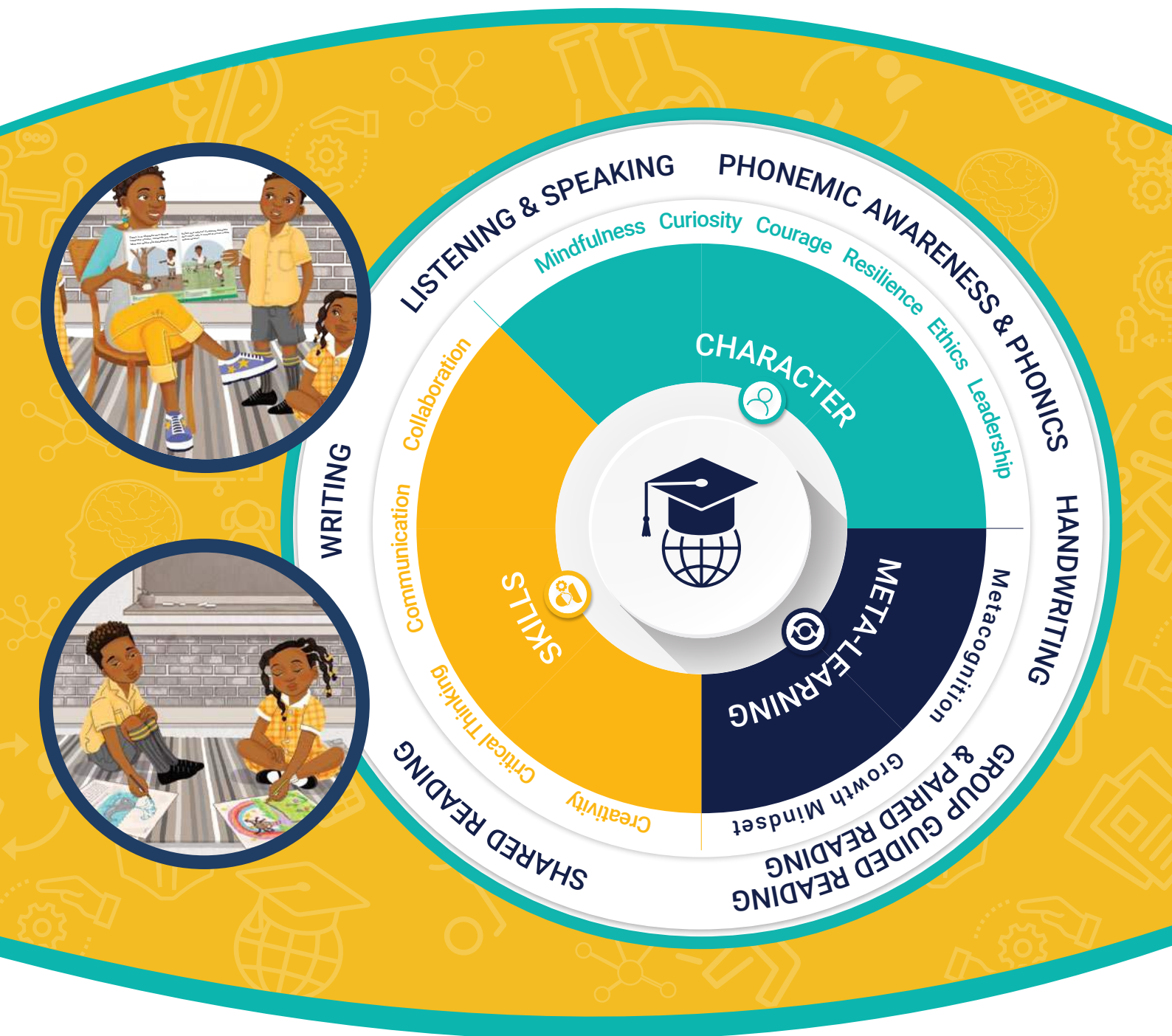


The Competency-based Learning Programme

Prototyping the infusion of competencies for a fast-changing world in the taught curriculum



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Executive summary

To assist the basic education sector in preparing young people to thrive in a fast-changing world, the NECT Edhub began a multi-year research project in 2018 to explore how “21st century education” could be realised in South African public schools. The research project, referred to as the Sandbox Schools project, had a planned duration of 3 years. The Sandbox Schools Project included designing and researching a number of interventions intended to deliberately develop social, emotional, and cognitive “competencies for a changing world” alongside content knowledge in specific grades and subjects. The Competency-based Learning Programme (CLP) is one such intervention in the Sandbox Schools Project.

The CLP, as well as other interventions in the Sandbox Project, was designed using an Educational Design-based Research (EDBR) approach. The EDBR approach involves designing an intervention, informed by theoretical insights and contextual knowledge, and iteratively implementing, researching, and adapting it in a learning environment, with the dual aim of strengthening the intervention itself and garnering further theoretical insights. The design of the research for the CLP was conducted in collaboration with the University of Johannesburg (UJ) Faculty of Education. The intervention design process was conducted in collaboration with Class Act Education Services and UJ, building on an existing structured pedagogy programme being implemented by the National Education Collaboration Trust (NECT). The overarching approach to intervention design was to acknowledge the intertwined relationship between content knowledge and skills, by developing competencies with and through the teaching of existing CAPS-aligned content, through relevant pedagogies and content choices. The CLP takes this approach to the Grade 1 Home Language curriculum, building on the existing literacy development routines and methodologies in the structured pedagogy programme.

The CLP was implemented in 11 ‘Sandbox Schools’ from 2020 to 2022. An iterative mixed methods approach was used to explore teachers’ experiences and perspectives regarding the CLP intervention. Through analysis of both quantitative and qualitative data, the following insights emerged, each of which is discussed further in the research findings section of this report.

