various resources and activities was noticeably somewhat problematic. The video evidence shows that both these areas are difficult for the parent sample observed. Comment on the implications of what was learnt here on scale-up is found in the recommendations section of Chapter 5.

### Stakeholder and practitioner perceptions

In this section, we focus on:

- Evaluation question 9: What were the perceptions of the stakeholders and practitioners about the strengths and weaknesses of the CareUp intervention?

The sources of data for answering this question were drawn from the high-level interviews, and feedback obtained from practitioners. Both the stakeholders and practitioners were, in their endline interviews, asked to describe the strengths and challenges of the CareUp intervention.

## Strengths of the CareUp intervention

### Stakeholders

The stakeholders provided a long list of strengths of the intervention. The following strengths were mentioned by a minimum of four stakeholders:

- There was excellent teamwork between the many stakeholder role-players. For example, ‘the link with the different stakeholders was strong, and there was a good sense of collaboration between the various groups’, ‘everyone was under a lot of pressure [to complete tasks] initially, so all credit to all for carrying their weight. We worked really well together’, and ‘complementary organisations with different skills, all contributing; a great model for this work’.
- The high usage and/or good retention of practitioners (using the app) were considered as strengths. For example, ‘the retention over time was very encouraging’.
- The regular (monthly) project meetings were thought to have helped to ensure all roleplayers developed a common understanding. For example, ‘there were a lot of different stakeholders, so it was great to meet monthly around the same table and come to common objectives’, and ‘the monthly meetings helped to align different stakeholders’.
- The workshops and on-boarding process were considered to be successful. For example, ‘the on-boarding of the practitioners went very well’, and ‘the workshops were well-organised and well-run. Reach did a great job with these workshops’.
- The CareUp app itself, with especial emphasis on the excellent Wordworks content that was included, was mentioned as a strength. For example, ‘the app is a quality product, with great content and extensive thinking that went into [improving] the user experience’. One roleplayer emphasised how this app offered content to low-literacy adults ‘that still allows them to assist the literacy development of the children’.

A number of other strengths were mentioned by two or three of the roleplayers:

- Funding (which some roleplayers felt was adequate and was paid timeously, though some felt differently).

- The improved parental awareness of their role in the education of their pre-school children, which was brought about by their using the CareUp app. For example, 'improved awareness by parents of the importance of pre-school learning'.
- The involvement of government (the WCDS), with emphasis on the excellent work of the WCDS liaison, was commented on positively: 'Kamesh's vision and relationship building was excellent – she has done an incredible job'.
- The involvement of community-based people and Non-Governmental Organisations (NGOs), such as Injonga, were viewed positively. For example, 'working with local people on the ground, such as Phumeza, helped to get the principals' support. That was vital', and '[Phumeza] added credibility to the project, and created urgency around attending workshops'.
- The length of the trial process (a short 16-week pilot) was considered to be an asset. For example, 'A short pilot (like this one) with frequent uptake and usage data outputs and clear realistic measurable targets is good for tech, because it encourages frequent reflection and allows the team to think about enhancements for the next version', and 'the 16-week trial helps to force everyone to stay focussed and motivated over this short period, which kept momentum going'.
- The good reporting, especially from the Reach Trust, was found to be valuable.

Finally, a number of strengths were mentioned by just one individual:

- The support from the Innovation Edge team ('the Innovation Edge has been active and supportive throughout').
- The excellent Reach Trust team, with the technical team visiting crèches and 'spending time on the ground [so that they could] understand the perspectives of the target audience'.
- The user-testing process.
- The fact that there were 'external M&E consultants in place' from the beginning of the intervention.
- The development of an agreed Theory of Change prior to the launch of the project.
- The project ensured that some of the service provider teams 'went into areas that they would normally not visit. This de-mystifies the township/suburbs divide and who should be doing work in the townships – some of the township children perhaps met white people for the first time, but we want to make this the norm, not an exception'.

### Practitioners

The practitioners interviewed at endline were also asked about the benefits of the CareUp project that they had noticed.

Practitioners highlighted the following benefits of the project to them, facilitating their work as teachers:

‘CareUp has assisted us a lot because in our team table they have added value to them, For example, we do the plan every Friday for the lesson that will be taught on the following week; it has help us to plan better for our lessons.’

‘CareUp has benefited me in so many ways, for instance you are doing a certain theme and in our bookshelf, there are not books to use as resources but on CareUp there are many stories that comes in handy to use and it makes our lives as teachers easier.’

‘The project supports my work a lot because our book shelf does not have story books. Now I don’t have to repeat the same story over and over again.’

The practitioners also highlighted the perceived benefits to the children:

‘Benefit has been to enhance how the kids are taught in the school and that education is continuous learning. For example, teaching the kids the shapes that they see inside the house, so it becomes everyday life learning. It also helps them to relate what they had been taught in the classroom with what they see in their homes.’

‘CareUp is benefiting me and the kids. For example, the activities that are done in school and in their homes, at times when the parents do something at home they now think to involve the kids by asking them to bring potatoes or eggs and how many there are. Those activities are helping them to count in school.’

‘Yes the project is benefiting the children a lot. It’s broadening the kids’ minds and they get to be aware of many things as well.’

‘It helps them to be free to express themselves in the classroom and communicate, which builds their self-esteem.’

Another practitioner highlighted the positive aspect of involving the parents/carers in the children’s learning:

‘What went well is that there was the last workshop that was held with the parents and the parents were ... told what to do when they are with their kids so that teaching and knowledge gaining does not end in school. What is nice with the project, the kids also [give] feedback to the teachers [about] what they had done with their parents at home.’

Finally, three practitioners highlighted the benefit for parent/carer engagement in the children's learning:

'Parents know that kids are not in the Centre to eat and sleep. It helps them understand that kids learn many things in ECD's, [to] get involved and be part of kids' education as kids learn in all their surroundings.'

## Challenges to the CareUp intervention

### Stakeholders

The roleplayers also identified a substantial number of challenges that the intervention faced, though the total number of challenges mentioned was fewer than the total number of strengths.

No challenge was mentioned by all stakeholders, but the following were mentioned by three or four (out of the five) roleplayers:

**Stakeholder role confusion and/or multiple agendas.** The respondents recognised that 'each stakeholder had an important role to play - everyone is important/critical'. However, managing diverse opinions, differences in priorities and different organizational limitations / expectations was reported to have been challenging. Mention was made of stakeholders having 'different agendas'. This was seen in particular in relation to the two funders (Department of Social Development and Innovation Edge), who reportedly had differences in terms of rollout expectations. The regular project meetings were cited as helping to manage the tensions, which were also described by one stakeholder as 'good tension'.

**Poor uptake and usage by the parents.** For example, one of the respondents commented that '[there is] a big drop in numbers from the potential population of parents to actual users'. Other stakeholders did comment that although the targets for parent users (50% of signed-up parents) were not met, these were rather 'over-ambitious', and for these respondents, usage was considered to be still good (compared with other applications). This was linked to some concerns about the on-boarding workshop, where mention was made of: frustration caused by the long registration process, poor turn-out at the second workshops, and the late on-boarding of the Lynedoch parents. In addition, it was noted

that the incentives to get people to workshops were occasionally given without the parents actually signing up for the application.

**The timeline for the development and launch of the app were very tight.** For example: ‘the timeline was quite rushed, so some parts of the product could have been refined a little better’

**Insufficient funding and/or underbudgeting by the service providers.** It appears that the budgets for both Reach Trust and Wordworks were insufficient for what their role required. The budgeting process took place very early in, and there appears to have been, in both cases, an overspending due to ‘intervention evolution’ and/or ‘positive scope creep’ (for example, the Reach Trust felt that they underestimated the amount of time and personnel needed for activations).

Other challenges were mentioned by one or, occasionally, two stakeholders. The main concern seemed to link with the common concern about managing multiple stakeholders which impacted on the future planning and leadership of the CareUp intervention. At the beginning of the project, this was compounded by also having to align the CareUp intervention with the TLI intervention (which was taking place in the same ECD centres). As such, there was reportedly some confusion between the two interventions amongst some stakeholders and beneficiaries.

There were several challenges which pertained to the future of the project. Concerns were raised about ownership, leadership and decision-making processes in relation to the future plans. These challenges included:

- A high-level stakeholder raising concerns about a lack of a clear project lead and questioning whether WCDSO or Innovation Edge were the main decision makers.
- A perceived lack of clarity about the future of the intervention with regards to the role of each service provider in 2017 and the budgets for that phase.
- A lack of clarity about who makes the decisions about future development, such as an isiZulu version, or closer alignment to the curriculum
- Concerns about the ownership of the application, with questions raised about ‘Who owns the app? The donors or developers or who?’, though perhaps this respondent was not aware that the app is open-source.

One respondent noted that the timing of the intervention (in the academic calendar) was not ideal<sup>19</sup>. Another felt that the application sent too many messages per week.

Some aspects of working with the intervention's target audience which were found to be challenging. These included:

- The low level of technical experience of many members of the target audience, which meant that many parents struggled to download the app and/or use it.
- The rapid turnover of SIM cards (which means that people have to download the app again, as the app does not carry over unless they have a Google Play account)

The lack of testing of a light-touch on-boarding process<sup>20</sup> was a further concern, as this meant that other onboarding options and related uptake rate amongst parents are not yet known.

The two final challenges pertained to the research and monitoring and evaluation components of the CareUp intervention. Firstly, the 'lack of published research in ECD about mobile interventions, especially for this particular demographic'. Secondly, the shift in monitoring and evaluation data collection processes when obtaining parent feedback (from telephonic interviews to focus groups).

Having documented the findings emerging from the data collected through the evaluation process, the next chapter presents a synthesis of the lessons learnt from the first design cycle of CareUp, and recommendations as to the way forward.

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<sup>19</sup> The WCDSO has been talking about changing the pilot to run with the academic year, and timing is likely to be adjusted in future roll-outs

<sup>20</sup> This was mooted at one point, but on further consideration it wasn't implemented due to insufficient time

## Chapter 5: Lessons learned and recommendations

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In this section, we discuss the data pertaining to

*Evaluation question 10: 'What lessons have been learnt, and what recommendations can be made, as a result of this pilot intervention?'*

We summarise 10 important lessons and 15 key recommendations for scale.

### Lessons learnt through the pilot

The lessons learned from this pilot phase are drawn from lessons mentioned by the stakeholders in their endline interviews, and the evaluative commentary of the Kelello team. The detailed list below excludes some of the more obvious lessons, like implementation generally takes longer than one anticipates; communication between role-players is vital; good partner relations are the key; an intervention is only as good as its service providers; and working with vulnerable communities in disadvantaged areas is not easy.

**Lesson 1: It is worthwhile to start an intervention and then adapt it based on feedback and experience.**

You will never make progress if you don't start. 'Start something and push through, even if conditions or the tool are not perfect'. That is because it is very seldom that everything is perfectly aligned to ensure a perfect intervention. It is thus important to work to agreed timelines, and to try to innovate when facing obstacles, rather than waiting for the perfect context or environment (which will never come).

**Lesson 2: An initial period of incubation and experimentation with application development allows for a better product**

The short duration of the 15-week first design cycle was positively viewed. This enabled the partners to be open to, and indeed push for, an organic, developmental process for the application. Testing a few ideas or different options for a few months 'allows one to be more creative'. Focusing on a small pilot, with fewer people, and focusing on quality (rather than quantity); 'this is the way to go'.

**Lesson 3: Investing in monitoring and evaluation, from the outset, allows for reflection and improvement as the project is implemented.**

It is worthwhile spending time collectively defining and agreeing on a Theory of Change. This should be done even if there is no external evaluator. As part of this process it is important to set appropriate targets for uptake and usage, which can be monitored as the project unfolds.

This evaluation supported a process of reporting on uptake and usage data; and trialled and refined various data collection techniques which can be integrated into the project monitoring processes going forward.

**Lesson 4: By monitoring and evaluating uptake and use closely in the first design cycle, targets based on real data can be set for future design cycles.**

The following uptake and usage targets emerge for future design cycles:

*Table 10: Suggested uptake and usage targets*

<b>Target group</b>	<b>Target percentage</b>
Targeted parents invited to participate in an on-boarding session	100%
Parents attending the first on-boarding session	56%
Parents attending the first or second on-boarding session	73%
Parents signing up for the application	47%
Registered practitioners using the application each week in the first 4 weeks	100%
Registered practitioners using the application each week after the first 4 weeks	75%
Registered practitioners using the application during holiday periods	50%
Registered parents using the application each week in the first 4 weeks	60%
Registered parents using the application each week after the first 4 weeks	40%
Registered parents using the application during holiday periods	30%
Percentage of user practitioners using CareUp more than 3 times in a week	75%
Percentage of user parents using CareUp more than 3 times in a week	55%

**Lesson 5: Uptake will need to be supported in a less intensive (and expensive) manner in future for cost-effective scale**

The on-boarding process requires some redesign, and recommendations in this regard are presented below. It remains a question whether the second workshop was necessary/worthwhile, considering the cost of running it, as it resulted in only 23 additional CareUp sign-ups. One key aspect, however, is the need to support the potential user parents with the download process and with any ongoing technical difficulties they may experience, as these have been found to be a deterrent to engagement with the service.

**Lesson 6: Encouraging usage is an ongoing investment and needs to be built into the application design**

It is common to see declining use for mobile services, and thus sustaining usage over a 50% threshold (in the case of the practitioners) is to be commended. However, it should be noted that this intervention was of relatively short duration (15 weeks). It is a design constraint that the messaging is all internal to the service. Encouraging participants to come back to a service once interest has declined, in other mobile interventions, is frequently facilitated by sending milestones or reminders or invitations via other commonly-used message platforms (sms or whatsapp or email reminders).

**Lesson 7: For potentially large-scale interventions like CareUp, ensure there is political will and buy-in**

Many interventions at this scale fail because they do not invest sufficiently in getting and maintaining adequate support from the political decision-makers in the province. It is therefore vital that provincial implementing partners are 'on board', providing budgetary support and ensuring that the project is sustainable.

**Lesson 8: Content creation for an application requires strategic decision-making and instructional design.**

Content creation for an app is not just a simple adaptation of existing content found in other forms. It needs re-writing and strategic decisions about what to leave out. It also requires careful design relating to how content is pushed to users, how the content coheres and how connections between the different elements of the service are sustained.

**Lesson 9: Greater scaffolding is needed for parents to enable them to implement the activities as intended in order to get maximum benefit.**

The video evidence of the home visits showed that how to engage a child while reading, and how to assist a child to master an activity, were both areas of difficulty.

**Lesson 10: There is a market (small but growing) for parents in poor communities to use Android applications.**

The parents targeted in this pilot phase came from some of the poorest communities in Cape Town, and yet their uptake and usage of the CareUp app was encouraging. As Android phones become more accessible to this market, it is likely that uptake and usage will be even better in future phases.

### **Recommendations for scale up**

Taking into account the lessons that have been learnt, the following recommendations emerge for consideration in future design cycles for scale.

**Recommendation 1: Before the next design cycle, develop a detailed scope of work document and budget which defines the enhancements to the application functionality, the content and the activation and/or on-boarding process.**

This will help to ensure that the costs of development are covered. In the next design cycle(s), allow some budget scope or contingency to flexibly respond to the changing context and requirements. In response to the concerns about future planning, and funding for the next phases, there was a concrete suggestion by one stakeholder to pay the Reach Trust a monthly 'retainer' over three years. It was argued that this would ensure they can keep working on the pilot project, and releases them to structure their costs over the longer term in a way that doesn't put time pressure on the implementation.

**Recommendation 2: Develop a detailed plan relating to the scaling-up phase in the Western Cape, as well as plans for work in other provinces.**

This should link into the scope of work and budget referred to in recommendation 1, and should be grafted onto existing NGO and government plans for practitioner training and development so as to reduce costs.

Who should be the partners for the scaling-up process? Ideally, this should be through intermediaries, such as NGOs, ECD centre forums and/or playgroup facilitator networks. Reasons for this suggestion included:

- This space has the capacity to help with parent sign-up, and can inspire sign up and enthusiasm.
- They already have a 'good relationship' with the parents and crèches, and 'there are such NGOs in every community in every province'.
- They understand and appreciate the need to intervene and improve child outcomes.
- Messages coming from a fellow community member might be heard more than if by an outside expert.

But note the caution of one of the stakeholders, should this route be followed:

'But...how will they be supported? They need to see it as beneficial to their own work (not an add-on, but integrated into their existing targets). Also, they need to be resources [e.g. training them in running an on-boarding and follow-up workshop; providing incentives (financial, recognition) to motivate them to get others on-board]. We must be careful of adding too much to the roles of NGOs without some benefit to them'

The same respondent was aware that the shift from a small-scale pilot to a scale where intermediaries relay the message about the application and its benefits, has several risks:

'We need to be careful about how we bring the message of what the app can do. We must definitely not do it in a know-it-all way that disempowers the potential users and sounds like we are coming to tell them what to do. What the parents are doing already with their children needs to be acknowledged. This could be a challenge with scaling up'

**Recommendation 3: Continue to invest in managing and maintaining good partnership relationships, especially pertaining to government relationships**

Make sure that there is a clear relationship with a government partner, and someone within government to champion the project. Ensure that the mandate from government is clearly communicated, and expectations for ongoing government approval and processes for scaling are managed.