¹ Competencies - defined as the mobilisation of knowledge, skills, attitudes and values to meet complex demands. (OECD, 2019)

Summary of key research insights

- The majority (97%) of teachers considered the CLP training and materials to be relevant to their teaching in the classroom.
- Over 90% of teachers reported that the training content was detailed enough, and that the course structure was learner-friendly.
- Confidence to implement the CLP increases with more exposure to training. After three years of implementation, 92% of teachers reported that they were highly confident in implementing the CLP.
- Teachers need time and practice to grasp the competencies. The time taken is generally longer than the time taken to grasp the literacy methodologies in the programme.
- Teachers believe that infusion of competencies in teaching is beneficial for learners, and can articulate why they believe this.
- Teachers' understanding of specific competencies influenced their enactment in literacy lessons. Those competencies that were more familiar to teachers were more likely to be infused in the lessons.
- Previously entrenched teaching methods sometimes served as barriers to exploring new pedagogies.
- Overall, teachers reported positive teaching and learning experiences as a result of the programme.

Based on the insights gained through research with teachers, as well as critical reviews by experts and practitioners, and an understanding of broader dynamics in the education sector, the following recommendations are proposed to take the work of the CLP forward:

- Continue to strengthen the CLP:
 - » Incorporate teacher reflection in the training and coaching programme, to promote deeper learning.
 - » Deliberately encourage and incorporate teacher autonomy into the programme.
 - » Incorporate competency assessments.
- Scale up the CLP:
 - » Pilot the CLP formally in a broader sample of schools, and/or mainstream elements of it into existing programmes.
- Use CLP insights to inform broader curriculum strengthening efforts:
 - » Inform updates to teacher development and LTSM development for the strengthened curriculum.
 - » Inform updated approaches to teacher-led lesson planning and development.
 - » Assist in developing terminology in local languages.
 - » Assist in the development of the South African Competency framework.

1 Introduction

The world is changing fast, and there is growing acknowledgement that education systems globally need to adapt to ensure that they are adequately preparing young people to thrive in contexts of complexity, uncertainty, and rapid change. In light of this imperative, the NECT Edhub commenced a multi-year design-based research project in 2018, in collaboration with a small sample of schools and various partner organisations, to explore what “21st century education” could look like in South African public schools, through the design and research of school-based interventions. This document outlines the background, design process, and research insights from prototyping the Competency-based Learning Programme (CLP) intervention in Grade 1 Home Language.

2 Background

The world we are living in today has been described as “VUCA”: Volatile, Uncertain, Complex, and Ambiguous (OECD, 2018) or, more recently, “BANI”: Brittle, Anxious, Non-linear, and Incomprehensible (Kraaijenbrink, 2022). The VUCA or BANI world presents society with complex and interconnected social, economic, environmental, and political challenges such as widening inequality and environmental degradation (Fadel, et al., 2015). These circumstances require a broad range of social, emotional, and cognitive competencies to successfully navigate and transform the world for a more just and sustainable future. In this context, many education systems around the world are looking to more deliberately and systematically incorporate the teaching of these competencies into their classrooms and schools (WEF, 2023).

While the Brookings Institution found that the current South African curriculum contains many of the competencies required for a fast-changing world, it highlighted several challenges regarding the deliberate and systematic implementation of the competencies in practice (Care, et al., 2017). These challenges included a lack of teaching resources and funding, a curriculum that is perceived to be driven by assessments with a major emphasis on content, and a lack of sufficient time or guidance and support on how to teach the competencies and implement the curriculum as intended. Considering these challenges, the NECT’s Edhub has been exploring how learners and teachers in South African public schools can be better equipped with the knowledge, skills, values, and mindsets needed for success in the 21st century and beyond. The exploration is done primarily through trialling and researching competency-embedded teaching practice within the context of public schools to gather evidence on practises that are well suited to the South African schooling context. The exploration aims to assist the education sector in making evidence-informed shifts toward more relevant teaching and learning for the future.

The Sandbox Schools Project

The Sandbox Schools Project is the Edhub's multi-year, educational design-based research project, which aims to learn from the design and implementation of several interventions that enable teaching and learning for the demands of the changing world. The Sandbox is a 'laboratory' for experimentation, where interventions are designed, trialled, and researched in a sample of public schools, recognising that innovation requires flexibility and iteration (Gravett & Eadie, 2021). The vision of the Sandbox is to see all South African learners leaving school with the competencies that will enable them to thrive in a fast-changing world.

Eleven schools were selected to participate in the Sandbox Project. Ten of these schools are in rural and semi-rural areas (Waterberg District, Limpopo), with the eleventh school in an urban settlement or township (Soweto, Gauteng). To broadly represent the majority of South African public schools, the Sandbox schools fall within quintiles 1-3, making up approximately 60% of the national learner population (Department of Basic Education, 2017).

An Educational Design-based Research Approach

The term educational design-based research (EDBR) is used to describe the research approach that was followed by the Sandbox Project - highlighting the educational focus, where design and research are intertwined (Bakker, 2018). EDBR is a genre of research committed to developing practical and theoretical insights in tandem, in real-world contexts in the field of education (McKenney & Reeves, 2019). A typical EDBR process involves designing an intervention, informed by theoretical insights and contextual knowledge, and iteratively implementing, researching, and adapting this intervention in a learning environment, with the dual aim of strengthening the intervention itself and garnering further theoretical insights. The steps outlined below were followed in designing the Sandbox EDBR process (Gravett & Eadie, 2021):

- Analysis of the problems/issues:
 - » Literature reviews: Topics included the purpose of education and schooling, the science of learning, 21st century teaching and learning frameworks, curriculum frameworks of exemplary education systems, case studies of curriculum reforms for 21st century competencies in the global North and global South, and indigenous knowledge systems in South Africa in relation to education.
 - » Site visits at selected public and independent schools in South Africa.
 - » Policy dialogues on 21st century education, involving key stakeholders.
 - » Interviews with leading global and local researchers, innovators, and educational practitioners.
 - » Articulation of initial design principles to guide the project and intervention design, based on insights from research and practice.

- Development of solutions based on existing knowledge:
 - » First iteration of each intervention was designed, drawing on craft knowledge, theoretical insights and literature applicable to the specific intervention.
- Evaluation research of the solution in practise:
 - » Iterative cycles of formative evaluation research were conducted over three years beginning in 2020, with a school year as a single cycle.
 - » Mixed methods of data collection were used, including observations, interviews, questionnaires, and analysis of artefacts.
- Reflection to produce design principles for dissemination:
 - » A post-intervention focused reflection was planned for each intervention to refine design principles.

What is meant by 'Competency-infused' education?

The 2017 Brookings Institution report found that the current CAPS curriculum contains many "skills for a changing world", but these are not always deliberately and systematically taught in schools (Care, et al., 2017). The approach of "competency infusion" takes the current curriculum as a vehicle for more deliberate teaching of these competencies, through existing content knowledge. This approach acknowledges the intertwined relationship between content knowledge and skills, as it does not advocate for competencies to be taught separately or as add-ons (Willingham, 2007; Fadel, et al., 2015). Rather, it proposes that the competencies for a changing world should be learned with and through the teaching of content knowledge, through relevant pedagogical practices and content choices.

Why is competency-infused education important?

In the context of poor foundational learning outcomes, some argue that the South African basic education sector should focus all efforts on improving literacy and numeracy, instead of adding complexity by introducing competencies. The CLP design team did indeed recognise that basic literacy and numeracy skills are foundational to all learning, and that ensuring learners master these skills should be a national priority. This view, in part, informed the decision to focus the CLP on Grade 1 Home Language. However, the CLP design is also informed by the assertion that a focus on foundational skills does not need to preclude the development of broader competencies; the teaching of foundational skills could indeed be strengthened and deepened by deliberately infusing competencies (such as critical thinking, collaboration, creativity and communication) into teaching. In this fast-changing world, these competencies are essential for meaningful participation in the economy and society; therefore, ensuring that all schools intentionally develop competencies alongside content knowledge becomes a social justice imperative (Gravett and Eadie, 2021).

Structured Learning Programmes – A national debate

While there is a growing body of local and international evidence to suggest that structured learning programmes can have significant positive impacts on

learning (Kim & Davidson, 2019; DBE, 2017), there is some debate on the merits and potential drawbacks of the approach. Large-scale interventions such as the Gauteng Primary Literacy and Mathematics Strategy (GPLMS) and the Early Grade Reading Study (EGRS) have shown that the 'triple cocktail' of lesson plans and classroom materials, teacher training, and ongoing coaching can contribute to significant improvements in learner outcomes in quintile 1-3 schools (DBE, 2017). However, there are some who argue that heavily scripted lesson plans contribute to the deprofessionalisation and deskilling of teaching by prescribing teachers with exactly what and how to teach, and limiting their professional autonomy (Beatty, 2011; Bryk, 2009; Janks, 2014;

Msibi & Mchunu, 2013). Others have argued that structured lesson plans do not necessarily limit teachers' creativity, but can provide a useful starting point for them to adapt, based on their professional judgment (Shalem & De Clercq, 2019). The CLP was designed based on this viewpoint.

3 >> Introducing the Competency-based Learning Programme (CLP)

In collaboration with Class Act Education Services and the University of Johannesburg (UJ) Faculty of Education, the NECT Edhub designed the Competency-based Learning Programme (CLP). The underlying premise for the CLP intervention is that the approach may be applied to any subject, in any grade. However, for the purposes of learning, and to improve the design of the intervention, the CLP was prototyped in Grade 1 Home Language classrooms in the 11 Sandbox Schools.