Spend time building cooperation between different provincial departments (DoE, DSD, Community Safety, Cultural Affairs, DoH, Premiers office) and the local government. 'It must be an inter-departmental initiative so you have buy-in from crucial partners who

can unblock/release resources along the way to assist the implementation partners.’ Another stakeholder emphasised the pivotal role of the government partner in the scale up plans: ‘We have funding and buy-in from the WCDS as this is a Provincial Strategic Project, and commitment to medium to long term aims is there’.

Ensure that the relationship between the two funders is well-managed and that lines of accountability are clear to project implementers. Some high-level project implementers suggested to ‘Have one person/organisation do all the coordination, and take the lead’. However, this does not seem practical given the joint funding relationship, the need for innovation and experimentation; but at the same time retaining strong government relationships for scalable uptake and use and integration into provincial service delivery.

**Recommendation 4: In future design cycles, ensure that there are opportunities for regular feedback and engagement with the targeted beneficiaries, to inform iterations**

Create opportunities for face-to-face meetings with the beneficiaries. Have face-to-face meetings with, and listen to, the beneficiaries and local NGOs who are experts in the field and ‘have been around for a while and have ears on the ground and hands in the crèches. Ensure that they understand the objective of the project, and buy in to the value proposition. Build relationships with the right people!’

Continue to improve the way in which feedback is obtained from users of the service, and how this is monitored and reported:

**Recommendation 5: Invest in, and improve, the content development**

This includes focusing on one theme per week, with all communications linked to that, and stringent quality assurance (in particular, revisit the translations, and check the matching of images). Future content to also consider creating more image-focused stories, and consider including some resources where children could ‘read-along’ with a teacher/parent (where this is age-appropriate).

**Recommendation 6: Explore extension from the focus on language/literacy to include other aspects of the integrated ECD curricula.**

This includes consideration of ELOM domains and measures.

**Recommendation 7: Consider supplementing the App with physical materials that support implementation of activities.**

Some examples of such materials include a print-based pack of posters related to the activities and resources which can be used by practitioners, story books in mother tongue, and guidelines for making toys from recycled materials. Existing resources (such as those from Ntataise) may be useful in this regard.

**Recommendation 8: Include scaffolding for parents (and practitioners) – possibly through videos - to demonstrate how to implement activities.**

As an example, guidance could be provided in the CareUp app around how to read a story to your child, and how to assist your child is mastering an activity (if they struggle the first time).

**Recommendation 9: For version 2.0, include tech enhancements that were identified as necessary or nice-to-have.**

Examples include an on-boarding tutorial, simplified navigation, enabling users to on-board at different times without a content backlog, more enhanced language functionality, more advanced user customisation options, more refined/nuanced user feedback capabilities, a dashboard reporting on uptake and usage data in real time, which can be accessed by all stakeholders, leaderboard functionality, enabling communication between parents and practitioners, and greater differentiation in the content for parents and practitioners to meet their particular needs and recognise the individual vs group nature of the home and centre settings. Enhancements should also enable sharing of the app between people. For example, users could be encouraged to invite others and share a CareUp link via whatsapp or on Facebook.

Consider the need for different views of the application for different user groups (practitioners and parents). While these groups need to receive similar content at the same time, their particular needs are distinct and ought to catered for.

- Customize CareUp to create a slightly different offering for practitioners and parents.
- Be more responsive to user groups (practitioners and parents) – ‘they have different needs and so we need to customise more for each target audience’.

- Reduce the number of messages to parents to three per week but offer more messaging to practitioners (although it should be added that one practitioner had already noted that the use of CareUp had brought about an extra work load, so this needs to be considered carefully)
- Allow users to select the time of day to receive messages

**Recommendation 10: Simplify the navigation structure of the CareUp application.**

- Remove the distinction between activities and instructions, and rather have a daily content offering.
- Simplify the structure of the app: for example, making a pyramid structure of communications on the same theme, and allow for different levels of engagement (then the user can dig as deep as they want to, within reason).
- Simplify the process of switching languages, so that the application should be experienced as a 'bilingual model' (It should be easy to change from English to isiXhosa and back, for any user who wishes to use multiple languages).
- Link the weekly messages and activities to what is being covered in the curriculum
- Use the existing content, but push the messages out over a longer period but with same number of messages, which will give a greater chance for parents to apply their learning.

**Recommendation 11: Develop ways to encourage participants to come back to a service once the initial interest has declined**

In other mobile interventions, this is frequently facilitated by sending milestones or reminders or invitations via other commonly-used message platforms (sms or whatsapp or email reminders), and this approach seems appropriate to add to CareUp.

In future design cycles, it may also be necessary to incentivise and gamify aspects of the service to generate renewed interest and activity on the service. Processes such as accumulating points or levels, being rewarded through lucky-draws or competitions, having leader boards, and meeting agreed milestones would help mitigate the general decline in use over time.

**Recommendation 12: Link/integrate the app with other interventions, such as the TLII.**

For example, setting up a feedback loop with the therapists, such that they could set homework for children, accessed by the parents on CareUp in lieu of the 'motivation message'.

**Recommendation 13: Improve synchronisation of messaging, and enable multiple starting points.**

It may be preferable to allow for a staged experience of the service, so that the first week's messages are received in the week of new sign up; and not in relation to a calendar date. However, for the messages between the ECD practitioner and the parents to be coordinated, groups of participants are required. The practitioner ought to be the lead user who can create groups of parents who then receive the same message thread and timing as the parents in their group. Where individual parents join up independently from an ECD centre and their practitioner, this group function would not be required.

**Recommendation 14: Redesign the marketing process for CareUp in ways that allow for cost-effective roll out at a larger scale**

In future iterations of the intervention, consideration must be given to how practitioners are made aware of the service; the incentives offered to them; and whether airtime is provided to all, as a reward for using the service, or not given at all.

There were several suggestions made by high-level project implementers in response to concerns about the poor parent uptake and use which could inform this redesign:

- Widen the marketing of the application;
- Make more use of 'system influencers';
- Reduce the costs of access to CareUp or make CareUp data-free;
- Consider making use of cash-transfer models to encourage ongoing usage;
- Encourage the development of a Community of Practice amongst ECD centres; and
- Develop a 'light touch' option as a control, to see whether decent usage is generated there, or more support is needed.

If on-boarding sessions are used in future, we recommend only one, with the focus on trying to get as many parents to the first session as possible by giving adequate notice and including reminders. Further, we suggest the following guidelines for the onboarding sessions:

1. Allow for a significant proportion of the onboarding time to be focussed on providing adequate support of the download of the application. Time should be scheduled for peer-support (where a parent who has managed to download the service supports another parent to get to this stage), and the incentives (e.g. the 'goodie' bag) should be made conditional on successful download.
2. Focus for another substantial amount of on-boarding time on motivating and inspiring parents and practitioners on the benefits of the service. This is key to generating the enthusiasm needed to get the potential users onto the service.

**Recommendation 15:** In the next design cycle (over a longer period of time), shift research attention to cost-effectiveness and impact on learner outcomes.

It is vital that any intervention that aims to reach large numbers of pre-school parents and practitioners is cost-effective and sustainable, and benefits the learners (by ensuring that they are better-prepared for Grade R). The issue of cost-effectiveness and impact on the learners was not part of the scope of this CareUp evaluation, as the focus was on providing proof of concept. Now that this has been shown, attention must be shifted to cost-effectiveness and learner impact.

## Conclusion

This evaluation process has provided an opportunity to innovate and experiment with data collection techniques and feedback mechanisms from the project implementers, the ECD practitioners and the parents of young learners.

We trust that the data collected, together with the analysis of this evidence from different sources, has provided a rich description and account of the first design cycle of the CareUp intervention.

Looking across all the data sources it is clear that this intervention has been well conceptualised, and well managed within a complex web of interrelated partnerships. The feedback from beneficiaries – both ECD practitioners and parents – is overwhelmingly positive. This is supported by excellent uptake and use data from practitioners, and encouraging uptake and use data from parents.

In our view CareUp is a stable enough offering, which has shown potential at a small scale to meet its goals, and as such ought to move into a second design cycle of roll out at a larger scale.

## Addendum A: CareUp Logic Model

Inputs	Activities	Outputs	Outcomes		
			Knowledge and awareness outcomes	Behaviour outcomes	Impact
<p>Project team (onboarding)</p> <p>Marketing material for onboarding workshop</p> <p>The CareUp application</p> <p>Mobile phone for ECD practitioner</p> <p>Data for ECD practitioners (R10 per month), possibility to offer to parent if necessary</p> <p>Funding</p>	<p>1 site meeting introduction (principal and ECD practitioner - user feedback; expectations of them; how it helps them)</p> <p>1 follow-up meeting including letter of agreement for participate in the project and mobile phone for ECD practitioner</p>	<p>CareUp downloads by practitioners</p> <p>CareUp registrations by practitioners</p> <p>Attendance register from the meeting</p> <p>Letter of agreement to participate in the intervention (granting permission from principal and ECD practitioner)</p> <p>List of parents' and children's' names, and parent contact details</p>	<p>ECD practitioners aware of their role in offering quality ECD</p> <p>ECD practitioners <u>know how</u> to offer a rich home language environment for 4-5 year olds</p>	<p>ECD practitioners read the CareUp resources, instructions and activities</p> <p>ECD practitioners integrate the lang/lit activity/instruction into their weekly routine</p> <p>Principal/ECD practitioner convenes 3 Educare parent workshops on <u>CareUp</u> intervention</p> <p>ECD practitioners offer a rich home language environment for 4-5 year olds</p> <p>ECD practitioners initiate frequent communication (verbally and/or through notes) with parent</p>	<p>ECD practitioners are more engaged with parents, and better support children's' home language development</p>

An evaluation of the CareUp service

Project team (onboarding)	Onboarding parents (two 2-hour workshops and additional activities such as SMS campaign)	CareUp downloads by parents	<b>Parents</b> aware of their role in 4-5 year old child development (in early language development and in relation to the school-child-parent partnership)	<b>Parents</b> read and use the CareUp resources, instructions and activities regularly	<b>Parents</b> are more engaged in their child's education, have higher expectations of their child and school in future, and understand the school-child-parent partnership
Marketing material for onboarding workshop (e.g. letters for parents)	Third 2-hour workshop (to provide feedback)	CareUp registrations by parents		<b>Parents</b> attend quarterly ECD centre/Educare parent meetings	
CareUp application	<b>OR</b>	Attendance register from the parents meetings			
Funding	Light touch model (only visits to ECD principals and letters to parents)	Letter of permission from the parents to participate	<b>Parents</b> aware of their role in home language development of their child	<b>Parents</b> initiate frequent communication (verbally and/or through notes) with ECD practitioner	

## Outcome indicators & Sources of Evidence (1)

KNOWLEDGE AND AWARENESS OUTCOMES	ASSOCIATED INDICATORS	SOURCE(S) OF EVIDENCE
Parents aware of their role in 4-5 year old child development (in early language development, and in relation to the school-child-parent partnership)	% of parents correctly answering knowledge questions and showing awareness of their role in supporting their child's general development	Questionnaire (Kelello) - right or wrong answers
Parents aware of their role in home language development of their child	% of parents correctly answering knowledge questions and showing awareness of their role in supporting their child's home language development	Questionnaire (Kelello) - right or wrong answers
ECD practitioners aware of their role in offering quality ECD	% of practitioners running quality classes % of practitioners providing quality classroom environment	<ul style="list-style-type: none"> <li>- Survey</li> <li>- Structured interview</li> <li>- Classroom observations (Kelello)</li> </ul>
ECD practitioners <u>know how</u> to offer a rich home language environment for 4-5 year olds	% of practitioners aware of how to offer a rich home language environment for their learners	Questionnaire (Kelello) - right or wrong answers

## Outcome indicators & Sources of Evidence (2)

BEHAVIOUR OUTCOMES	ASSOCIATED INDICATORS	SOURCE(S) OF EVIDENCE
Parents read the CareUp resources, instructions and activities regularly	% of parents who opened instruction message. % of parents who provide instruction feedback. % of parents who opened activity message % of parents viewing the resources	Usage data (Reach Trust)
Parents use the CareUp resources, instructions and activities weekly	% of parents who provide activity feedback % of parents who self-report usage	Usage data (Reach Trust) Survey (Kelello)
Parents attend quarterly ECD centre/Educare parent meetings	% of parents attending meetings	Attendance register (TLI)
Parents initiate frequent communication (verbally and/or through notes) with ECD practitioner	Number/frequency of interactions initiated	Survey (Kelello)
ECD practitioner reads the CareUp resources, instructions and activities regularly	% of ECD practitioners who opened instruction message. % of ECD practitioners who provide instruction feedback % of ECD practitioners who opened activity message. % of ECD practitioners viewing the resources	Usage data (Reach Trust)
ECD practitioner uses the CareUp activities	% of ECD practitioners who provide activity feedback % of ECD practitioners integrating the CareUp activities at least 3 times a week into the existing lang/lit session in the daily programme	Usage data (Reach Trust) Survey (Kelello) Interview (Kelello) Observations (Kelello)

## Addendum B: Detailed methodology of data collection and analysis

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### Data collection

#### Interviews with stakeholders

Soon after the onset of the intervention, the Kelello evaluation team interviewed the practitioners at each of the selected case study ECD centres (4 practitioners in total), and the Innovation Edge, Western Cape DSD, Wordworks and Reach Trust (2 people) management teams (thus, five stakeholders in total), to determine their expectations of what would happen in the intervention. Near the end of the implementation, further interviews were held with the same individuals as at the baseline, but this time with the focus of gaining feedback on what about the intervention worked and what didn't work; and what didn't happen as planned, and why. The practitioner endline interviews also included questions with regard to self-reporting on knowledge, and with regard to current approaches to child development in general, to language/literacy teaching in particular, and to engagement with parents.

Parent feedback on the benefits and challenges of using CareUp – from Khayelitsha and Philippi parents only – was solicited using several methods:

#### 1. Near-baseline telephone interviews (n=19)

These were completed over a two-week period from late September to early October 2016, and included questions about expectations as well as self-reporting on knowledge. They also included questions about current practice with regard to a parent's role in child development in general and in language literacy development in particular; as well as self-reporting on parent-practitioner communication<sup>21</sup>. Parents were selected randomly from within the four case study sites (4 to 5 parents from each site were selected randomly from the full list of parents), and incentivised to participate in the interview through the supply of airtime vouchers.

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<sup>21</sup> Although the interviews were held a few weeks after the launch of the intervention, it was made clear to the respondents that they should answer with respect to their views and opinions before the start of the intervention

## **2. Near-endline user and non-user focus groups**

These were held at two of the second set of workshops run by Reach Trust: Philippi (22 October 2016) and Khayelitsha (5 November 2016). Based on usage data supplied by RT, before the workshops the parents were categorised as either users or non-users, and one focus group of users and another of non-users was set up (with random allocation). On the day of each workshop, not all those parents were present, but others were added to the groups from those who attended to ensure that each focus group had between 5 and 8 parent members.

## **3. Near-endline written surveys (n = 11 practitioners; n = 85 parents)**

These were completed at the same workshops as above. All parents and practitioners at both workshops completed the questionnaires, of which there were two types (a 'user' and a non-user' version).

## **4. Case study home visits (more detailed information is provided below).**

In the case of the stakeholder interviews, detailed interview notes were recorded during the interview itself, and then sent through to the individual for edits and, eventually, sign-off. In the case of the practitioner and parent interviews and focus groups, all were audio-recorded and interview notes written up shortly thereafter.

## **ECD centre site visits and lesson observations**

Two site visits – at baseline and endline – were undertaken at each of the four case study sites to focus on the practitioner knowledge and practice. During each of these visits, a language/literacy session for the 4 to 5-year old class was observed and video recorded. The practitioner was further asked some pre-lesson questions about their planning and expectations; and some post-lesson questions on the efficacy of the lesson.

These observed lessons may be considered as planned 'best case' language/literacy lesson (since the practitioner was told that they were going to be observed on a particular day), and therefore it is likely that the planning and quality for this lesson performance may not be normative of daily teaching. Nevertheless 'best case' performances are considered valuable in revealing the teachers' intent, and understanding of expectations from the CareUp programme.

In the case of one of the ECD centres, both baseline and endline lessons observed were transcribed and then translated into English (with the isiXhosa remaining alongside).

Academic ECD experts analysed the lesson transcripts and viewed the baseline and endline lesson video to offer comparative analysis on observed changes in practice and knowledge for each practitioner.

### Parent home visits

To obtain detailed qualitative feedback on the parent-child relationship and interaction, five case study families from the case study centres were purposively selected. Three were selected as 'best case examples' of CareUp usage; and two were selected as 'worst case examples' of low/minimal CareUp usage.

The process of selection of these case study families was as follows. A list of Khayelitsha and Philippi parents who were frequent users (defined as accessing the service on at least 25 different days) or minimal/non-users (defined as accessing the service on fewer than five different days, despite attending at least one onboarding workshop and downloading the app) was made, based on usage data provided by the Reach Trust. These lists were sub-divided by area (Khayelitsha and Philippi). People on the list were phoned, in random order, until a total of three users and two non-users – with children who all attended different ECD centres – willing to accept a home visit was complete.

A home visit to each of these case study family homes was conducted in the period 28 November to 1 December 2016, where the parent was asked questions about the application and where video recordings (for the user) were made of how they used CareUp and interacted with their child using the CareUp application. All parents who accepted the home visit were given a R100 airtime voucher as a gift to thank them for their time.