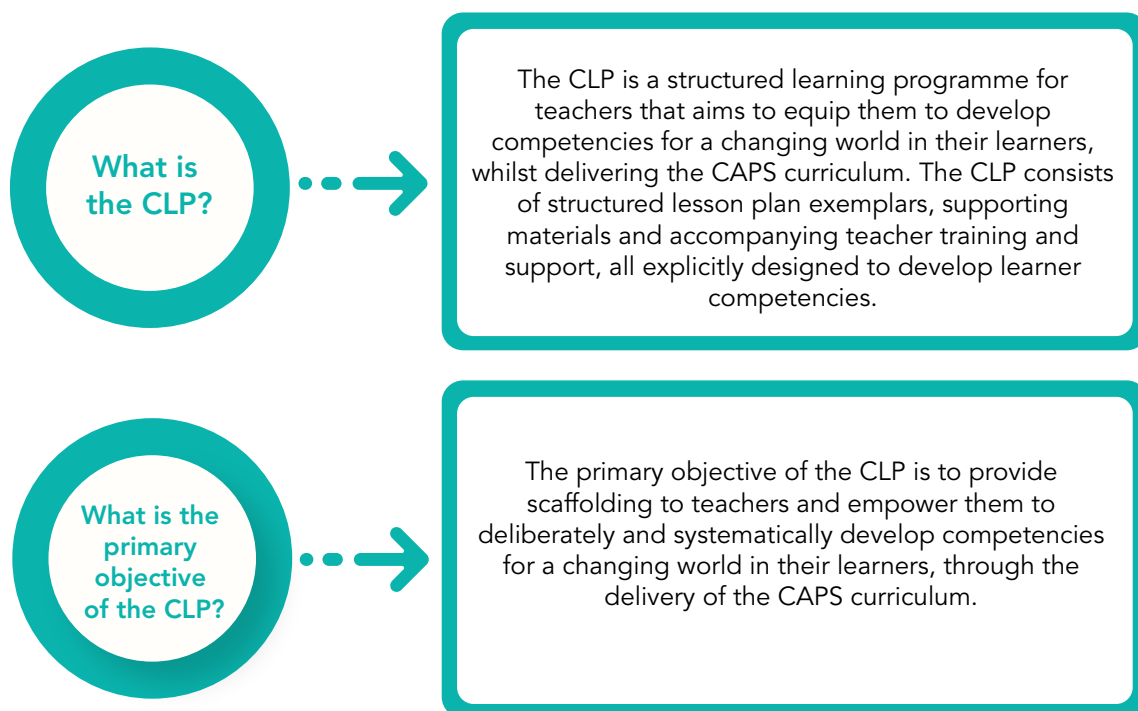


Figure 1: Description of the CLP

Drawing on research about changes in teachers' behaviour and attitudes over time (Guskey, 1986), the CLP embeds twelve competencies into a structured, CAPS-aligned tool with which many public school teachers are familiar (structured learning programmes – SLPs), thereby providing teachers with the necessary scaffolding to deliberately infuse these competencies into their teaching. The CLP combines evidence-based literacy methodologies (Kim & Davidson, 2019; DBE, 2017) with pedagogies to promote the deliberate development of competencies for a changing world (such as mindfulness, growth mindset, critical thinking, creativity, and ethics). It introduces a structured weekly routine, methodologies, and themes which are designed to develop literacy skills outlined in the curriculum and systematically help learners develop the twelve competencies shown in the CLP framework.

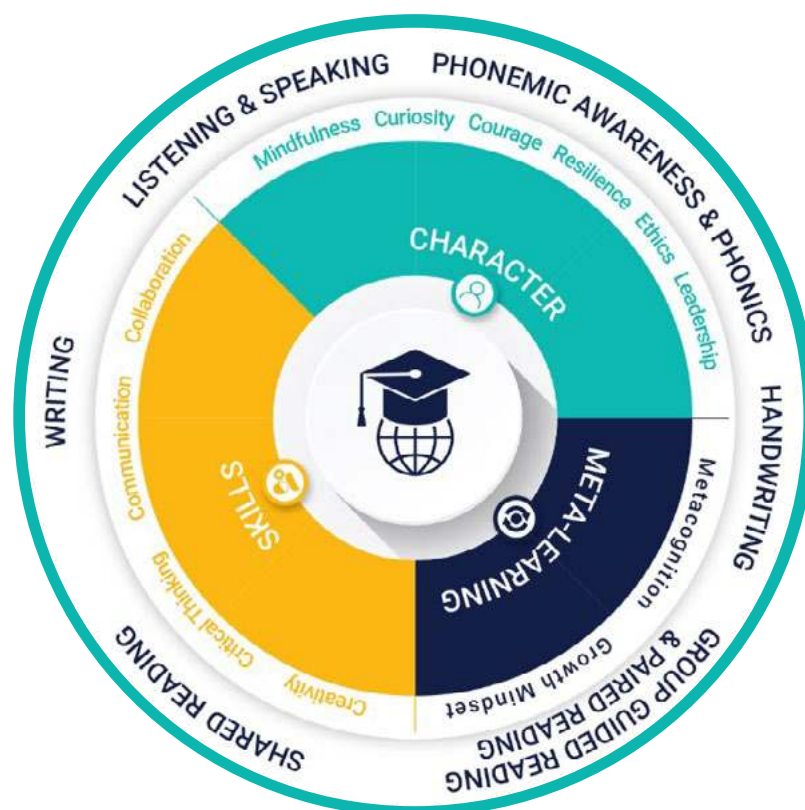


Figure 2: Competency-based Learning Programme (CLP) Framework

The CLP framework shows the relationship between competencies (the inner ring) and methodologies for developing literacy (the outer ring), highlighting the fact that these methodologies can be vehicles for developing competencies through deliberate pedagogical and content choices. The 12 competencies are listed in the inner ring, as part of three broad categories: Skills, Character, and Meta-Learning. The outer ring of the framework lists the components of the structured literacy development programme, made up of evidence-based routines and methodologies. The design of the CLP uses this framework to develop specific competencies through any given methodology, in an integrated and seamless way.

The CLP is made up of several components:

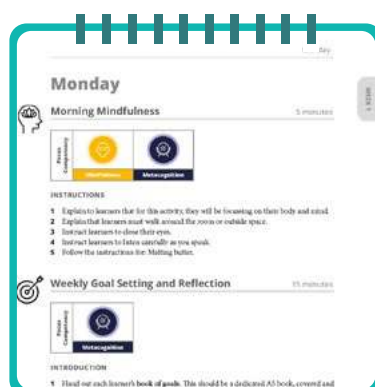
- **Training:** Quarterly training for teachers and Head of Department (HoDs) on how to implement the methodologies.

- **Coaching:** Minimal coaching support through classroom observations and feedback (1-2 coaching visits per term, together with WhatsApp support when required).
- **Competency videos:** Competency video series with rich, locally relevant training on each of the 12 competencies. Videos are used during in-person quarterly training sessions and are also available online as self-paced mini-modules. Each video series defines one competency and draws on the science of learning to provide relevant evidence to support the value of developing that competency in learners. The videos include practical tools and pedagogies for teachers to use in-classroom, and provide real examples of teachers modelling the teaching of the competency in a South African classroom.
- **Materials:** Core to the materials provided is a detailed competency-based lesson plan that the teacher may use as a guide or an example. The lesson plan simply illustrates opportunities for a teacher to incorporate competencies into the lesson, in a manner that supports the learning objective of the lesson. Each story and activity in the CLP materials is designed with the dual imperative of literacy development and competency development in mind. The competencies are tagged in the materials so that teachers are aware of the specific competency being developed in the lesson. The figure below outlines the materials provided to teachers.

Materials



Big Book of themed stories per term



Detailed lesson plans



Management document for teachers to plan & monitor curriculum coverage



Worksheet Pack of independent reading activities for learners



Resource Pack, including flash cards and images aligned to the stories



Classroom charts

Figure 3: Materials provided to teachers

4 Theory of Change for the CLP

The CLP theory of change hypothesises that the programme's impact on teachers and learners is a function, first and foremost, of high-quality programme implementation.

CLP Theory of Change:

The CLP improves teachers' knowledge of CLP methodologies and CAPS curriculum content whilst strengthening teachers' instructional practices through detailed curriculum outlines, lesson plans, coaching, and teaching resources,

↳ which enhances a teachers' ability to deliberately develop competencies for a fast-changing world in their learners, in Grade 1 literacy lessons,

↳ which may lead to improved: (1) literacy outcomes (such as reading, writing, listening, speaking) and (2) competencies that will enable them to thrive in a fast-changing world.

Figure 4 below illustrates the pathway through which the CLP may improve learner outcomes.

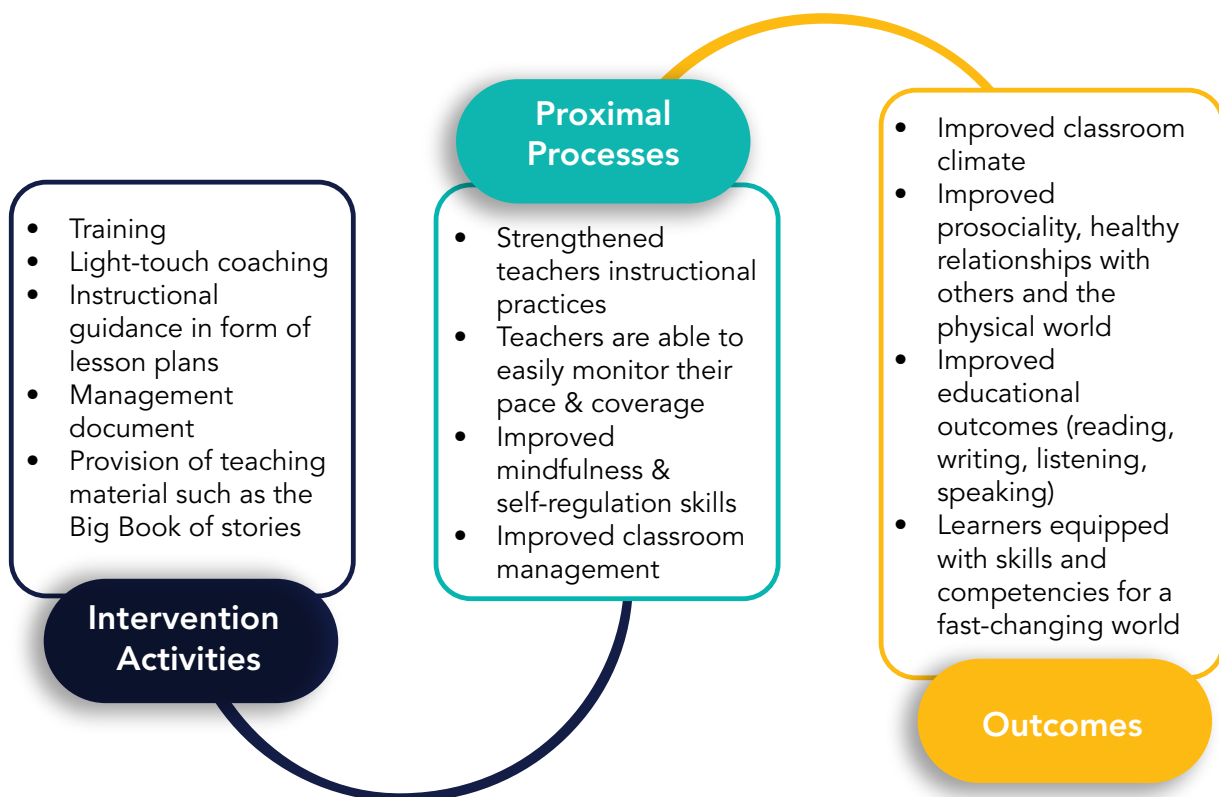


Figure 4: CLP pathway to improving learner outcomes

5 Challenges in Measuring Competencies

Prior to unpacking the insights emerging from the Sandbox teachers' experiences, it is important to note the challenges inherent in researching the domain of competencies for a fast-changing world.

In a series of studies on behalf of UNESCO and The Brookings Institution on the global implementation of 21st century competencies in curricula, Care, et al. (2018) unearthed many challenges facing educational systems in moving from curriculum development to effective implementation of competency-embedded pedagogy and assessment practices. While some countries have initiated or adopted competency-based or competency-infused curricula, the practical considerations of how to teach and assess competencies have lagged (Care, et al., 2018). In general, the educational systems of the countries were found to lack:

- Clear understandings of 21st century competencies
- Developmental, learning progressions of competencies over time
- Support in terms of access to assessment tools and technologies
- Identified best practices for assessment, given that the competencies are often invisible to teacher observation and difficult to measure on summative assessments
- Teacher professional development in how to teach and assess 21st century competencies

At the heart of the complexity is the multi-dimensional, developmental, and contextual nature of competencies. Each competency comprises several components (or sub-competencies). For example, creativity could comprise the following sub-competencies: 1) number of ideas generated, 2) range of ideas generated, and 3) feasibility of ideas generated. This makes measuring changes in competencies at the individual learner level, as well as at the national or regional level, relatively complex. To date, this has been a barrier for education systems interested in developing learner competencies. However, over recent years, there has been a rapid increase in investment in measuring competencies by education ministries, international development agencies, and educational organisations. Two such measurement tools include the OECD's study on Social and Emotional Skills, and UNICEF's Life Skills and Citizenship Education (LSCE) measurement instrument.