The structure of the home visit was different for the user and non-user groups. For the non-user group, there were only two main activities: first, a brief interview of 8 questions, followed by a 5 to 6-minute session where the parent read or told a story to her 4 to 5-year old child<sup>22</sup>. The user group visit was more extensive, starting off with a brief set of questions, and then five video-recorded sessions (of story reading/telling; explaining to the researcher how to use CareUp; using CareUp with her child; doing a CareUp activity with her child; and showing the researcher how they use CareUp resources).

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<sup>22</sup> This story-reading/telling session was video-recorded

## Uptake and usage

The uptake and usage data for the messaging component of the intervention were collected at the backend by the Reach Trust servers. This data was entirely quantitative, and focussed on determining the uptake and usage of the practitioners and parents.

The following uptake and usage data indicates just some of the data collected so as to get an idea of the engagement of the parents and practitioners with the CareUp messages:

- Activities opened
- Activity votes relating to 'thumbs up', 'thumbs down' or 'discard vote' rating
- Resource menu opened
- Particular resources opened
- Instructions opened
- Instructions audio files downloaded
- Instructions written text opened

## Data analysis

The ways in which the data collected above was analysed is explained in some detail below.

### Interviews

All the interviews were analysed in much the same way. Responses for each question by each individual were transferred to an Excel spreadsheet, and were coded into categories. These were then quantified in order to be able to see how many times a comment about a particular aspect was made (across all interviewees). These were then written up with some indication of frequency of utterance, along with – where useful – quotes.

### Lesson and home visit observations

All the observed lessons were analysed to get an understanding of what is typically covered in a literacy/language lesson in the 4 to 5-year old classes of the case study ECD centres. Two of these observed lessons were analysed in depth for linguistic changes from the first observed lesson to the second.

When reviewing the video recordings of lessons the evaluation researchers looked for changes in the richness of the language used by teachers, and by learners and as evident

in the classroom. In particular, we looked to see evidence of linguistic development, including vocabulary and type of sentences. We hoped that when comparing a pre-lesson recording to a post-lesson recording we would find more evidence of the following:

### **Practitioner**

1. The practitioner chooses communication activities which are grounded in learner's knowledge and experience; and draws on rich (both real and imaginable) narrative contexts;
2. The practitioner uses correct language in that she draws on a wide variety of vocabulary (nouns, verbs and adjectives), speaks in full and complex sentences, and minimizes use of single words or 'baby talk';
3. The practitioner uses appropriate oral language, and draws on the different backgrounds and experiences of the learners, encouraging them to communicate their thoughts and experiences during the lesson.
4. The teacher repeats meanings of new vocabulary to reinforce the idea. However, this is done informally. For example, the repetition could be done through rhymes, songs and when emphasizing a verb, the children perform actions, etc.
5. The practitioner pays attention to how the learners respond to the activities she initiates. Evidence of the teacher observing learners, possibly make notes of where learners will need help for support purposes, and being able to articulate observations after the lesson.
6. The practitioner introduces and uses specialized vocabulary and simple language structures (for science – 'like heavy/light, living/alive/dead, are we sure, lets experiment, lets imagine', or mathematics - more/less, fast/slow, curved/straight' or from rich story context)

### **Learners**

1. The learners talk to each other and to the practitioner during the lesson
2. Learners repeat and vocalize new words and phrases in meaningful situations (possibly with practitioner prompting)
3. The learners talk mostly at the following level of quality (considering different levels of learner contributions):
  - a. Repeating words said by the teacher;

- b. Giving a single word answers (to complete a phrase/answer a closed question offered by the practitioner for example)
- c. Chorusing of phrases/sentences;
- d. Constructing their own response (responding to an open question in their own words)
- e. Offering longer narrations of events and experiences

### **Environment**

- 1. There are pictures, words, phrases/labels displayed in the environment
- 2. The 'reading corner'/ story table/ or equivalent is established and utilized
- 3. The teacher uses the digital resources available on her mobile device (for planning and possibly during the lesson)

All the home visits were analysed by summarising how the different user/non-users utilised CareUp with their children.

### **Uptake and usage**

The Reach Trust did the initial analysis of uptake and usage data, sharing the results by means of fortnightly 'short' reports (and three approximately six-weekly 'long' reports), presented to all stakeholders and the evaluation team. Some of these results were utilised by the evaluators in this report, along with deeper interpretation than was found in the RT reports. Further, some additional data not analysed in the Reach Trust reports was requested from the organisation, and then analysed by the evaluation team using Excel descriptive statistics formulae.

## Addendum C: Video recording analysis framework

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### Analysis for language rich environments

The following framework provides an illustration of how the analysis of video recordings of lessons (n=8) was conducted.

In this phase of the evaluation only 2 lesson videos were analysed so as to keep the budget down. The detailed pre-lesson post-lesson analysis of the teacher observation is expensive as it involves video recording; transcription of the teacher and learner talk; translation into English and analysis to compare the 2 lessons (pre and post) against the agreed framework, which is undertaken by an academic expert.

The following provides an example of the envisaged qualitative analysis of the video recordings.

When reviewing the video recordings of lessons the evaluation researchers will look for changes in the richness of the language used by teachers, and by learners and as evident in the classroom. In particular, we would hope to see evidence of linguistic development, including vocabulary and type of sentences. We would hope that when comparing a pre-lesson recording to a post-lesson recording we would find more evidence of the following:

#### **Practitioner**

7. The practitioner chooses communication activities which are grounded in learner's knowledge and experience; and draws on rich (both real and imaginable) narrative contexts;
8. The practitioner uses correct language in that she draws on a wide variety of vocabulary (nouns, verbs and adjectives), speaks in full and complex sentences, and minimizes use of single words or 'baby talk';
9. The practitioner uses appropriate oral language, and draws on the different backgrounds and experiences of the learners, encouraging them to communicate their thoughts and experiences during the lesson.

10. The teacher repeats meanings of new vocabulary to reinforce the idea but when doing this, However, this is done informally. For example, the repetition could be done through rhymes, songs and when emphasizing a verb, the children perform actions, etc.
11. The practitioner creates time for learners to talk and encourages them to express ideas in full sentences in which verbs are present (and not limited to repeating single words, or chorusing)
12. The practitioner pays attention to how the learners respond to the activities she initiates. Evidence of the teacher observing learners, possibly make notes of where learners will need help for support purposes, and being able to articulate observations after the lesson.
13. The practitioner introduces and uses specialized vocabulary and simple language structures (for science – ‘like heavy/light, living/alive/dead, are we sure, lets experiment, lets imagine’, or mathematics - more/less, fast/slow, curved/straight’ or from rich story context)

### **Learners**

14. The learners talk to each other and to the practitioner during the lesson
15. Learners repeat and vocalize new words and phrases in meaningful situations (possibly with practitioner prompting)
16. The learners talk mostly at the following level of quality (considering different levels of learner contributions):
  - a. Repeating words said by the teacher;
  - b. Giving a single word answers (to complete a phrase/answer a closed question offered by the practitioner for example)
  - c. Chorusing of phrases/sentences;
  - d. Constructing their own response (responding to an open question in their own words)
  - e. Offering longer narrations of events and experiences

### **Environment**

17. There are pictures, words, phrases/labels displayed in the environment
18. The ‘reading corner’/ story table/ or equivalent is established and utilized

19. The teacher uses the digital resources available on her mobile device (for planning and possibly during the lesson)

## Addendum D: Detailed lesson observation write-ups

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### The case of Thulelah (Philippi)

The following framework provides an illustration of how the analysis of video recordings of lessons was conducted<sup>23</sup>.

An example of one teacher – Thulelah (pseudonym) – is provided, where her two observed lessons are analysed.

It should be noted that, prior to a lesson observation, Thulelah had been made aware that the researcher would be visiting her class. She therefore may have responded with a lesson that was intended to please the researcher. It is not known whether the lesson observed is typical of Thulelah's lessons. However, we think this technique – of asking a teacher to allow an observer into one of her lessons - offers insight into the 'best case' interpretation of what the teacher sees as a 'good lesson'. So, what is presented here is revealing of what Thulelah wanted to demonstrate with regard to the teaching of language and literacy to her class.

Thulelah was responsible for a class of twenty-two 4 to 5-year old learners. The pre-lesson observation was conducted in August, and the post-lesson observation in November. Both lessons selected for analysis were taught by Thulelah, who taught at a Philippi ECD centre.

#### ECD centre context

The entire centre was well maintained with enough resources for the children's education.

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<sup>23</sup> The full video analysis framework is found in Addendum C.



Figure 32: The entrance to the ECD centre



Figure 33: The street and typical dwellings in the area



Figure 34: A nearby spaza shop

This ECD centre was clean and well equipped. There was a functional kitchen area which was clean and orderly:



Figure 35: Kitchen with microwave



Figure 36: Kitchen with shelves and sink



Figure 37: Cooking stove in kitchen

There were clean toilets and basins for the children to use.



Figure 38: Two toilets for children



Figure 39: Three hand-washing basins

Although there was not a big space for the outdoor play area, the available space was well equipped with climbing equipment and sandpits/water play.



Figure 40: Outdoor play: Climbing frame and swings



Figure 41: Outdoor play: Sand and water/tubs

Inside the centre, provision was made for the children to have mattresses on which to rest. There was a book or story display stand inside, numerous posters on the walls (labelling the months of the year), and a cabinet containing wooden blocks.



Figure 42: Book display cabinet



Figure 43: Posters on the walls (months of the year)



Figure 44: Wooden block cabinet



Figure 45: Children's mattresses

At this Philippi ECD centre, the children arrived at 7 a.m., and left the school at 5 p.m. A daily schedule was displayed on the wall:

The daily schedule included several meal or snack times: breakfast time, snack time, lunch time, snack time.

The educational or simulation slots included a 10 minutes' morning ring, a



Figure 46: Daily schedule

creative activity, a ring time, and story or puppet show time.

Outdoor play was scheduled for half an hour the morning. Time was allocated to go the toilet and wash hands.

An extended 'rest time' was allocated from 12:40 to 15:00.

Practitioner Thulelah explained that she worked on language/stories/reading for an extended period from 08h:50 to 12:50. She explained that she 'breaks her literacy lesson into sessions – for example, she starts with the morning ring (greeting, praying, reflection of yesterday at the crèche and home) drama and movement, creativity activities, writing, ring time, music, puppet show and story time.'

### Near baseline lesson observation

In the lesson that was observed near the outset of the CareUp intervention, Thulelah was planning to discuss a 'day and night' theme. She was planning to do mix and match objects whereby the children would have to match candle, matches, and torch with the correct beginning letters and say the beginning sound loud. The story telling was about a night and things that can be used at night to make a light, beginning sound of the word matches (umatshisi), drawing, painting and writing of letter "U" .

Thulelah had a book in which she planned her lessons. She showed the researcher this plan:

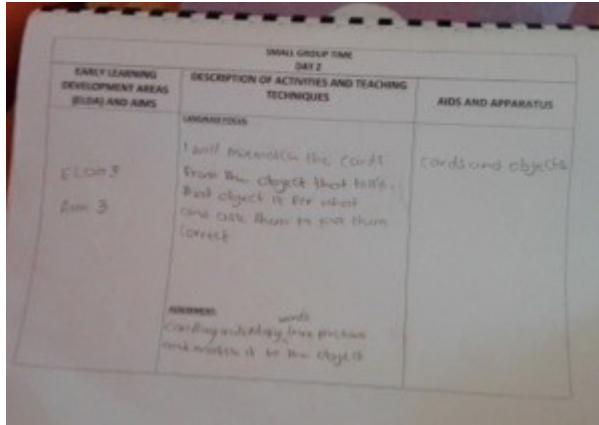


Figure 47: Thulelah's lesson plan

The resources she used (which she went to fetch in the middle of lesson) were objects like a candle, matches, torch, letter cards, paint brush, paint, crayons, sand, word labels and glue stick.



Figure 48: Labels and objects

Thulelah explained that the lesson connected with a previous lesson where she introduced day and night. Although she had a substitute teacher on the previous day, she was continuing a lesson from just prior to that. She explained that 'I always start each lesson by doing a short summary of the previous lesson.'

The intended focus of the lesson was about a night and things that can be used at night to make a light at home; emphasising the beginning sound of the word matches ("U" matshisi) as well as for the children to have the opportunity to write the beginning sound "U" using three creative ways.

At the beginning of this lesson, the children were all seated at their desks (arranged in 3 groups, around 3 tables), and Thulelah stood at the front of the class. Thulelah introduced the lesson by asking the children what they learnt about in the previous lesson which was about a day, and then she told the children that they would now focus on a night. On her table, she had arranged three objects: A candle, a torch and matches.

The following transcript segment demonstrates how Thulelah continued with the introduction of lesson. She held up the letters ‘u’ and ‘i’ and made gestures of how to draw each letter. She expected learners to chorus her phrases back to her:

[1] Teacher: This is “u” [*pointing at the picture in her hand*]. Let’s write “U” in the air, let’s start this side [*teacher is writing vowel “u” in the air*]. We start by “u” when we write *u-matshisi (matches or match box)*.

[2] Learners (chorus): “u”

[3] Teacher: This is –“i” (*holds up a card with ‘i’*). It is a stick with a dot.

[4] All learners (chorus): It is a stick with a dot. [*Pointing to the vowel card*]

[5] Teacher: ikhandlela (candle) also starts with a stick with a dot. When we say a,e,i [*holding the vowel card up*]

[1] Utitshalakazi: Ngu “u” lo [*esolatha umfanekiso esandleni sakhe*]. Masibhale “u” emoyeni, siqala ngapha [*Utitshalakazi ebhala isikhamiso “u” emoyeni*]. Siqala ngo “u” xa sibhala umatshisi.

[2] Abafundi ngaxesha linye: “u”

[3] Utitshal: Ngu “I” loo, yintonga enechaphaza.

[4] Abafundi ngaxesha linye: yintonga nechaphaza [*besolatha ikhadi ekubhalwe kulo*]

[5] Utitshalakazi: Ikhandlela liqala ngentonga enechaphaza. Sithi a,e,i [*ebambele ikhadi ekubhalwe kulo phezulu*]



Figure 49: Display table with letter and word cards

Thulelah matched the letter card ‘u’ with a matchbox (u-matshisi), sand matched the letter card ‘i’ with a candle (i-khandlela). This was done on a small display table at the front of the class. Thulelah simply placed the correct letter card next to the candle, and next to the matches. She had already written a word card (‘umatshisi’ on a blue card, and ‘ikhandlela’ on a yellow card, and ‘torch’ on an orange card). She positioned the letter cards (‘i’ and ‘u’) next to the correct object. Thulelah did not explain how the letter card related to the object, and she did not draw attention to the word cards.

Thulelah did not refer to a torch (‘i-torch’) which was also on the table. She did not match any letter to the torch. She picked up all the letter cards, word cards and the three objects (matches, candle and torch) and moved to the back of the classroom.

In the next part of the lesson, Thulelah moved to the back of the classroom to a carpeted area. She gathered all the children to stand in a semi-circle shape and put down on the mat the objects (matches, candle and torch), the white letters cards (‘i’ and ‘u’), and coloured word cards (umatshisi, itorch, and ikhandlela). She asked a girl to find the word card for the matches (which was done correctly). She then asked the children to look for beginning sounds of the three object. She chose a boy to pick a letter card (from ‘u’ or ‘i’) to match with u-matshisi (matches). Learners put their hands up.

[10]Teacher: Which vowel does *u-matshisi* start with? [10]Utitshalakazi: uqala ngabani umatshisi?

[11]Learners: It starts with tshh!

[11]Abafundi: uqala ngo tssh!

- [12]Teacher: no, who can show me “u”? put your hands up. [12] Utitshalakazi: Ngubani ongandibonisa “u”, phakamisani izandla.
- [13] Teacher: Siphso (pseudonym), show us “u” , and put it next to *u-matshisi*. [13]Utitshalakazi: Siphso, sibonise “u”, umbeke ecaleni komatshisi.
- [14] Siphso: [*walks and picks up vowel “u” and puts it next to the match box*]. [14] Siphso: [ *ehamba ethatha isikhamiso “u” asibeke ecaleni komatshisi*]
- [15] Teacher: Is Siphso correct? [15] Utitshalakazi: wenze kakuhle uSiphso?
- [16] Learners: Yes [16] Abafundi: Ewe
- [17] Teacher: Lets clap for Siphso [17]Utitshalakazi: Masimqhwabele uSiphso
- [18] Learners: [*Clapping*] [18]Abafundi: [*bayaqhwaba*]
- [19] Teacher: who can show us the word *u-matshisi*? [19]Utitshalakazi: Ngubani ongasibonisa umatshisi?
- [20] Learners: me! me! me! [20]Abafundi: Ndim! Ndim! Ndim!
- [21] Teacher: Put down the card I have not picked you, I have to pick you first. Bulelani, show us. Everyone move so that Bulelani can show us. Bulelani, put the word next to the picture. [*Bulelani, walks and picks up the word “umatshisi” and puts it next to the match box*] [21] Utitshalakazi: Beka phantsi ikhadi, andikakubizi, linda ndikubize. Bulelani, sibonise, thatha ikhadi ulibeke ecaleni komfanekiso. [*Bulelani uthatha igama umatshisi alibeke ecaleni kwe bhokisi kamatshisi.*]

So Thulelah directed Siphso to put the ‘u’ card next to the matches (she did not correct or discuss why the children may think that the first vowel for the word ‘u-matshisi’, was not ‘tshi’ (which was the sound many learners made when asked this question). There was no breaking down of the word into syllables to discern the phonemes distinctly and reflect on the first sound (as opposed to the middle sound).

When Siphso placed the ‘u’ letter correctly next to the matchbox, and the class clapped, the learners chorused after Thulelah as she said ‘u’.



This was repeated for i-torchi (torch), which was matched with ‘i’. Thulelah asked ‘Who can show us ‘i’ for itorchi? [Utitshalakazi: ngubani ongasibonisa u “i” ka itotshi?]. The learners called out: ‘Me, me, me!’ Thulelah picks a learner who

correctly picks up the 'i' (the only remaining letter card) and places it at the torch. Thulelah asks. 'Is he correct?' [unyanisile?] and the learners call out yes [ewe].

Figure 50: Matching the letter card to an object

A similar process was followed for candle (ikhandlela) The 'i' letter card was moved from the torch and used again.

Once the volunteer learners had correctly matched the letter cards and word cards to the objects, they chorused the nouns aloud (following Thulelah): u-mashisi, i-torchi, and ikhandlela. Thulelah could be heard to place emphasis on the first vowel sound. The children's chorus responses were a mixture of pronouncing the first vowel sound, and neglecting the vowel sound ('i-torchi' and 'torchi' can be both be heard in the children's responses).



In the next phase of the lesson, Thulelah expected the children to sit at one of the three tables. Each table had a different task involving the letter 'u': the first table had paint and paint brushes to paint a 'u'; the second table had a glue stick to make the shape 'u' and sand to cover the glue (revealing a sand 'u'), and the third was expected to draw a 'u' using a pencil/pen or crayon. There was an extended period (more than 10 minutes) while Thulelah arranged the resources for this activity.



As Thulelah's lesson was divided into sessions where the children moved into their tables and chairs and sat in and formed three groups, each group had a task to write letter 'u', using paint, drawing and sand and glue stick. The



Figure 51: Children drawing, painting and making a sand 'u'

session ended by having the children to write a beginning sound of the word *umatshisi*

After a break, Thulelah ended this session by showing the children pictures of a day and night. She asked the children to differentiate between a night and day. Thulelah asked the children to differentiate between what people would do in the day, and what people would do at night. Interesting answers came out from children like people would be walking in the streets with umbrellas on, if it's hot and at night people would be eating dinner and sleeping. The children did not ask any questions during the lesson.

When reflecting on the lesson, Thulelah commented that 'some children were too excited and they couldn't concentrate well during the lesson time as a result that caused a little bit of chaos'. She would have liked to 'get everything ready that I needed for the lesson before time'. When considering how this lesson was similar or different to the kind of language sessions she did every day, Thulelah commented: Sometimes it won't be exactly the same just because we have different themes each week. I think it is good to do same routine even though sometimes you will change somewhere and somehow. I do practical work in every literacy lesson.' She noted that 'Sometimes I would start my lesson with a story first but today the story will be at the end'. When explaining what she planned to do the next she indicated, that she was 'planning to do more on letter "u" which was used today as the beginning sound of "Ubusuku" the night and using different resources like magazines, scissors and glue.' In terms of extending or building on the session, she indicated that she planned to: 'give the children magazines to find the pictures of the things that presents the night, look for letter "u" and cut them, trace and paste on the paper.'

When asked about ways that she encouraged children to talk and tell stories, Thulelah indicated that she 'encourages them to share stories they know once a week before sleeping time'.

When reflecting on the lesson, the researcher impressions were captured as follows:

- The teacher was: nervous and asking some questions.
- The children were: excited, sitting, and answering some questions.

The researcher noted that Thulelah had a good understanding of what she does and what she wants to achieve. The researcher was concerned that when some children were copying the letter 'u', they did this upside-down as they copied the page that was put on the table, relative to their view of the page. She suggested that perhaps the practitioner could have stuck the letter "u" on the wall where everyone could see it and know the correct orientation for 'u'.

### Near-endline lesson observation

In the second observation session, the theme was wild animals.



Thulelah planned to read a story and then use models of wild animals and a wild animal poster.

*Figure 52: Wild animal poster and plastic animals on display table*

The lesson connected with another lesson, where the learners used their mini-booklets (made by them) with animals drawn in or pasted in. In this lesson Thulelah asked the researcher to please try and notice the 'the children's response and participation'.



At the start of the lesson Thulelah sat on a chair and the children set on the mat. She read the Lion King to the class. It was an English publication, and she translated into isiXhosa as she silently read the English text. So the children heard the story in isiXhosa and listened attentively.

*Figure 53: Reading the Lion King*

Thulelah read a page then showed the class pictures from the story whilst asking question about the pictures. For example, she asked the children to identify the main characters or

to ask the learners to identify particular animals. She stopped in the story to give a detailed explanation of the word 'scavenging' (to find dead animals to eat).

[1] Teacher: [*teacher reads the story, turns the book and shows the pictures to the learners*] look here, there is Simba, there are other animals as well. Can you see?  
[1] Utitshala: [ *utitshala ufunda ibali, ajike incwadi ayijongise kubafundi*] jonga uSimba, nazi nezinye izilwanyana. Niyazibona?

[2] Learners: Yes Miss.  
[2] Abafundi: Ewe titshala

[3] Teacher [*continues to read*] Can you see all these animals? Can you see the giraffe? [*Teacher shows the learner's pictures*]  
[3] Utitshala: [*eqhubeka efunda*] niyazibona izilwanyana? Niyayibona indlulamthi? [*utitshala ebonisa abafundi imifanekiso*]

[4] Learner's: Yes Miss  
[4] Abafundi: Ewe titshala

[5] Teacher: Can you see all the mice that live in Simba's kingdom? [*Teacher shows the learner's pictures*].  
[5] Utitshala: Niyazibona impuku ezihlala no Simba? [*ebonisa abafundi imifanekiso*]

[6] Teacher: Can you see all the animals are killed? Look at the spiders they are eating dead animals.  
[6] Utitshala: Niyazibona zonke izilwanyana zibulewe? Jonga izigcawu zitya izilwanyana ezifileyo.

Teacher: [*continues to read*] Simba meet Bomba. They are happy. Look at how happy they are [*showing them pictures*]. They have forgotten about the bad things that happened.  
Utitshala: [*eqhubeka efunda*] uSimba udibana no Bomba, bahlala kamnandi. Khawujonge indlela abonwabe ngayo [*ebabonisa imifanekiso*] Balibele ngazo zonke izinto ezimbi ebeziqhubeka kubo.

[7] Teacher: Sihle, be quiet [*teacher continues to read*]  
[7] Utitshala: Sihle, vala umlomo [*eqhubeka efunda*]

The learners listened and sing-songed 'ewe [yes], miss' where appropriate. As a class, they seemed to be in tandem when sing-singing their answers. They seemed to enjoy the story. There were exclamations (oohs and aahs) by the learners at some of the pictures – this wasn't expanded on or responded to. This version of The Lion King had many animals crammed onto one page alternating the text. The class loved this. The researcher noted that Thulelah did not respond to the children's interest and 'the teacher moved on to the next page'.

The story aspect of the lesson ended with a mini-comprehension session of who, why, what happened, and so on.



Who was the main character? Why did Simba become king? What happened to him when he became king? What song did Pumba and Timone sing? What happened to Simba in the end? The children took turns to respond to these questions.

Figure 54: Mini-comprehension about the Lion King story

The following excerpt demonstrates Thulelah's line of questioning. Learners volunteered answers by putting their hand up. When they spoke they stood up.

[1] Teacher: Can anyone tell us what was the story about?

[1] Utitshala: Balingantoni ibali lethu?

[2] Learner 1: About Simba

[2] Umfundi 1: ngo Simba

[3] Teacher: Why did Simba want to be the king of the other animals?

[3] Utitshala: kwakutheni ukuze u Simba afune ukuba yinkosi?

[4] Learner 2: He wanted to help other animals

[4] Umfundi 2: Abefuna ukunceda ezinye izilwanyana

In the next part of the lesson, Thulelah tried to sing a song from The Lion King film/production. Thulelah tried to sing in English 'Akuna-matata, what a wonderful thing'. However, she was not sure of the words of this song.



The children stood up and clapped, following Thulelah's clapping rhythm.

Figure 55: Clapping to the lion king song

The final part of the lesson took place at the display table with the wild animal poster and the plastic animals.



Thulelah pointed to each animal on the poster and said its name, the children chorused repeating these words. She held up a plastic animal and asked a learner to name the animal, and match it to the picture on the poster.

Figure 56: Identifying wild animals on the poster

The following excerpt demonstrates Thulelah's line of questioning, when at the display table:

- |   |  |
|---|--|
| [1] Teacher: [pointing at a picture of a lion on the wall] A lion     | [1] Utitshala: [esolatha umfanekiso eludongeni] ingonyama                      |
| [2] Learners: A lion  | [2] Abafundi: Ingonyama  |
| [3] Teacher: What is this one?  | [3] Utitshala: yintoni le?   |
| [4]Learners (chorus): Leopard   | [4]Abafundi: ingwe   |
| [5] Teacher: Can someone show me the leopard in the picture?          | [5] Utitshala: ndicela nindibonise ingwe kumfanekiso                           |
| [6] Learner: [points at a leopard in the picture]                     | [6]Umfundi: [esolatha ileopard kumfanekiso]                                    |
| [7] Teacher: Lets clap for him [learners clap]                        | [7] Utitshala: Masimqhwabeleleni   |
| [8]Teacher: What is the name of this animal? [Pointing the picture]   | [8] Utitshala: yintoni igama lesisilwanyana? [esolatha kumfanekiso]            |
| [9]Teacher: It's a rhino  | [9] Utitshala: ngu bhejane   |
| [10] Leaners (chorus): It's a rhino                                   | [10]Abafundi: ngu bhejane  |
| [11] Teacher: What is the name of this animal? [Pointing the picture] | [11] Utitshala: yintoni igama lesisilwanyana? [esolatha kumfanekiso]           |
| [12] Leaner: It's a zebra   | [12] Abafundi : yizebra  |
| [13]Teacher: Who can tell me what this is? [Pointing the picture]     | [13] Utitshala: ngubani ongandixelela ukuba yintoni le? [esolatha kumfanekiso] |
| [14] Learners: A cow  | [14] Abafundi: Yinkomo   |

[15] Teacher [ <i>points at a buffalo</i> ] : It's a buffalo	[15] Utitshala: yi nyathi
[16]Teacher: Can someone show me which one of these is a buffalo? [ <i>gestures to the plastic animals</i> ]	[16] Utitshala: bendicela nindibonise I buffalo kwezi zilwanyana
[17] Learner: [ <i>picks up a buffalo from the animals laid on top of the table</i> ].	[17] Umfundi: [ <i>ethatha I buffalo kwilwana eziphezu kwetafile</i> ]
[18] Teacher: Can we call all wild animals? [ <i>pointing at the picture</i> ]	[18] Utitshala: masibizeni zonke izilwanyana zasendle[ <i>esolatha kumfanekiso</i> ]
[19] Teacher and Learners ( <i>chorus, as teacher points at each picture</i> ): lion, leopard, white bear, jackals, elephant,...	Utitshala nabafundi: ingonyama, ibhere emhlophe, udyakalashi, indlovu, ...

Thulelah asked learners to identify the different animals as well as imitate the sounds that they make. It was notable that Thulelah waited for individual learners to volunteer (by putting their hand up) and answer or show their response. She offered positive feedback to learners with each interaction:

[1] Teacher: Who can show me a white bear?	[1] Utitshala: Ngubani ongandibonisa ibhere emhlophe
[2] Learner: [ <i>Points at the picture of the white bear</i> ]	[2]Umfundi:[ <i>Esolatha imifanekiso</i> ]
[3]Teacher: Good, you are smart.	[3] Utitshala: Nikrelekrele

The lesson closed, with the learners singing a song made up by Thulelah to end off the session: '*Thina sizingonyama*' (We are lions).

When reflecting on this lesson Thulelah indicated that 'there had been no planning or guide'. She felt that she was not well-organised as the classroom was being renovated and she had to hold the class in another venue. She indicated that in her usual lessons there was generally more singing time. She explained that her plan for the next day was to give the learners a chance to do some acting out of some of the scenes from the book. She planned to extend the wild animal theme in an art lesson where learners would cut out animals and paint them.

She explained that she encouraged children to talk and tell stories by encouraging acting and singing. Thulelah indicated that she usually asks children to share stories that they have read with their parents. She also referenced CareUp as making a difference in that the learners are sharing the stories and reading activities that they do for homework with

their parents from CareUp. She used this method of getting parents involved i.e. asking learners to share stories that their parents read or tell them because her parents and children who use CareUp seem motivated and try to do the activities regularly.

When reflecting on the lesson, the researcher impressions were captured as follows:

- The teacher was: talking (almost) all of the time and making sure children were participating in the reading/story telling.
- The children were: interested (especially in the pictures in the book).

## The case of Lunga (Khayelitsha)

Lunga teaches at an ECD centre in Khayelitsha. She has a class of thirty 4 to 5-year old children. There was a daily structure on the wall. Children arrive at 7:00 am and leave at 4:30 pm. Teachers arrive at 06:30. Breakfast is at 08:00; toilet routine is at 08:30 then imithandazo (prayer). Morning ring is at 09:00 – 09:10 where they do the weather chart and calendar.

The researcher considered the ECD centre to be well organised, with a well-structured program. She reflected that Lunga ‘has done a great job, the way she deals with the children, she’s very calm and friendly and loving. The children like their practitioner and respect her.’ The centre has more than enough resources which makes it very easy for the practitioner to do her job and for the children as well to be more exposed in early learning.

### Near baseline lesson observation

Lunga worked on language/stories/reading from 11:00 till 12:00. She broke her literacy lesson into sessions. For the observation lesson Lunga was planning

‘to do the letter ‘j’: In the first part of the session I will gather all the children to sit on a mat and introduce the letter ‘J’ and then show the children a sentence with repetition of ‘J’ words and let the children write on the white board the letter j and say out loud words that they know that begins with letter ‘J’. I always conclude my lesson by doing a story related to the lesson’.

She was going to use a white board, white board marker, paper, pencils, magazines, scissors, glue stick and story book. This lesson connected with her previous lesson:

‘because it’s an extension of what we did yesterday and for instance we take a week to complete one letter for an example we started with letter ‘J’ on Monday but we are carrying it through the week but using different methods of teaching the lesson’.

She asked the researcher to 'watch the children's participation while I am doing the lesson'.

The main focus of activity for the lesson was about building short sentences using letter 'J' emphasising beginning sounds of 'J' words and creating words using letter 'J'. The lesson was conducted in their mother tongue (isiXhosa) and translated into English. Lunga first explains the work in isiXhosa and then translates it into English, and sometimes this is done vice-versa (first in English and then isiXhosa).

Lunga introduced the session by showing the children a sentence with repetition of words using letter 'J'. She read it aloud to the children, pointing the words while she was reading. Lunga was sitting in the semi-circle with the children asking the children to come up with words that begin with letter 'J'. She asked the children to give words that begin with letter 'J' and then the children gave the word 'jelly' and had to act it out. Once they got it right all the children had to say the word aloud. She gave the children the opportunity to write the letter 'J' on the white board and also let them try to form short sentences using letter 'J'. She asked questions and responded back to what the children were saying.

The children were sitting on a mat, reading out loud the repetition of J words sentences. They were giving words to Lunga to write it on the white board that begins with letter J. They also all had to write on a white board the letter J.

Lunga concluded the lesson by giving the children magazines to cut out letter 'J' words and paste them on paper.

Lunga made connections with previous lessons. She summarised what she did previously verbally and asked the children to add on what they remembered about the previous lesson.

Children asked the practitioner why words 'gel' and 'giant' are not listed with the words that the children have given to the practitioner. It was of interest that these children offered words in English (gel and giant). Lunga responded by explaining to the children 'those mentioned two words sounds like letter j but they begin with letter g'.

The researcher noted that 'these children are very smart in terms of thinking and answering questions for their age'. She was surprised that they could write beautifully, and conjectured that Lunga gives them enough exposure to writing and letter formation.

In her reflection, Lunga indicated that the lesson had gone as she expected, but that ‘sometimes the children were getting over-excited and ended up misbehaving and not giving full concentration’. She would have liked to ‘group the children into smaller groups and allow each group to work in their corner.’ She indicated that this lesson was similar to the sessions she runs each day ‘but using different methods depending on the theme and lesson’. She thought that this lesson was largely the same as her usual lessons ‘because we still busy with letter ‘J’ but now it was more detailed than the two previous days where it was just an introduction of the letter’. In her following lesson, she planned that ‘the children will be doing more writing on letter ‘J’ and copying sentences down from the board and role playing’. She hoped to extend or build on this lesson ‘by doing role play of the word ‘J’, and writing and copying sentences down.’

Lunga indicated that she asks the children to share about their weekend highlights each and every Monday in the morning ring session. This is the time when she encourages the learners to tell stories and express themselves. She indicated that she does encourage parents to tell stories or read to their children, ‘but [this happens for] very few children and it happens only once a month during story time’.

The researcher described this lesson as follows:

- The teacher was organised, listening to the children, asking some questions and making sure the children were active and participating in the reading/story;
- The children were excited, sitting and answering questions

### Near-endline lesson observation

Lunga indicated that language, stories and reading are usually covered between 12:30 and 12.50. For the near-endline lesson observation, she planned to focus on transport and would be using flashcards and road signs. She did not indicate how this linked to her prior lessons. She asked the research to notice ‘non-participating children’. In this endline lesson there were many children absent. There were only about 18 children (out of 30).