During the design and implementation of the CLP intervention, it was decided that the focus of the research would be on understanding the teacher's experiences and perceptions of the intervention, in order to inform and improve the intervention's design. Looking ahead, it is recommended that further research be conducted to include the assessment of competencies within the CLP in the form of Assessment for Learning (AFL), exploring correlations with corresponding changes in learners' academic and non-academic outcomes.

6 Insights from Teachers' Experiences of the CLP

Insights discussed in this section are drawn from research conducted with Grade 1 teachers at the 11 Sandbox Schools during the period 2020-2022. Using a mixed-methods approach, the study explored teachers' experiences, and perspectives regarding the competency-based learning programme (CLP). During the prototyping phase, the research aimed to address the following research questions:

1. What are teachers' overall perceptions of the CLP?
2. What are teachers' experiences of the CLP intervention?
3. What are the teachers' in-class experiences with incorporating competencies for a changing world into the Home Language lessons?
4. What are teachers' experiences with competencies?
5. What do teachers perceive as the value to learners when competencies for a changing world are incorporated into Home Language lessons?

To gather information on teachers' experiences and perception of the CLP, the following data was collected:

1. Pre- and post-training assessments of teachers' knowledge related to the CAPS Home Language curriculum and the CLP training content in terms 1 to 3;
2. Post-training feedback surveys, focused on teachers' experiences of the programme;
3. Informal verbal feedback from teachers collected by school-based project coordinators, based on a set of standardised questions;
4. Interviews;
5. Classroom observations.

The key insights, derived from a combination of qualitative and quantitative data analysis, are briefly discussed below.

1. CLP training is relevant to teaching in the classroom

Through a survey, 29 teachers were asked to rate the relevance of the CLP training to teaching their Grade 1 Home Language (HL) lessons. More than 90% of teachers considered the CLP training to be "extremely relevant" or "relevant" to their teaching in the classroom and none of the teachers consider the CLP to be irrelevant. Interestingly, the perception that the CLP is relevant and important, is shared across teachers with varying years of teaching experience.

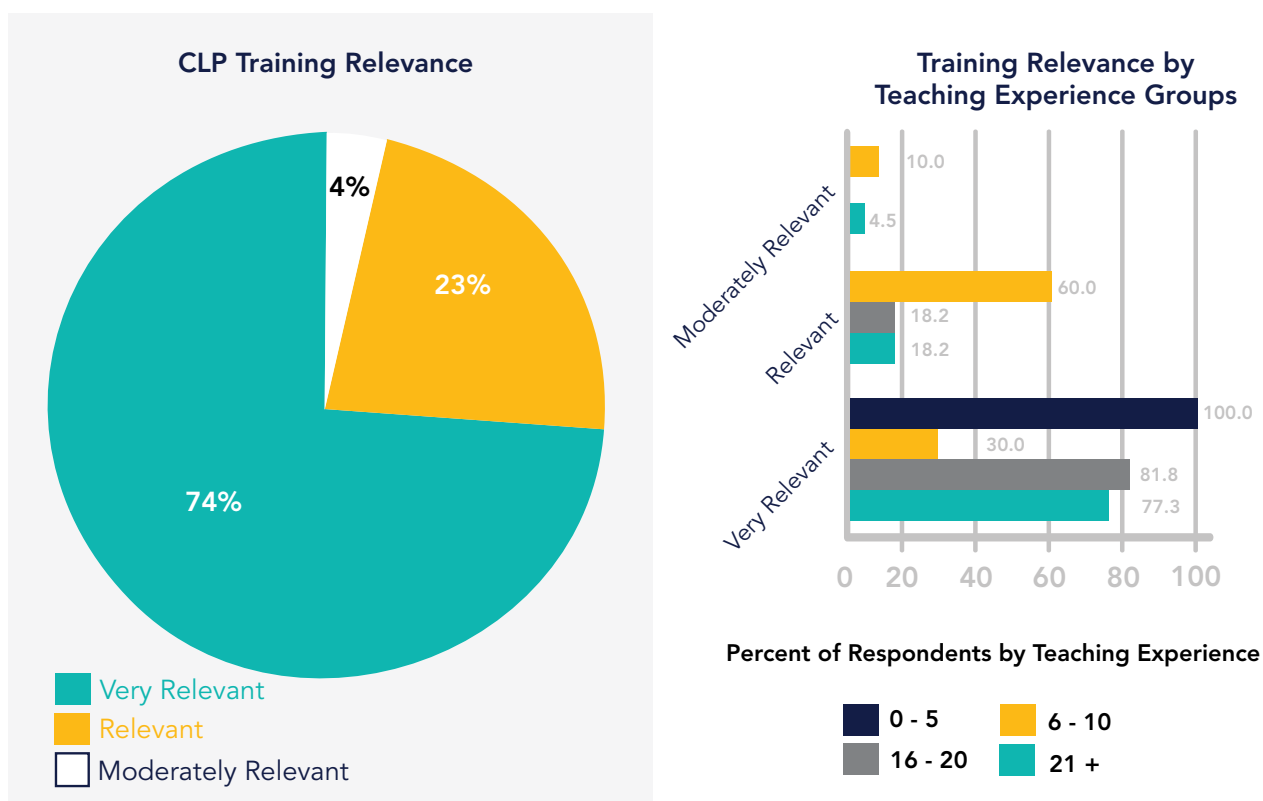


Figure 5: Training relevance to teaching in classrooms (n=29)

When asked, during interviews, whether or not the CLP training is relevant for teaching in the classroom, teachers' responses included:

"The training is very useful and it brings back the love of the profession to teachers." (Teacher 1)

"The training was relevant and appropriate for the teachers. The knowledge of content on the facilitator side was rich." (Teacher 2)

"What I like about it is the training it provides... They show us [to] do this and do it this way so it can fit our situations. Like last time I went to the training they showed us how to do classroom management." (Teacher 3)

"Alignment of the programme with the 2021 to 2023 Planner and Tracker themes, wow." (Teacher 4)



Teachers working on an activity during the CLP teacher training

2. Training content is detailed enough and the course structure is learner-friendly

Feedback from teachers suggested that they appreciate the quality and design of the training they receive. Teachers were asked to rate not only the level of detail of the training content but also how easy it was to follow the course's sequence and flow; more than 60% of the teachers rated the course content as very detailed. Similarly, the majority of teachers found the sequence and flow of content to be very good. Although none of the teachers gave a negative rating, there is room for improving the content since 8% of the teachers reported that the content is moderately detailed and a few reported that they had difficulties with the group guided reading.

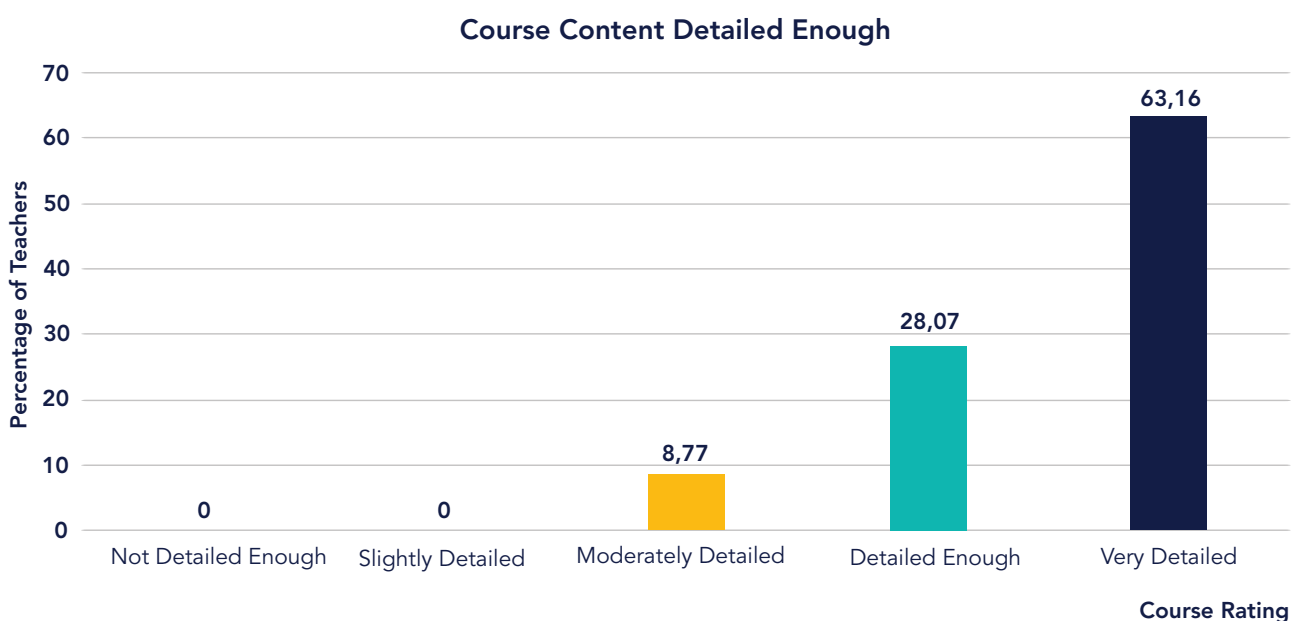


Figure 6: CLP training content rating (1)

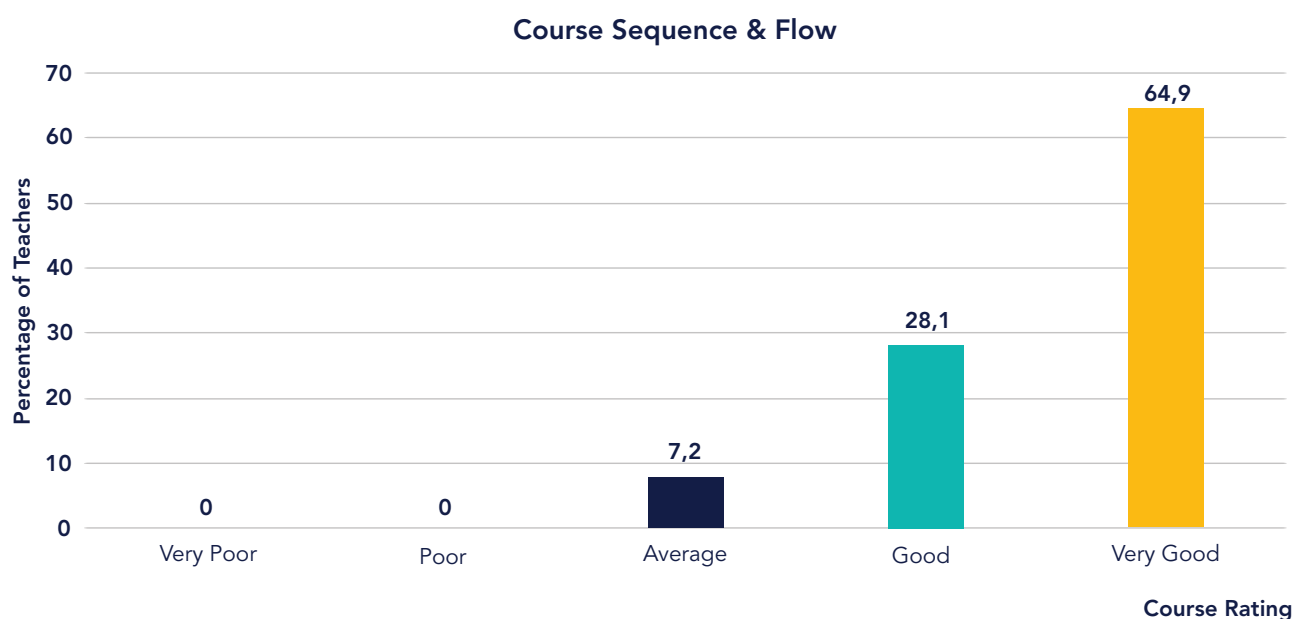


Figure 7: CLP training content rating (2)