The main focus of the lesson was on transport; however, the flashcards were on road signs and shops. There was no introduction; the lesson went straight to instructions on how to carry out the activity.

During this lesson the children were arranged in groups so during the lesson Lunga moved from group to group. Each group had a set of flash cards to use when answering

her questions about either transport, shops or road signs. Lunga was very interactive and moved from group to group. She repeated answers for all to hear and tried to include everyone by asking learners to repeat what their peer had said or to share a story about visiting a particular shop. The children were very responsive and chatted among themselves (in the groups) comfortably. They handled the flashcards and tried to 'read' the signs and shop names themselves.

The researcher described this as

- 'a lovely lesson that included a number of methodologies;
- Learners were asked to identify middle/beginning/ending sounds;
  - Learners were asked to write letters in the air using their fingers;
  - Reference was made to real life situation of shopping and travelling and the road signs noticed'

She commented that Lunga's 'body language was relaxed and open' and that 'the learners felt comfortable to share even if it wasn't their turn'

Most of the questions that Lunga posed were based on identifying the road sign and the shops – flashcards on the groups' table. The children asked questions, but there were none that were considered key/interesting by the researcher.

When reflecting on the lesson, Lunga 'would have liked to tone down the over-zealous learners to give the quieter ones a chance.' Were she to do the lesson again 'she'd concentrate on those who don't participate as much'.

Lunga indicated that she did this kind of lesson about two or three times per week. She noted that in the lesson she did not use the whiteboard, even though she usually does. For her next lesson Lunga planned for the children to use boxes to make cars, then paint them.

When asked about ways in which she encourages children to talk and tell stories, Lunga said: 'CareUp seems to motivate the learners and they often tell stories without much prompting.'

With regard to ways she involves the parents in telling stories to their children and listening to children's stories, Lunga indicated that all the 'parents have her cell number therefore she has direct contact with them and they contact her when needed'. She also

indicated that she used the learners' message books to relay messages. She also mentioned that 'CareUp's activities are fun; they are making a difference.'

The researcher described this lesson as follows:

- The teacher confident, listening to the children, asking some questions and making sure the children were active and participating in the reading/story;
- The children were excited, interested, moving, talking, singing laughing and answering and asking questions.

## The case of Lebo (Philippi)

### Near baseline lesson observation

Lebo displayed a daily structure on the wall. The children arrive at the ECD at 7am and leave at 5pm. In the baseline lesson, she indicated that her language session was from 9:00 until 11:35. Lebo explained that their language lesson is divided into session like, for instance, from the morning ring whereby they do greeting and ask the kids to share how was their evening at home. Asking questions like: Did anything special happened maybe there was a birthday or anything that is interesting? Another example offered was doing days of the week and months of the year, colours, weather and the story at the end. She explained that in all those mentioned above the learners express themselves by talking and the practitioner asks questions when needs be. The children don't do much writing - its either tracing, colouring in, drawing and painting.

On the day of the pre-lesson observation, Lebo indicated that she was planning to do a story telling called *Ilokhwe eluhlaza*. She would be using dolls with different colour clothes, story book and a song called *chapha chapha chapha imanzi ilokhwe yam* (the rain drops have made my dress wet). Lebo explained that she does something new every day but at the end of each lesson she would ask the children to just to give a short summary of the lesson so that she can be able to see if all children did follow the lesson. Lebo asked the researcher to please watch the children to see 'how excited they get when I read the story to them, especially when I show them the pictures, and ask questions and answering some questions as well'.

The main focus of the lesson was about the story of a green dress of a little girl called Zinzi, that went missing. The little girl looked everywhere for her green dress, even being helped by her friends. but they couldn't find it. Eventually they looked behind the door

and found a naughty dog called Spoti sitting on Zinzi's dress. Zinzi was very happy to find her green dress and she could go back to school.

Lebo introduced the session by starting with a song *chapha chapha chapha imanzi ilokhwe yam* (the rain drops have made my dress wet), showing the story book called a green dress, showing the children objects with different colour clothing, and asking all the children to sit in a circle quietly and listen to her while she read to them.

Lebo read the story to the children. This involved the children repeating what the practitioner read, answering questions (e.g. identifying the different colours of the objects), singing a song related to the story, and acting out what they heard in the story. The teacher showed pictures from the story book to the children. When the children answered questions correctly she would acknowledge the child and ask the other children to clap.

Lebo ended the lesson by concluding the story. She asked the children if there was anything that they liked about the story and, if yes, what was it?

Lebo did not make any links between this lesson and previous lessons. Even though Lebo had said she planned to ask the children to summarise the lesson, this did not happen during the observation.

An example of an interesting question that Lebo asked during the lesson was at the end of the story when the girl got her green dress and she was very happy. The practitioner asked the children to show when they are happy: then the children jumped, smiled and laughed. There were no key/interesting questions asked by the children.

When reflecting on the lesson Lebo indicated that she thought the lesson had gone as she expected. She noted that 'when I asked the questions they (the children) would give good answers which shows that they were listening and focussed'. She said that she would have liked to 'focus more to the children who were not answering the questions because it shows that they need more time in order for them to follow the story that we did.'

Lebo indicated that her lessons differ everyday 'because I start something new each day'. She indicated that story and resources (dolls) that she used were different to what she usually does. When asked what she planned to do tomorrow, she answered: 'I do not know now because I do my planning for the following day during sleeping time (in the

afternoon)'. When prompted to think about how the story she used today could be built upon, Lebo indicated: 'Children will do a role play of the story of today'.

Lebo explained that she encourages children 'to share stories they know. I don't have a specific time because sometimes after I have done a story telling maybe some children would ask me if there's time so that they can share their stories. If there is time I will let them do it.' She indicated that she 'ask the children to ask for stories from their grannies or parents but not often'.

The researcher described this lesson as follows:

- The teacher was nervous, talking (almost) all of the time; and occasionally asking questions;
- The children were excited, sitting and answering questions

### Near-endline lesson observation

Lebo indicated that she usually spent time on stories/reading or language development, either from 11:45 – 12:05 or from 10:10 – 10:25.

On the day of the near endline lesson observation, Lebo indicated that she was planning to focus on a theme; animals – goats. She has animal models on display and the teacher had charts as well as hand drawn pictures.

Her lesson did not connect with the previous lesson as this was facilitated by a volunteer while she attended training. Lebo did not appear to know what had been covered by the replacement teacher.

The main focus of the activity for the lesson was on goats. There was no introduction to the lesson, as Lebo went straight into a story. The researcher noted that reading the story in isiXhosa was a bit of a challenge as she had an isiZulu accent and often some of the words were hard for her to read.

The children sat and listened. This class came across as very used to having observers/visitors.

This was an extremely short lesson that ended with the questions; 'Who's got goats at home?' and then the goats would be counted out loud.

The lesson did not include any links to the previous lesson. There were no key/interesting questions asked by either Lebo or the children.

Lebo was very nervous during the lesson and in her reflection period with the researcher. She said that the lesson had 'not really' gone as expected. She couldn't elaborate and referenced using her planning meeting on the Friday to see what she could have done differently. (The planning meeting seems to involve more experienced teachers). Lebo indicated that she would like more professional development workshops and more resources for her classroom.

When asked if there was anything she would have liked to do differently, Lebo said 'Not much and anyway the class had some absentees.' Lebo indicated that she did this kind of session every Monday then later on in the week on Thursday or Friday.

When reporting her plans for the next lesson, Lebo indicated that 'the story will be read again and then wait for the planning meeting on Friday to see what the next lesson should be'. When prompted on how the lesson could be built on/ extended she said: 'Learners would be expected to talk about animal examples at home. 'When describing how she encouraged children to talk and tell stories she indicated, that this is done 'on Monday when weekend news is done which helps the learners to express themselves.'

When reflecting on how to involve the parents in telling stories to their children, Lebo commented: 'it's difficult but at least CareUp encourages the use of drawings and stories which leads to parental involvement.'

The researcher described this lesson as follows:

- The teacher was nervous, talking (almost) all of the time and focused on the story/reading.
- The children were passive most of the time, and sitting.

### Discussion on Lebo

There were no obvious changes in knowledge evident in Lebo's teaching practice through the two observed lessons. In both lessons, she was nervous, and her talk dominated. In the near-baseline lesson, she asked an interesting question to the children, but this involved them acting out being happy, and required no verbalisations in response to her questions. In the near-endline lesson there were no questions at all, and the children were described as being 'mostly passive' as opposed to the previous description of them being

'excited'. In terms of the teaching during the lesson it appears that Lebo's near-endline lesson was less effective than her near-baseline lesson.

It is unfortunate that Lebo reported she only gave children a chance to express themselves on Mondays when giving weekend news. This is a practice that should be deliberately targeted to change, so that children are encouraged to express themselves daily. In addition, it was clear that Lebo felt pressured to do something new each day; and as a result, her planning and reflection missed opportunities to build on and extend the children's experiences of particular themes and topics. This too looks like a possible practice that should be discouraged, with opportunities to repeat topics, theme and activities encouraged through the CareUp messaging.

In terms of her reflections, however, by the endline lesson observation Lebo appeared to know that she required help with her lesson planning and professional development. She made mention of consulting other staff in planning meetings, and requested additional professional development support and resources. This may indicate a shift in knowledge in that she was becoming aware that she needed to improve her teaching.

## The case of Ayanda (Khayelitsha)

Ayanda teaches at an ECD centre in Khayelitsha and has a class of nineteen 4 to 5-year-old children. The daily schedule begins at 08:00 and finishes at 15:00 (depending on how punctual parents are in fetching their children). When children arrive, it is free play, then breakfast at 09:00. At the near endline lesson observation Ayanda had two assistants, who were students doing practicals.

### Near baseline lesson observation

Ayanda indicated that worked on language and literacy from 9.30 to 10.30, she explained:

'I cover many things. I start by asking how was their evening at home with their families and then the children would all share about their special moments that they had. Then I move to the morning ring, where we cover things like days of the week chart, month of the year chart, seasons and weather, alphabets, colours, shapes and numbers'.

In terms of the lesson to be observed, she indicated that she was 'planning to do the days of the week chart, months of the year chart, alphabets, story-telling and seasons of the year.' She planned to use: words chart, days of the week chart, months of the year chart, weather chart, word labels, puppet for the story.

Ayanda explained how the observed lesson connected to her previous lesson:

'It connects because they are still doing the word chart, weather chart, months of the year chart and alphabets and each day I give an opportunity to the children to help in leading the lesson as they did in the word chart'.

She wanted the researcher to look for/ notice the children leading activities:

'I would like you to watch and enjoy when one of the children will be leading the session of word chart because I teach them independence so that when they grow older they will find it easy to be independent'.

The main focus of the lesson was about the emphasis of words chart, there are seven days of the week, and the children had to say them (and the months of the year) in isiXhosa and English. Ayanda introduced the lesson by telling the children that today's lesson would cover the following; alphabet recognition, words chart, days of the week chart, months of the year chart. Ayanda was sitting in the semi-circle with the children, giving guidance to the child that was leading the lesson of the days of the week chart and month of the year. She asked the children some questions and encouraged the children to participate more in the lesson. Ayanda gave each child a chance to assist in leading the lesson: one child was telling the children what will happen next like. For example, the teacher would say "now, class, we will do days of the week" then the child would say Monday, Tuesday, etc., pointing out the words as the children read with him. The practitioner would correct the children if they made any mistake

The children were reading as one of their peers (referred to as the class assistant) was pointing the days of the week on the chart (the names were stated out loud). Some children would ask some questions like 'Miss, what day is it today?' then Ayanda would say its Monday then the class assistant would point on the chart 'Monday.

At the close of the lesson, the whole class was able to say out loud, all the days of the week, months of the year, seasons of the year and alphabet.

Ayanda indicated that this lesson was a repetition of what has been done yesterday (because the practitioner feels that the more she repeats her lessons, the more the children get better understanding).

Ayanda asked the children in the days of the week session, what day it was and the children said it was Monday. The second question was about how many days of the week,

children said there are seven days in a week. The children did not ask any key/interesting questions. When the children were doing seasons of the year they had to go and look out of the window to check the weather of today and had to come back to report about the weather and identify the season we are in.

In her reflection, Ayanda indicated that she thought the lesson had gone well 'as I planned'. In terms of anything she would have liked to do differently, she reflected on the children: 'I would like to encourage the children to express themselves freely and also not to be disrupted easily when they see someone new in their class'.

Ayanda explained she did this kind of session every day. She said it was the same word chart, alphabets, seasons of the year, days of the week and months of the week chart. When asked about her plans for the next day, she said: 'I'm planning to do the same lesson but also including some creative things like doing some writing and painting' She said she would be building on or extending the observed lesson 'by having the children to write, draw and paint about what we did today especially the seasons of the year and weather.'

Ayanda indicated that she encourages the children to repeat the stories that she reads to them. She explained that:

'By doing that I am able to see what level they are in, in terms of listening skills, and I also ask them to share stories that they know at least once a week after story time'.

Ayanda said that she asks 'the children to ask for stories from their parents over the weekend then on a Monday one child at least would share a story when there's time.'

The researcher described this lesson as follows:

- The teacher was calm, asking questions and focused on discipline (getting children to sit and be quiet);
- The children were excited, sitting and answering questions.

### Near-endline lesson observation

Ayanda explained that she has a morning ring at 10:00 each day which 'includes the weather, days and months of the week. It is also during the daily ring whereby the theme for the day is 'announced' in this case, 'water safety.' She indicated that language, stories and reading are usually between 11:25 – 11:40

For the planned near-endline lesson Ayanda indicated that she planned to do some picture reading; tell a story and use the imagination. She would use storybooks. This connected to her previous lesson as 'In the previous lesson the class looked at sources of water around the school and had a discussion about water sources in their environment'.

Ayanda wanted the researchers to focus on 'the children's response and participation.'

The main focus of the lesson was on water, then it went on to water safety. A reference was made to safety when at the seaside, especially with the upcoming holidays. A discussion was held about how to drink water safely, such as by drinking it slowly.

The lesson opened with a focus on the weather chart. One of the children played teacher and asked questions and picture-read. The focus was on the day's weather, days and months of the year. Counting was involved when either counting the days of the week or months of the year. When asked how many, the class answered in English but counted in isiXhosa. The learner who acted out the role of the teacher was described by the researcher as 'the star of the day as she was quite participatory'.

Ayanda directed the weather ring lesson. She had water in containers and referred to these during her lesson. She revised the previous lesson of water sources. Learners were allowed to get up and look out the window when asked to describe the weather.

Ayanda read a story from a book which included several rich lessons, Mbona and Mbotyi (Maize & Bean) as it referenced the importance of water with links to both commercial and subsistence farming. The teacher did ask the learners about their experiences and most of them could reference their village homes' gardens. The children responded to Ayanda with a lot of sing-song answering to questions.

The lesson ended with Ayanda posing revision questions about water safety. She brought in the handling of hot water and burns. The lesson was rounded off by singing: '*Amanzayasebenza*', direct translation of which would be 'water works' but in the context the song was about the uses of water in our daily lives.

During the conclusion of the session – with singing - the teacher started on their 11 o'clock fruit snack. Whilst the learners were in the process of snack time, one of the learners was picture reading a story to the class. This was pointless as by the time the class had settled down, the story was almost finished. By expecting a learner to picture read to the children, Ayanda was able to cut up the fruit for the snack.

Ayanda linked this lesson to previous lessons. She asked what was learnt the previous day. The children were only able to answer after a lot of prompting. There were no key/interesting questions asked by the teacher or the children.

In her reflection on the lesson, Ayanda indicated that she thought the lesson had gone as she had expected it to. When reflecting on what could have been done differently she would have liked to 'get the learners to listen to each other more'. Ayanda indicated that she did this kind of lesson every day. She did not say how she would build on or extend this lesson, or what she planned for the next day.

Ayanda indicated that she gives children a chance to express themselves and I show interest in what they are saying. She said she encouraged parents to be involved in telling stories to their children and listening to children's stories, during parent meetings and by sending letters home. She also referenced CareUp as making a difference in that the learners are sharing the stories and reading activities that they do for homework with their parents.

The researcher described this lesson as follows:

- The teacher was confident; and organised
- The children were excited, interested, moving, talking singing and answering questions

### Discussion on Ayanda

In both lesson observations Ayanda came across as a confident and competent teacher. She involved the children in 'teaching' the lesson, and encouraged them to speak. She used a lot of repetition which at times results in 'sing-song' chorus responses from the children.

In the endline lesson observation there was more evidence of Ayanda using a specialised topic and vocabulary. Her theme of water and water safety was far richer than the near-baseline lesson where repetition of days of the week months of the year and the alphabet were in focus. In the near-baseline lesson this was learnt without significant attention to meaningful contexts (where naming days, months and letters are rote learning of an ordered lists). The exception to this was her treatment of the weather, where learners were encouraged to look outside and suggest what should be on the weather chart. In the

near-endline lesson there was more focus on meaningful contexts about water, water safety, and vegetables.

It is encouraging to see that Ayanda valued repetition and did not seem to feel the need to do 'something new every day'. She also expected learners to lead sections of the class (which they could do as they had ritualised these routines through repetition). Further, by the endline lesson, Ayanda showed awareness of 'picture reading' as a pre-literacy skill, and expected one of the children in the class to lead this with the other children. The researcher's descriptions of the end-line lesson are extremely positive: children were excited, interested, moving, talking singing and answering questions. It is not possible to claim that these differences in Ayanda's practice are solely a result of the CareUp intervention. Nevertheless, it is encouraging to note that Ayanda has good practice, and that this was even better by the near-endline lesson observation. She also made mention (in her interview) of the CareUp application as a means of encouraging parents to read and tell stories to their children.

## Addendum E: The CareUp on-boarding process

The activation / on-boarding process adopted in the first phase intervention cycle included:

1. The WC DSD Deputy Director, together with local NGO staff, visited each of the ECD centres in May 2016, to meet with the Principal and practitioners. The purpose of this meeting was to facilitate buy-in by both groups for using the service regularly;
2. Visits by Reach Trust staff to each of the ECD centres before the trial started, in June/July 2016, to meet with the Principal and practitioners and explain more about the intervention;
3. A further visit to each of the ECD centres by Reach Trust staff, to hand over to the practitioners their (loan) smartphone (Zest T1), loaded with R59 data. This took place on the following dates: 11 August 2017 (Khayelitsha); and 18 August 2017 (Philippi);
4. Another R59 of data was provided for each practitioner at the end of August, and R29 in October/November;
5. Sending a letter home to the parents in the 4 to 5-year-old class to invite them to a workshop about the CareUp application where they would be supported to download the application and learn about how to use it;
6. Convening a Saturday morning workshop for the parents, together with a practitioner in a central venue in each community (Philippi and Khayelitsha) at which parents were supported to download the application using the available wifi at the centre; and where they received a 'goody-bag' for their participation;
7. Convening a follow-up Saturday morning activation session in each community to repeat the process, and encourage more parents to download and use the application.

CareUp was launched to practitioners and parents at various 'on-boarding' sessions in August and September, as per the programme in the table below.

*Table 11: CareUp on-boarding dates and details*

Date	Target groups	Location
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11 August 2016	Khayelitsha and Mitchells Plain practitioners	Khayelitsha
13 August 2016	Khayelitsha and Mitchells Plain parents	Khayelitsha
18 August 2016	Philippi practitioners	Philippi
20 August 2016	Philippi parents	Philippi
8 September 2016	Lynedoch practitioners	Lynedoch
10 September 2016	Lynedoch parents	Lynedoch

At these ‘on-boarding’ workshops the following aspects were covered:

- A short introduction to the Learning Initiative intervention (TLII).
- A presentation by Wordworks, mostly focussing on the importance of the parents’ role in assisting the early literacy development of their children
- A presentation by the Reach Trust that provided information on the CareUp app; and showed the parents how to use it.

Follow-up workshops were also run in all areas, as per the programme below, in October/November 2016. These were intended to provide a consolidation option for parents first introduced to the service; an additional opportunity to allow for more parents to join the intervention; and to collect feedback about their experiences of using CareUp.

Table 12: CareUp second workshops dates and details:

Date	Target groups	Location
22 October 2016	Philippi parents and practitioners	Philippi
29 October 2016	Lynedoch parents and practitioners	Lynedoch
5 November 2016	Khayelitsha and Mitchells Plain practitioners	Khayelitsha

At these follow up ‘on-boarding’ workshops the following aspects were covered:

- A presentation by Wordworks, demonstrating some of the practical activities from the app;
- Prizes were given to parents who had used the app the most since the launch;
- Focus groups (some facilitated by the Reach Trust and some by Kelello Consulting) for those who had attended the first workshop were facilitated, to get feedback on the parent's experiences of CareUp. Those parents who did not attend the first workshop were briefly supported to download and use the application, however, this was completed much more informally than was the case at the first workshop.

Parents were incentivised to attend these sessions by means of the provision of the following items: transport money; tea and lunch; free 100 MB of data; and a 'goodie bag' of stationery and educational items.

The workshops were held from 10.30am to 12.30pm (or 11am to 1pm) on Saturday mornings and were convened at a central crèche in each of Philippi and Khayelitsha, or at the lone Lynedoch crèche. A few pictures documenting the first workshops are provided below.



*Figure 57: Registration process at first Khayelitsha workshop*



*Figure 58: Parents listening to presentations at the first Khayelitsha workshop*



*Figure 59: Registration process at first Philippi workshop*



*Figure 60: Parents listening to presentations at the first Philippi workshop*

## Addendum F: Deep analysis of Thulelah's lessons against the criteria

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In this section, we reflect on the criteria for language richness and compare the evidence from Thulelah's near baseline lesson to the evidence from the near endline lesson.

*Practitioner Criterion 1: The practitioner chooses communication activities which are grounded in learner's knowledge and experience; and draws on rich (both real and imaginable) narrative contexts*

In the near-baseline lesson, the activities were planned within a 'day-night' theme, and in near the near-endline lesson the theme was wide animals. Both themes could be grounded in learners' experience and knowledge (albeit a real experience for the day-night theme, and probably an imaginable experience of the wild animals). The substance of the baseline lesson, however, quickly became very abstract, with attention focused on the letters 'u' and 'i'. Letter symbols are not familiar to learners of this age. They are unlikely to be able to identify particular letters, and make meaning from these abstract symbols. In the baseline lesson, Thulelah expected the learners to write and deal with the letter formation (which is too early for this age group). Thulelah's approach to literacy was to focus on the letter symbols and sounds needed for reading, and not on the emergent literacy skills of making sense of symbols in a meaningful context, hearing and telling stories and developing communication skills. There was more evidence of age-appropriate emergent literacy activities in the near-endline lesson. Children were expected to have (or develop experience of) wild animals (especially of those who have been exposed to these animals, have seen these animals on television or even only heard about these animals through story reading).

In the near-baseline lesson, there was little evidence of Thulelah taking into account the learners' individual language abilities. The lesson focused almost solely on the abstract letter symbols 'i' and 'u'. While Thulelah described an intended focus on the theme of day-night and a related story; this was not used during the actual lesson; and not reflected in the lesson transcript. Her introduction of the sounds 'u' and 'i' was conducted with reference to only three examples of nouns. The relationship between the sounds and the letter symbols was not made explicit; nor was her emphasis on the first sound of a word made clear. For example, Thulelah did not give the learners an opportunity to think of

other words that have the letter 'u' at the beginning of the word. She did not prompt them to say the sound, listen to the sound while they say it, and come up with other words. Another activity which may have provided feedback to Thulelah on whether learners understood the concept of the 'first sound' of a word, would have been to take learners outside for a walk and allow them to look at object that start with 'u' such as *umthi*, *ubusuku* etc; or to play a sound game like 'I spy with my little eye'. Neither of these tasks were included; and instead learner's grasp of the notion of 'the first sound of a word' was assumed.

In the near-endline lesson Thulelah has far more use of a rich language environment, in that much of her talk is guided by the Lion King narrative. This is an imaginable context, which was supported by the story book pictures. As a result of drawing on written text, Thulelah used a wider range of vocabulary. In the previous lesson the main vocabulary was three nouns (candle, matches and torch) with occasional mention of the theme day and night. In the later lesson the learners were exposed to full sentences to carry the narrative, there was a focus on nouns used to label wild animals; and teacher explanation of an unusual verb (scavenging). It was, however, notable that in the near-endline lesson, most of Thulelah's questions were closed (demanding single word answers, and frequently 'yes' (*ewe*) from the learners. There were very few open-ended questions.

*Practitioner Criterion 2: The practitioner uses correct language in that she draws on a wide variety of vocabulary (nouns, verbs and adjectives), speaks in full and complex sentences, and minimizes use of single words or 'baby talk'*

In the near baseline lesson, there is no evidence that shows that the practitioner has included new words to build on the language. She used only three words and letters, she did not give the learners an opportunity to add on what they know or to introduce new words which the learners were not aware of, which prepare them for later learning. For example, there was no extension on the vocabulary beyond the three nouns through encouraging learners to talk about these objects; or reflect on when they use a torch, or the dangers of using a candle without supervision.

The near-endline lesson showed a far greater focus on correct vocabulary for a wide range of wild animals. While there may have been too many animals (and almost all of the vocabulary used were nouns), there was clear evidence of introducing and expecting correct use of vocabulary. An example of this is the interaction between a learner and

Thulelah, when a learner incorrectly named a picture of a buffalo as a ‘cow’. Thulelah gave the correct term ‘buffalo’, and encouraged the learner to find the buffalo (amongst the plastic animals) and match the plastic animal to the picture on the poster. Thulelah also took some time to correctly explain the meaning of the verb ‘scavenge’. There is thus more evidence of meeting this criterion in the near-endline lesson than in the near-baseline lesson.

In both lessons Thulelah spoke in full sentences. It was, however, noted by the researcher that she did not always seem to use appropriate intonation and facial expressions with her speech. For example, there was little change in tone when asking a question (which was said as if making a statement). This was evident in both lessons and during the story telling session, where there was little distinction in tone between a question and an instruction.

When considering the lesson transcripts, there is more evidence of use of complex sentences – with additional clauses and more verbs and adjective – used in the near-endline lesson. This is particularly the case when considering the reading of the story and Thulelah’s line of questioning in relation to the story. Consider this extract from the near endline lesson:

[5] Teacher: Can you see all the mice that live in Simba’s kingdom? [*Teacher shows the learner’s pictures*].

[6] Teacher: Can you see all the animals are killed? Look at the spiders they are eating dead animals.

Teacher: [*continues to read*] Simba meet Bomba. They are happy. Look at how happy they are [*showing them pictures*]. They have forgotten about the bad things that happened.

[5] Utitshala: Niyazibona impuku ezihlala no Simba? [*ebonisa abafundi imifanekiso*]

[6] Utitshala: Niyazibona zonke izilwanyana zibulewe? Jonga izigcawu zitya izilwanyana ezifileyo.

Utitshala: [*eqhubeka efunda*] uSimba udibana no Bomba, bahlala kamnandi. Khawujonge indlela abonwabe ngayo [*ebabonisa imifanekiso*] Balibele ngazo zonke izinto ezimbi ebeziqhubeka kubo.

Here the nouns used by Thulelah are both numerous and varied: mice, kingdom, animals, spiders, things. There is a range of verbs: live, see, kill, eat. There are several adjectives: happy, bad, dead. In contrast, the near-baseline lesson talk is far more instructional:

[1] Teacher: This is “u” [*pointing at the picture in her hand*]. Let’s write “U” in the air, let’s start this side [*teacher is writing vowel “u” in the*

[1]Utitshalakazi: Ngu “u” lo [*esolatha umfanekiso esandleni sakhe*]. Masibhale “u” emoyeni, siqala ngapha [*Utitshalakazi ebhala*

air]. We start by “u” when we write *u-matshisi* [matches or match box]. *isikhamiso “u” emoyeni*. Siqala ngo “u” xa sibhala umatshisi.

[2] Learners (chorus): “u”

[2] Abafundi ngaxesha linye: “u”

[3] Teacher: This is –“i ” (holds up a card with ‘i’). It is a stick with a dot.

[3] Utitshal: Ngu “I” loo, yintonga enechaphaza.

[4] All learners (chorus): It is a stick with a dot. [Pointing to the vowel card]

[4] Abafundi ngaxesha linye: yintonga nechaphaza [ *besolatha ikhadi ekubhalwe kulo*]

[5] Teacher: ikhandlela (candle) also starts with a stick with a dot. When we say a,e,i [holding the vowel card up]

[5] Utitshalakazi: Ikhandlela liqala ngentonga enechaphaza. Sithi a,e,i [ *ebambele ikhadi ekubhalwe kulo phezulu*]

Here the nouns are: ‘u’, stick, dot, air, side and candle; there are no adjectives; and verbs used are: is, start and write. This difference may simply be a result of the different types of activities in the two lessons. It is unfortunate that Thulelah did not have a story telling and questioning session in her first lesson as she may have used more complex sentences as a result of the story context. It is a positive finding that in the lesson that Thulelah chose as her best-case language lesson; she chose to demonstrate to the researcher an abstract activity relating to letters and first sounds; and later chose to demonstrate the reading of a story which resulted in a richer language environments for the children.

In the near-baseline lesson, Thulelah did not use ‘baby talk’, but she used lots of single words in her teaching when giving out the instruction. For example, she asked the learners to tell her the name of one of the objects she had, and on their response she emphasized that it is ‘matches’. She did not give the learners an opportunity to use the word in a sentence, nor did she use the word ‘matches’ in a full sentence (other than as task instruction: such as ‘put this card next to the matches’ etc.)

This is a similar finding for the near-endline lesson. Thulelah did not use ‘baby talk’, but was still using single words (except when reading the story). By asking closed questions such as ‘Can you see the giraffe?’ she encouraged learners to give one word answers, commonly ‘yes’. These observations provide very useful insights into ways of enriching the CareUp content for practitioners.

*Practitioner Criterion 3: The practitioner uses appropriate oral language, and draws on the different backgrounds and experiences of the learners, encouraging them to communicate their thoughts and experiences during the lesson.*

In the near-baseline video, there was little direct evidence of drawing on learner's own experience. There was limited indication of drawing on learner's experiences when she asked learners to describe activities during the day and during the night. Thulelah had already chosen three nouns which she would focus on (torch, matches and candle). The connection of the 'u' and 'i' letters and the objects in the context of a theme of day-night; was not sustained over the duration of the lesson. A brief mention was made of this near the beginning of the lesson, but the majority of the lesson focused on abstract letter symbols.

In the near-endline lesson, there was also little evidence of Thulelah drawing on learner's own experience. The limited exception to this was asking learners to make the sound of particular wild animals. Most of her questioning was directed in relation to the story (that they had all just experienced), but she did not encourage any learners to recount wild animals they had seen (for example, on television or in real life).

Thulelah did not encourage learners to communicate their thoughts and experiences. This was absent in both of the lessons. There were opportunities for this when teaching sounds in the near-baseline lesson. Thulelah could have encouraged learners to come up with other words that have the beginning letter/sounds. In the near-endline lesson there were opportunities for learners to recount when they had heard, read, seen or experienced particular wild animals. However, this was not done. In both lessons, this criterion was not met.

*Practitioner Criterion 4: The teacher repeats meanings of new vocabulary to reinforce the idea but when doing this, however, this is done informally. For example, the repetition could be done through rhymes, songs and when emphasizing a verb, the children perform actions, etc.*

In the near-baseline lesson, Thulelah spent very little time on new vocabulary. Her focus was not on the three nouns (matches, torch and candle), but rather on the abstract notion of the first letter and sounds. Thulelah did not ask the learners where would they get such object, or how and when such objects may be used. In the near-endline lesson there was far greater emphasis on building new vocabulary, as much attention was placed on learning the words for wild animals and matching the words to the pictures and to the plastic animals. There was more evidence of this criterion being met in the near-endline lesson than in the near-baseline lesson. The focus of the learnt vocabulary was primarily

nouns. There was also some evidence of repetition of the new vocabulary with the song about lions.

*Practitioner Criterion 5: The practitioner pays attention to how the learners respond to the activities she initiates. Evidence of the teacher observing learners, possibly make notes of where learners will need help for support purposes, and being able to articulate observations after the lesson.*

In both lessons there was very little of evidence of Thulelah paying attention to the language learning needs of particular learners. It appeared that Thulelah only expected the learners to say what she had taught them, and chorusing and repeating her phrases or sentences was evident in both lessons. With most of her questions being closed questions, she expected one-word answers, and did not pose follow up questions to encourage them to talk. In neither lesson did she encourage any of the silent learners to speak or offer a response.

In the near-baseline lesson, there was evidence of Thulelah noticing that some children were struggling with their letter formation. Some children wrote letter 'u' as letter 'n'. Thulelah did say something about it, but she moved on, and collected the papers from the learners without pointing out the problem. She did not seem to be aware that the learners were copying the letter as appeared relative to their position at the table as there was only one page with 'u' on it per table.

In the near endline lesson there was evidence of Thulelah correcting a child when they named a buffalo as a 'cow'. However, there was very little indication of other remediation efforts, or recording how to support learners and intervene individually.

It was notable that Thulelah asked the researcher to pay attention to how the learners were responding to her, during the endline observation. She did not make this request in the baseline lesson. Perhaps she was now more aware that children's responses were relevant to her teaching.

*Practitioner Criterion 6: The practitioner introduces and uses specialized vocabulary and simple language structures (for science – 'like heavy/light, living/alive/dead, are we sure, lets experiment, lets imagine', or mathematics - more/less, fast/slow, curved/straight' or from rich story context)*

There was very little evidence of Thulelah using specialized vocabulary in the near-baseline lesson. There was more specialized vocabulary in the near-endline vocabulary

as there was an explanation about ‘scavenging’ and the naming of a range of unusual wild animals (including crocodile, buffalo, spider, lion, white bear etc.).

*Learner criterion 1: The learners talk to each other and to the practitioner during the lesson*

In the near-baseline lessons, the learner conversation was not about topic of the lesson but more on general talk that has nothing to do with the topic of the day or learning. Thulelah did not give learners tasks that would involve them in meaning conversation as a group.

In the near-endline lesson, there was some learner talk in response to the mini-comprehension, and during the labeling of wild animals at the poster display. However, the learner talk was directed at Thulelah and was only based on learners giving one word answers. There was very little talk between learners focused on the lesson topic.

*Learner criterion 2: Learners repeat and vocalize new words and phrases in meaningful situations (possibly with practitioner prompting)*

In the near baseline lesson, the learners repeated words (and sounds) only once. The words were not used in sentences. In both lessons, there was little evidence of the learners vocalizing new words and phrases in meaningful situations. Rather there was evidence of learner chorusing (repeating exactly what the teacher had just said, in unison).

*Learner criterion 3: The learners talk mostly at the following level of quality (considering different levels of learner contributions):*

- a. Repeating words said by the teacher;*
- b. Giving a single word answers (to complete a phrase/answer a closed question offered by the practitioner for example)*
- c. Chorusing of phrases/sentences;*
- d. Constructing their own response (responding to an open question in their own words)*
- e. Offering longer narrations of events and experiences*

The near baseline lesson was mostly at levels a-c. Learners repeated words and sounds said by the teacher (level a), gave single word answers to a question posed by Thulelah (level b), and chorused phrases or sentences (level c). Consider for example this excerpt from the lesson, below.

[1] Teacher: This is “u” [*pointing at the picture in her hand*], lets write “U” in the air, let’s start this side [*teacher is writing vowel “u” in the air*]. We start by “u” when we write *u-matshisi* (*matches or match box*).  
 [1]Utitshalakazi: Ngu “u” lo [*esolatha umfanekiso esandleni sakhe*]. Masibhale “u” emoyeni, siqala ngapha [*Utitshalakazi ebhala isikhamiso “u” emoyeni*]. Siqala ngo “u” xa sibhala umatshisi.

[2] Learners (chorus): “u”  
 [2] Abafundi ngaxesha linye: “u”

[3] Teacher: this is “i”, it is a stick with a dot.  
 [3] Utitshal: Ngu “I” loo, yintonga enechaphaza.

[4] Learner chorus: It is a stick with a dot.  
 [4] Abafundi ngaxesha linye: yintonga nechaphaza

There was evidence of the levels a-c learners’ communication in the near-endline lesson as well, as the following interaction at the display table demonstrates:

[1] Teacher: [*pointing at a picture on the wall*] A lion  
 [1] Utitshala: [*esolatha umfanekiso eludongeni*] ingonyama

[2] Learners chorus: A lion  
 [2] Abafundi: Ingonyama

[3] Teacher: What is this one?  
 [3] Utitshala: yintoni le?

[4]Learners chorus: leopard  
 [4]Abafundi: ingwe

[5] Teacher: Can someone show me the leopard in the picture?  
 [5] Utitshala: ndicela nindibonise ingwe kumfanekiso

[6] Learner: [*points at a leopard in the picture*]  
 [6]Umfundi: [*esolatha ileopard kumfanekiso*]

[7] Teacher: Lets clap for him  
 [7] Utitshala: Masimqhwabeleleni

[8]Teacher: What is the name of this animal? [*Pointing the picture*]  
 [8] Utitshala: yintoni igama lesisilwanyana? [*esolatha kumfanekiso*]

[9]Teacher: It’s a rhino  
 [9] Utitshala: ngu bhejane

[10] Leaners chorus: It’s a rhino  
 [10]Abafundi: ngu bhejane

The exception to this was in the near-endline lesson, when Thulelah lead the mini-comprehension on the story of the Lion King. Here there was evidence of learner communication at level d (constructing their own responses), as evident in this extract:

- |   |  |
|---|--|
| [1] Teacher: Can anyone tell us what was the story about?           | [1] Utitshala: Balingantoni ibali lethu?                     |
| [2] Learner: about Simba  | [2] Umfundi: ngo Simba                                       |
| [3]Teacher: Why did Simba want to be the king of the other animals? | [3] Utitshala: kwakutheni ukuze u Simba afune ukuba yinkosi? |
| [4] Leaner: He wanted to help other animals                         | [4] Abafundi: Abefuna ukunceda ezinye izilwanyana            |

Thulelah asked an open-ended question in the near-endline lesson: ‘Can anyone tell us what the story was about?’ When the learner offered ‘about Simba’ as a response, Thulelah did not follow up and ask, ‘What about Simba?’, or ‘What was Simba doing?’ or ‘Who else was with Simba?’ Rather she moved on to another open-ended question: ‘Why did Simba want to be king of the other animals?’ Another learner responded saying ‘He wanted to help other animals’. This is an example of a learner speaking in a full sentence to Thulelah and offering his own response to her open question. This is in contrast to most of the learner talk during the story telling (which consisted largely of ‘yes, miss’ in responses to questions about whether they could see something specific in the picture). This was also in contrast to the learner talk at the poster display table, which consisted of single word responses ‘yes, miss’, or ‘lion’, or ‘rhino’. There was therefore more evidence of learners using more complex language structures in the near-endline lesson.

*Environmental criterion 1: There are pictures, words, phrases/labels displayed in the environment*

This was difficult to judge as by the near-endline observation Thulelah’s classroom was being renovated. As pictures, words and phrases were displayed near baseline, and also in the classroom for the endline, it seems reasonable to assume this criterion was met in both lessons.

*Near baseline*

*Near endline*



Figure 61: Posters displayed on classroom walls

*Environmental criterion 2: The 'reading corner'/ story table/ or equivalent is established and utilized*

This criterion was met in both lessons:

*Near baseline*



*Near endline*



Figure 62: Reading corner established in classrooms

*Environmental criterion 3: The teacher uses the digital resources available on her mobile device (for planning and possibly during the lesson)*

Thulelah did not make use of the CareUp resources directly during the preparation for either of her lessons. However, her choice of focus in the near-endline lesson (story-telling and follow up with a poster and plastic animals) was more age-appropriate emergent literacy tasks than her choice of focus near the baseline (focusing on letter formation for

the 'u' and 'i' sounds). This choice may have been a result of the information on appropriate emergent literacy activities that she was exposed to by using the CareUp application.

She reported that she would:

'ask the children to ask their parents to tell them stories. And then the children would have to come back with the stories and share in each term. It works very well because most of the parents have the CareUp app. It helps the parents to be more involved in the children's education'.

## Addendum G: Baseline and near-outset instruments

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### Parents' telephone interview, near outset

#### *Prelim to starting the interview*

*Hello! How are you?*

*Am I speaking with (name and surname?)*

*Is it a good time to chat with you?*

*Let me introduce myself. My name is Zola Thompson, working for Kelello Consulting. We are doing an evaluation of the Care-up App.*

*The ECD centre that your child attends is piloting (trialing) the Care-up App. I have a few questions that I would like your honest opinion on. The questions will take up to 10 - 15 minutes of your time, and all of your responses will be confidential. Are you happy to participate?*

Name of parent: \_\_\_\_\_

Date of interview: \_\_\_\_\_

Venue: \_\_\_\_\_

Time (start and finish): \_\_\_\_\_

Interviewer name: \_\_\_\_\_

#### **A. CONTEXT**

1. Please introduce yourself and tell me a little about your family?
2. In what language(s) do you speak to your child at home?

*[If more than one language, probe:] With your child, what language do you use to greet? instruct? scold/discipline? pray/give thanks?*

3. Did you go to the parent on-boarding workshop held on a Saturday in August to find out about CareUp?

*If yes:* What did you find out/learn there? Why did you go? Would you recommend that next year parents go to that workshop? Why/Why not?

*If no:* Why didn't you go?

## **B. EXPECTATIONS, EFFECTIVENESS**

1. Are you using CareUp on your phone already?

*[If no] please explain why you are not using it? [Maybe prompt slightly if necessary – e.g. haven't downloaded the app, don't know how it works, don't understand the language, haven't had time, lost my phone, worried about data]*

*[thereafter skip forward to Section C]*

*If yes, ask the remaining questions in this section.*

2. What do you hope will be the benefits of this project for you and your child?  
3. What might be the difficulties for you and your child with this project?  
4. What things should the project organizers do to make this project work well?  
5. (a) Which languages are you using:

CareUp isiXhosa or

CareUp English or

both CareUp IsiXhosa AND CareUp English on your phone?

(b) Please can you explain why you chose that language, or both languages?

## **C. KNOWLEDGE and AWARENESS**

1. *[say to the parent:]* Please think back to the time before there was CareUp. All of these questions are about before this project started.

I am going to say a statement, and you must decide if you agree/disagree or strongly agree/strongly disagree with the statement.

Before CareUp ...	Strongly agree	Agree	Disagree	Strongly disagree
<u>I knew I had an important role to play</u> in helping my child develop and be ready to learn at school				
<u>I knew I had an important role to play</u> in helping my child use and understand language				
<u>I knew how to</u> help my child develop and be ready to learn at school				
<u>I knew how to</u> help my child use and understand language				

2. I am going to ask you about *BEFORE* CareUp; how often you used to do certain things.

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Before Care up...	Never	About once a month	About once a week	About 2-3 times in each week	Almost every day/night
How often did you talk to <u>your child</u> about school (in general)?					
How often did you talk to <u>your child</u> about language learning (pictures/stories/activities) at school					
How often did you <u>tell your child</u> long stories in isiXhosa					
How often did you <u>read to your child</u> in isiXhosa					
How often did you communicate with <u>the teacher</u> about what your child does in school (in general)?					
How often did you communicate with <u>the teacher</u> about what your child's language learning?					
How often did you talk to <u>other parents</u> about what the children were learning?					
How often did you <u>tell your child</u> long stories in English					
How often did you <u>read to your child</u> in English					

3. Before CareUp, did you do anything with your child to help her speak and understand isiXhosa?

[If yes] please explain or give an example of what you did.

4. Before CareUp, did you know what the teacher did to help your child speak and understand isiXhosa?

[If yes] please explain or give an example of what the teacher did.

5. Before CareUp, can you tell me how and how often the ECD practitioner contacted you about your child?

Type of contact/communication	Parent meeting	A letter/notice came home	A crèche report about my child	I had an individual meeting with the teacher at the school	None (never)	Other (explain)
How often?						
When was the last one?						

**To end off (or use at the beginning if you need to persuade the parent to give the time to be interviewed)**

*Because you gave me 10 minutes of your valued resource, your name will be placed in the competition box where you could win **if your name is chosen the** following prizes:*

*1<sup>st</sup> prize: R150 Airtime*

*2<sup>nd</sup> prize: R100 Airtime*

*3<sup>rd</sup> prize: R50 Airtime*

*Thank you so much for your time.*

## Practitioner face-to-face interviews, near outset

Name of practitioner: \_\_\_\_\_

Date of interview: \_\_\_\_\_

Venue: \_\_\_\_\_

Time (start and finish): \_\_\_\_\_

Interviewer name: \_\_\_\_\_

*Open the interview by thanking the practitioner for giving up her time, and explaining the purpose of the interview (to find out a little more about her and her views on the CareUp app). Let her know that her responses will be kept confidential and if she wishes to stop the interview at any time, she can.*

### **A. INFORMATION ABOUT THE PRACTITIONER**

1. How long have you been involved in teaching at an ECD level? Have you taught at primary school level at all?
2. What training have you had for your role as an ECD practitioner?
3. How many children are in your class this year?
4. What is the favourite part of teaching for you?
5. What are the biggest challenges you face in teaching?

### **B. CONCEPTUALISATION (project description)**

1. Please describe what you know about the CareUp project. What do you think the purpose of the project is?
2. How were you introduced to the project? Do you think the introduction was clear?
3. Have you downloaded the App? How did this go? Did you have any problems?
4. Have you started to use it yet? If so, what was your initial experience like?
5. Please describe how you see your role in this project.

### **C. EFFECTIVENESS**

1. How might this project help or support you in your work?

2. What might be the challenges for you with this project? What would help with this?
  3. How do you think the project could benefit the children in your care?
  4. How do you think the project could benefit parents and carers?
  5. Can you see any problems for parents in using the App?
  6. Do you think parents will use the App? Do you think they will implement the activities that they are given? What do you think might help / hinder this?
  7. [*say to the practitioner:*] Please think back to the time before there was CareUp. All of these questions are about before this project started].
- I am going to say a statement, and you must decide if you agree/disagree or strongly agree/strongly disagree with the statement.

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...	Strongl y agree	Agree	Disagre e	Strongl y disagree
<u>Before CareUp, I knew that I have an important role to play in the children's development</u>				
<u>Before CareUp, I knew that I have an important role to play in helping children use and understand language</u>				
<u>Before CareUp, I knew how to help children develop and be ready to learn at school</u>				
<u>Before CareUp, I knew how to help children use and understand language</u>				
How I teach 4 to 5-year olds is different to how Grade Rs are taught				
Children can only learn what they have experienced. They cannot imagine places or people who are different to their community.				
4 to 5-year olds prepare for reading by saying and drawing the letters of the alphabet				
With 4 to 5-year olds I must repeat one word and the children can say that word back to me				

With 4 to 5-year olds I must talk in full sentences, using names (nouns), doing words (verbs), and describing words (adjectives).

--	--	--	--

8. I am going to ask you BEFORE Care Up. how often you used to do certain things:

Before Care up...	Never	About once a month	About once a week	About 2-3 times in each week	Almost every day
How often did you <u>tell your class long stories</u> in isiXhosa					
How often did you <u>read to your class</u> in isiXhosa					
How often did <u>each child in your class tell stories or explain ideas</u> in isiXhosa					
How often did you communicate with <u>the parents</u> about their child and school (in general)?					
How often did you communicate with <u>the parents</u> about what their children are learning in language?					
How often did you <u>tell your class long stories</u> in English					
How often did you <u>read to your class</u> in English					

9. Before CareUp, what did you do with your class to help them speak and understand isiXhosa?

If yes, please explain or give an example of what you did.

10. Before CareUp, did you know what the parents did to help their children speak and understand isiXhosa?

If yes, please explain or give an example of what the parent did.

11. Before CareUp, can you tell me how you contacted parents about their children, and how often?

Type of contact/communication	Parent meeting	A letter/notice was sent home, for the average child	A crèche report about the children	I had an individual meeting with a parent at the school, for the average child – [NOT parents' meeting]	None	Other (explain)
How often?						
When was the last one?						

#### D. CONCLUSION

12. Is there anything else that you would like to say about the project that we have not discussed?

*Thank you for your time*

## Site visit and practitioner lesson observation, near outset and repeated near end

The purpose of the site visit is to give a rich description of the ECD centre environment and to focus on how the ECD practitioner is supporting literacy/language development in general, and using the CareUp service in particular.

The fieldworker will conduct and write up the site visit and observation and video-record the lesson.

### Photo documentation

The photo-documentation is used to create a photographic depiction of the surrounding community and the ECD centre. Take photos of the following:

<i>Typical dwelling/home in the community</i>	<i>Nearest place to buy bread (e.g. spaza shop)</i>
<i>View 1 down the street from the ECD entrance</i>	<i>View 2 down the street from the ECD entrance (opposite direction)</i>
<i>ECD centre entrance</i>	<i>Bathroom (toilet and hand washing for children)</i>
<i>Eating area for children</i>	<i>Food preparation / kitchen area</i>
<i>4 to 5-year old classroom/inside space</i>	<i>4 to 5-year old play are/ outside space</i>
<i>Reading corner/ story mat</i>	<i>The wall displays (any writing/pictures/posters on wall)</i>
<i>Any evidence of pre-literary support (e.g. labels/writing/icons/pictures to label)</i>	<i>Any children's picture books (accessible to children)</i>
	<i>Any writing/drawing equipment (paper, pens, pencils)</i>

### Pre-observation interview with practitioner: questions to ask

1. What is your daily schedule? (NOTE: *photograph if documented*) What time do children arrive and leave and how is the day structured?
2. When in the morning are you working on language/stories/reading? [NOTE: *get start and end times*]
3. What are you planning to do today in the language/stories/reading session?
4. What resources will you use? (NOTE: *photograph any resources*)
5. How does that connect with what you did yesterday? Are you building on something from before or starting something new?
6. Is there anything you would like me to look for/ notice during your session?

### Lesson observation

*Pay attention to how much the teacher is talking, and how much learners get to talk. The changes from teacher to learners and back again are important. Break the session into sections, which give a sense of the lesson flow.*

Make sure when you are writing up the lesson observation you describe:

1. The main focus of activity for the lesson
2. The introduction to the session (if any)
3. What the teacher does in the lesson (just a brief summary)
4. What the children do in the lesson (just a brief summary)
5. How the session ends (concludes)
6. Any links made to (or mention made of) previous session (if any)
7. Any key/interesting questions that the teacher asks
8. Any key/interesting questions that children ask
9. Any other useful or interesting events that happen in the lesson

### Post-observation debriefing with practitioner: questions to ask

1. Did today's language/literacy session go as you expected?
2. Was there anything you would have liked to do differently? Please explain your answer.
3. (a) Do you do this kind of session every day?  
(b) What was the same or different from what you usually do?

4. (a) What do you plan to do tomorrow?  
(b) How will today's session be built on/extended?
5. Are there any ways in which you encourage children to talk and tell stories?
6. Is there any way you involve the parents in telling stories to their children and listening to children's stories? If so, please explain.

**Researcher comments/impressions**

Circle one word in each block to describe this lesson. If more than one stands out, then circle both words/phrases

The teacher was:	Chaotic Nervous Confident Organised Calm	Talking (almost) all the time Listening to the children Asking some questions Asking many questions	Focused on discipline (getting children to sit and be quiet) Focused on the story/reading Making sure children were active and participating in the reading/story
The children were	Excited Interested Bored Distracted	Sitting Standing Moving Talking Singing Laughing	Telling stories Answering questions Asking questions Quiet

*If it will be helpful, add any additional comments about the lesson below.*

## Stakeholder face-to-face interviews, near outset

### 1. CONTEXT

1.1. Please describe your professional position.

1.2. How did your organisation come to be involved in this project?

1.3. What particular role will your organisation play in the project?

### 2. CONCEPTUALISATION (project description)

2.1. Please describe your understanding of the CareUp project (i.e. what does it entail?)

2.2.(a) What is the main issue that the intervention is addressing?

(b) Is there any existing data about this issue? [if so, please describe it]

2.3.(a) Could you describe the theory of change for this intervention that was developed in the clarificatory workshop?

(b) Do you have any problems with the content of the theory of change and the logic model, and – if so – what changes would you suggest?

### 3. IMPLEMENTATION

3.1. Please describe your understanding of the startup stage (i.e. how will the project be implemented?)

3.2 (a) In your understanding, how will the practitioners' particular needs be addressed in this project?

(b) In your understanding, how will the parents' particular needs be addressed in this project?

### 4. EFFECTIVENESS

- 4.1. What in your view are the possible major strengths of this project?
- 4.2. What in your view are the potential challenges for this project?
- 4.3. What strategies will be implemented to tackle these possible challenges?
- 4.4. Might there be any challenges for your organisation specifically and the role it plays in the project? If so, please elaborate.

## 5. CONCLUSION

- 5.1. Is there anything else that you would like to say about the project that we have not discussed?

## Addendum H: Endline and near-endline instruments

Short written survey at October/November parent workshop, near endline

1. Please tell us what you think of the different aspects of CareUp by ticking one box in each row

	<b>Excellent</b>	<b>Good</b>	<b>Poor</b>	<b>Very poor</b>
The parent meetings/workshops				
The CareUp application (in general)				
The CareUp instructions (instruction and 3 audio files)				
The CareUp activities (things to do)				
The CareUp resources (Nal'iBali)				
The CareUp resources (Wordworks)				
The CareUp messages (motivation and summary messages)				

2. For each statement decide if you agree/disagree or strongly agree/strongly disagree with the statement, and then tick on box in each row.

An evaluation of the CareUp service

Because of Care Up...	Strongly Agree	Agree	Disagree	Strongly disagree
I am more aware it is my job to help my child be ready for Grade R				
I now know more about how to help my child learn at home				
I now know more about what my child is learning about at school				
I now talk more to <u>my child</u> about what they are learning at school				
I now talk more to <u>the teacher</u> about what the children are learning				
I now talk more to <u>other parents</u> about what the children are learning				
I want CareUp to continue next year				
I recommend CareUp to other parents and crèches				

Please write anything else you want the project organisers to know, on the back of this page.

*Thank you for your time!*

## Parents' user focus group questions, near endline

*Introduce yourself and explain the purpose of the focus group (which is to find out the views of users of CareUp about the app).*

*Emphasise that they should please be entirely honest. There are no right or wrong answers to any of the questions, and their names will not be recorded so no-one will know who said what. Explain that their input is vital as it may lead to changes to CareUp to make it better for other parents like them.*

Now that you have been involved with the CareUp project since August....

1. What do you think have been the benefits of this project for you and your child?
2. What were the difficulties for you and your child with this project? In other words, what were things that made it hard to use the CareUp app?
3. How could the CareUp app and/or mobi-site be improved or made better in the future?
4. Does anyone have a good example of how they used CareUp with their child, that you would like to share?  
[follow up] Anyone else use that? How did you use it differently?
5. Now with CareUp, do you do anything with your child to help him/her speak and understand isiXhosa?  
[If yes] please explain or give an example of what you do.
6. Now with CareUp, do you know what the teacher does to help your child speak and understand isiXhosa?  
[If yes] please explain or give an example of what the teacher does.
7. Is there anything you would like the funders and organisers to know about CareUp which we have not discussed?

8. Please can you each now complete the attached brief survey, which asks questions based on what you know or feel NOW (*hand out the USER GROUP surveys; one to each person; for them to complete*)
  
9. And now here is another brief survey. It is the same survey that is being completed by all the parents here today (*hand out the OTHER surveys; one to each person; for them to complete*)

*[Thank the group members very much for their time]*

Parents' user focus group questions, written survey, near endline

All of these questions are about now...

1. I am going to say a statement, and you must decide if you agree/disagree or strongly agree/strongly disagree with the statement. Tick one block in each row.

After CareUp ...	Strongly agree	Agree	Disagree	Strongly disagree
<u>I know I have an important role to play in helping my child develop and be ready to learn at school</u>				
<u>I know I have an important role to play in helping my child use and understand language</u>				
<u>I know how to help my child develop and be ready to learn at school</u>				
<u>I know how to help my child use and understand language</u>				

2. I am going to ask you about NOW. Now that you have Care Up, how often you do certain things with your child.... Tick one block in each row.

	Never	About once a month	About once a week	About 2-3 times in each week	Almost every day/night
How often do you talk to <u>your child</u> about school (in general)?					
How often do you talk to <u>your child</u> about language learning (pictures/stories/activities) at school?					
How often do you <u>tell your child long stories</u> in isiXhosa?					
How often do you <u>read to your child</u> in isiXhosa?					
How often do you communicate with <u>the teacher</u> about what your child and school (in general)?					
How often do you communicate with <u>the teacher</u> about what your child's language learning?					
How often do you talk to <u>other parents</u> about what the children were learning?					
How often do you <u>tell your child long stories</u> in English?					
How often do you <u>read to your child</u> in English?					

3. Please fill the table in below to indicate how and how often the ECD practitioner contacted you about your child:

Type of contact/ communication	Parent meeting	A letter/note came home	A crèche report about my child	I had an individual meeting with the teacher at the school
How often?				
When was the last one?				

### Parents' non-user focus group questions, near endline

*Introduce yourself and explain the purpose of the focus group (which is to find out the views of CareUp parents about the app).*

*Emphasise that they should please be entirely honest. There are no right or wrong answers to any of the questions, and their names will not be recorded so no-one will know who said what. Explain that their input is vital as it may lead to changes to CareUp to make it better for other parents like them.*

1. Did you download the CareUp app? If not, why not?
2. Did you use the CareUp mobi-site (website)? If not, why not?
3. For those that did download the CareUp app, why did you not use it?
4. How could the CareUp app be improved or made better in the future?
5. Have you noticed any changes in the way that your child's practitioner has been teaching your child since the start of the CareUp project? Please explain your answer
6. Is there anything we have not discussed, which you would like to tell us about CareUp?

- 10.** Please can you each now complete the attached brief survey, which asks questions about CareUp. It is the same survey that is being completed by all the parents here today (*hand out the OTHER surveys; one to each person; for them to complete*)

*[Thank the group members very much for their time]*

*Introduce yourself and explain the purpose of the focus group (which is to find out the views of CareUp parents about the app).*

*Emphasise that they should please be entirely honest. There are no right or wrong answers to any of the questions, and their names will not be recorded so no-one will know who said what. Explain that their input is vital as it may lead to changes to CareUp to make it better for other parents like them.*

- 4.** Did you download the CareUp app? If not, why not?
- 5.** Did you use the CareUp mobi-site (website)? If not, why not?
- 6.** For those that did download the CareUp app, why did you not use it?
- 7.** How could the CareUp app be improved or made better in the future?
- 8.** Have you noticed any changes in the way that your child's practitioner has been teaching your child since the start of the CareUp project? Please explain your answer
- 9.** Is there anything we have not discussed, which you would like to tell us about CareUp?
- 11.** Please can you each now complete the attached brief survey, which asks questions about CareUp. It is the same survey that is being completed by all the parents here today (*hand out the OTHER surveys; one to each person; for them to complete*)

*[Thank the group members very much for their time]*

## Home visit with a frequent user parent and child, endline

*Make sure the parent has completed a **parent survey**. If they have not, let them complete the written survey.*

*The parent must also complete the **home visit consent form** before you start.*

*Explain that this visit is so that the CareUp team can understand how the parent interacts with their 4 to 5-year old child, and how the app is being used in a real home, with a real parent and child. We need to understand how you are using the app, so we can make it even better. There is not a right or wrong way to use the app. We want to just see how you are using it.*

### **A. CONTEXT**

1. Please introduce yourself and tell me a little about your family?
2. In what language(s) do you speak to your child at home?  
*[If more than one language, probe:]* With your child, what language do you use to greet? instruct? scold/discipline? pray/give thanks?
3. We are interested to see you read to your child and/or tell them stories. Could you show me how you do this, with your child, for about 5-10 minutes? Please could I record what you do?

### **VIDEO CLIP ONE**

*[This is with the child and focuses on how the parent read with them or to them, and/or tells them stories. They should show you how they do this with their child. The video should run for about 5-10 minutes.]*

### **B. OBSERVATIONS and VIDEO CLIPS**

1. Are you using CareUp? Please explain why/why not?  
*[if they are using it]:* Please can you show me on your phone how you are using CareUp now? Imagine I am a parent and I don't know about CareUp. Can you show me how CareUp works?

**VIDEO CLIP TWO**

*[This is without the child. Focus the camera on the parent’s hands and phone, and record what she/he shows you about the app. Watch what is done, how the app is used, and video record what is done.]*

2. *[Follow up with what you saw and recorded, by checking how the parent answers these questions about language choice]*

So are you using:

- CareUp isiXhosa or
- CareUp English or
- both CareUp isiXhosa AND English?

*Check (tick appropriate box/cell):*

	IsiXhosa	English
Are you reading CareUp instructions in		
Are you listening to CareUp audio-files in		
Are reading the CareUp resources/stories in		
Are you getting the CareUp messages in		

3. We are interested to see you use CareUp with your child. Could you show me how you use CareUp with your child? Please could I record what you do?

**VIDEO CLIP THREE**

*[This is with the child and focuses on how the parent uses CareUp. You should not give them any support/direction on what they could do]*

4. Please show me what you will do with this week’s activity from CareUp with your child?

**VIDEO CLIP FOUR**

*[This is with the child and focuses on how the parent uses the CareUp activity. You can show them the activity for this week if they have not found it. They then show you how they use the activity with their child]*

5. Please show me how you use the CareUp resources with your child?

#### **VIDEO CLIP FIVE**

*[This is with the child and focuses on how the parent uses the CareUp resources. You can show them the resources if they have not found them. They then show you how they use one of the resources with their child]*

6. *[ask the parents]* Can I please take some photographs of your home? This is so that people working on the project can see the home context for you and your child. We think that knowing the context will help improve the application.

These are the photos you should take:

Outside: street, front door, yard/outdoor

Inside: where child sleeps, where child washes, goes to toilet, where food is prepared, where food is eaten, any books/toys/pens, paper, school work

### **Home visit with a non/minimal user parent and child, endline**

*Make sure the parent has completed a **parent survey**. If they have not, let them complete the written survey.*

*The parent must also complete the **home visit consent form** before you start.*

*Explain that this visit is so that the CareUp team can understand how the parent interacts with their 4 to 5-year old child, and their thoughts about CareUp. Explain that we know that they have not used CareUp very much, and wish to find out why this is and what CareUp could do better*

#### **A. INTERVIEW QUESTIONS [please record this on audio]**

1. Please introduce yourself and tell me a little about your family?
2. In what language(s) do you speak to your child at home?  
*[If more than one language, probe:]* With your child, what language do you use to greet? instruct? scold/discipline? pray/give thanks?
3. a. Did you download the CareUp app? If not, why not?  
b. If yes, why did you not use it?
4. Did you use the CareUp mobi-site (website)? If not, why not?
5. How could the CareUp app be improved or made better in the future?
6. Have you noticed any changes in the way in the knowledge and/or skills of your child since the start of the CareUp project? Please explain your answer
7. Have you noticed any changes in the way that your child's practitioner has been teaching your child since the start of the CareUp project? Please explain your answer
8. Is there anything we have not discussed, which you would like to tell us about CareUp?
10. *Make sure the parent has completed a parent survey (the one from the October workshop). If they have not, let them complete the written survey.*

## **B. OBSERVATIONS and VIDEO CLIPS**

1. We are interested to see you read to your child and/or tell them stories. Could you show me how you do this, with your child, for about 5-10 minutes? Please could I record what you do?

### **VIDEO CLIP ONE**

*[This is with the child and focuses on how the parent read with them or to them, and/or tells them stories. They should show you how they do this with their child. The video should run for about 5-10 minutes.]*

2. *[ask the parents]* Can I please take some photographs of your home? This is so that people working on the project can see the home context for you and your child. We think that knowing the context will help improve the application.

*[These are the photos you should take:*

*Outside: street, front door, yard/outdoor*

*Inside: where child sleeps, where child washes, goes to toilet, where food is prepared, where food is eaten, any books/toys/pens, paper, school work]*

### Practitioner survey, near endline

1. Please tell us what you think of the different aspects of CareUp

	Excellent	Good	Poor	Very poor
The parent meetings to explain the project...				
The CareUp application (in general)				
The CareUp instructions (picture and 3 audio files)				
The CareUp activities (things to do)				
The CareUp resources (Nal'ibali)				
The CareUp resources (Wordworks)				
The CareUp messages that are in the message section of the app				

2. For each statement decide if you agree/disagree or strongly agree/strongly disagree with the statement.

Because of Care Up...	Strongly Agree	Agree	Disagree	Strongly disagree
Parents know it is <u>not only</u> the teacher's job to help their child be ready for Grade R				
Parents know how to help their children learn at home				
Parents know what their child is learning about at school				
I am better prepared for the literacy/language lessons				
I have more contact with parents about what the children are learning				
I have more books and stories to read to the children				
The children talk more during literacy / language lessons				
I want CareUp to continue next year				
I recommend CareUp to other crèches				

Please write anything else you want the project organisers to know, on the back of this page.

*Thank you for your time!*

## Practitioners' interview, endline

### A. IMPLEMENTATION

1. Did the project happen as you expected?

2. In your opinion, what has gone well with the running of the project?
3. In your opinion, what have been the challenges with the running of the project?
4. Did you go to the parent on-boarding workshops held on a Saturdays to find out about Care Up?

[*If yes*]: What did you find out/learn there? Why did you go? Will you have this kind of workshop next year, without Wordworks/CareUp? Why/Why not?

[*If no*]: Why didn't you go?

5. (a) Which languages are you using for CareUp:  
CareUp isiXhosa or CareUp English or both CareUp IsiXhosa AND CareUp English?  
(b) Please can you explain why you chose that language, or both languages?

## **B. EFFECTIVENESS**

7. What in your view have been benefits of CareUp?
8. Have there been any problems as a result of CareUp? Please tell us about them
9. Do you think CareUp has changed the way you work as an ECD teacher?
  - a. [*If yes*] In what way? Why? Could you give some specific examples?
  - b. [*If not*] please explain why not?
10. Do you think CareUp has changed the way you teach language/literacy?
  - a. [*If yes*] In what way? Why? Could you give some specific examples?
  - b. [*If not*] please explain why not?
11. Do you think the project has changed parents and carers in any way?
  - a. [*If yes*] In what ways? Why? Could you give some specific examples?
  - b. [*If not*] please explain why you think not?
12. Do you think CareUp has changed the experiences and learning of children in any way?
  - a. [*If yes*] In what ways? Why? Could you give some specific examples?
  - b. [*If not*] why not?
13. Do you have any changes to the CareUp app would you like to suggest [to improve it]?  
[*if yes*] Please tell us about them

## **C. KNOWLEDGE and AWARENESS**

1. Did CareUp improve your knowledge of child development (in general)?  
[If yes] In what way [please give examples]?
2. Did CareUp messages improve your knowledge of how to support language development in classes?  
[If yes] In what way [please give examples]? Can you think of something you may be doing differently now to before?
3. Did CareUp change your knowledge about working with parents in any way?  
[If yes] In what way [please give examples]?
4. Now with CareUp, have there been any changes to how you contact/communicate with \_\_\_\_\_ parents?

Type of contact/communication	Parent meeting	A letter/notice sent home	A crèche report about individual children	I had an individual meeting with a parent at the school	None	Other (explain)
How often?						
When was the last one?						

#### D. CONCLUSION

1. Is there anything else that you would like to say about CareUp that we have not discussed?

*Thank you for your time*

Stakeholder face-to-face interviews, endline

## **1. IMPLEMENTATION**

**1.1.**In your opinion, has the project been implemented as planned? Please explain your answer.

**1.2.**What has worked well in terms of the implementation of this project? [an incomplete list of possible topics: funding, activities, stakeholder relationships, beneficiary involvement, timing)

**1.3.**What challenges have occurred in terms of implementation? (list as above)

**1.4.**Are there any activities which you know have not been implemented as planned? If so, what prevented this? What would have helped to facilitate their implementation?

**1.5.(a)** Did changes to the original plan and/or timelines occur?

(b) If so, why did these changes occur and did they help or hinder the achievement of the desired outcomes?

## **2. EFFECTIVENESS**

**2.1.**What in your view have been the major strengths and successes of this project?

**2.2.**What in your view have been the major challenges for this project?

**2.3.**With regards to the measurable outcomes of the project, how well do you believe the project has succeeded against these measurable outcomes?

**2.4.**What has been achieved by the project with regards to other possible outcomes, for example unintended consequences?

**2.5.**In your view, is it possible to replicate this project on a wider scale? Please explain your answer

**2.6.(a)** To your knowledge, how has the mobile app and learning materials been received by practitioners?

(b) To your knowledge, how has the mobile app and learning materials been received by parents?

2.7. In your opinion, what have been the most important outcomes of this project?

### 3. DEVELOPMENT

3.1. What lessons have been learnt as a result of this pilot project?

3.2. What changes would you make to the project in the future?

3.3. What recommendations would you make to others attempting to address the same issue in the future?

3.4. Ideally, what additional data should be collected in the future to show the effectiveness or otherwise of the project?

### 4. CONCLUSION

4.1. Is there anything else that you would like to say about the project that we have not discussed?