3. Confidence to implement the CLP increases with more exposure to training

As the training dosage and exposure to the programme increases, teachers become more confident to implement the CLP in their classrooms. In 2022, during term 1, approximately 82% of the teachers reported that they were highly confident in implementing CLP in their classrooms, whereas in term 2 the percentage rose to 92%. Perceptions of the training content seem to influence the teachers' confidence to embed competencies in their lessons. We observed that teachers who rated course content as very detailed had a higher probability (likelihood) of reporting high confidence to implement the CLP in classrooms compared to those who rated course content as moderately detailed; the probabilities are 0.97 and 0.2, respectively.

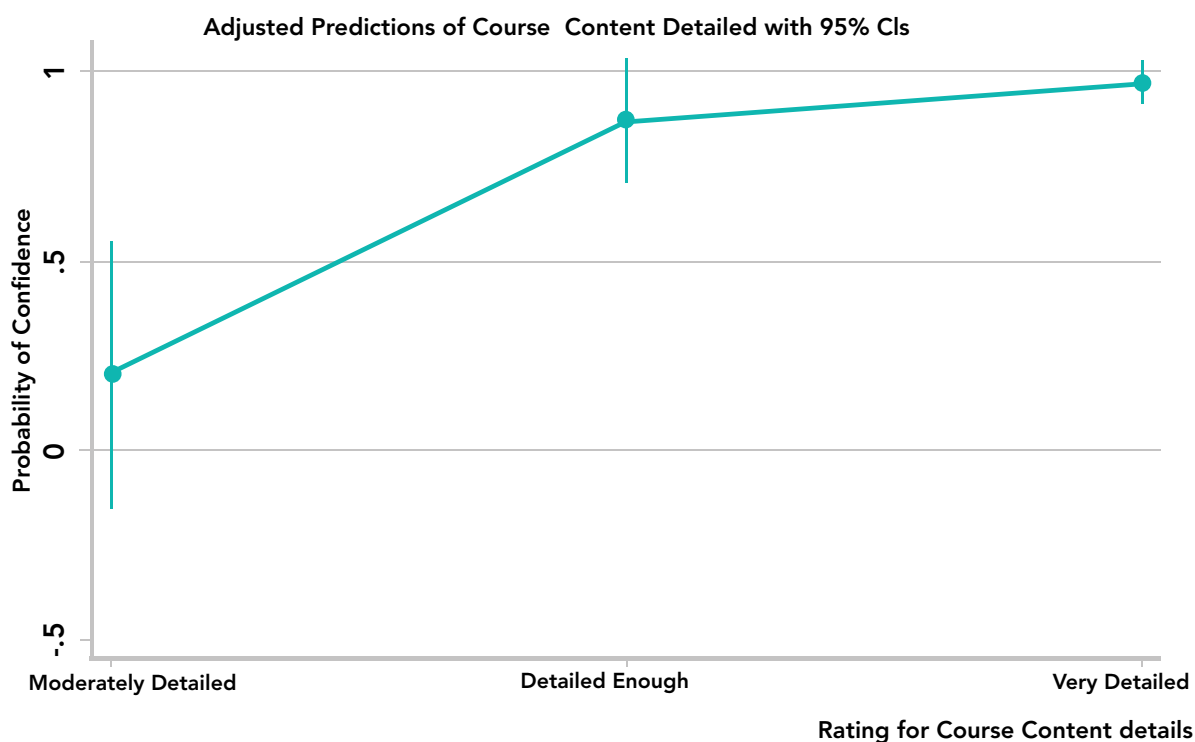


Figure 8: Likelihood (Probability) of teachers to be highly confident to implement the CLP

4. Teachers need time and practice to grasp an understanding of the competencies

During the years 2021 and 2022, teachers completed pre- and post-training assessments which were developed to test their knowledge of both Home Language curriculum content and the CLP training content. The test was developed using guidelines which are also used in the NECT's Primary School Reading Improvement Programme (PSRIP) - a national structured learning programme that aims to improve literacy instruction. The guidelines used are shown in Table 1.

Table 1: Guidelines for teacher testing

SECTION	QUESTIONS
Section A: Question 1-12: (Matching columns, multiple choice and short questions)	CAPS curriculum content - Questions based on the CAPS document, the strategies used in teaching Home Language, terminology, time allocation, and the principles of grouping learners. (12 marks, or 40% of the total)
Section B: Question 13-23: (True and false questions and short descriptive questions)	Knowledge of CLP Methodologies - Questions about the content, principles, and application of the CLP, including daily activities, shared reading, group guided reading, phonemic awareness, and phonics. (18 marks, or 60% of the total)

In general, pre- and post-training test results indicate an improvement in teachers' knowledge of CLP methodologies and CAPS curriculum content, after each training session and over time. However, as with other programmes, the improvements are off a relatively low base of knowledge. The test scores also suggest that teachers understood the section of the training relating to the implementation of literacy routines and methodologies to a greater extent than the competency-infusion aspects of the programme; understandably, the teachers struggled to grasp content on CLP methodologies (including competencies) because they were relatively new concepts to them.

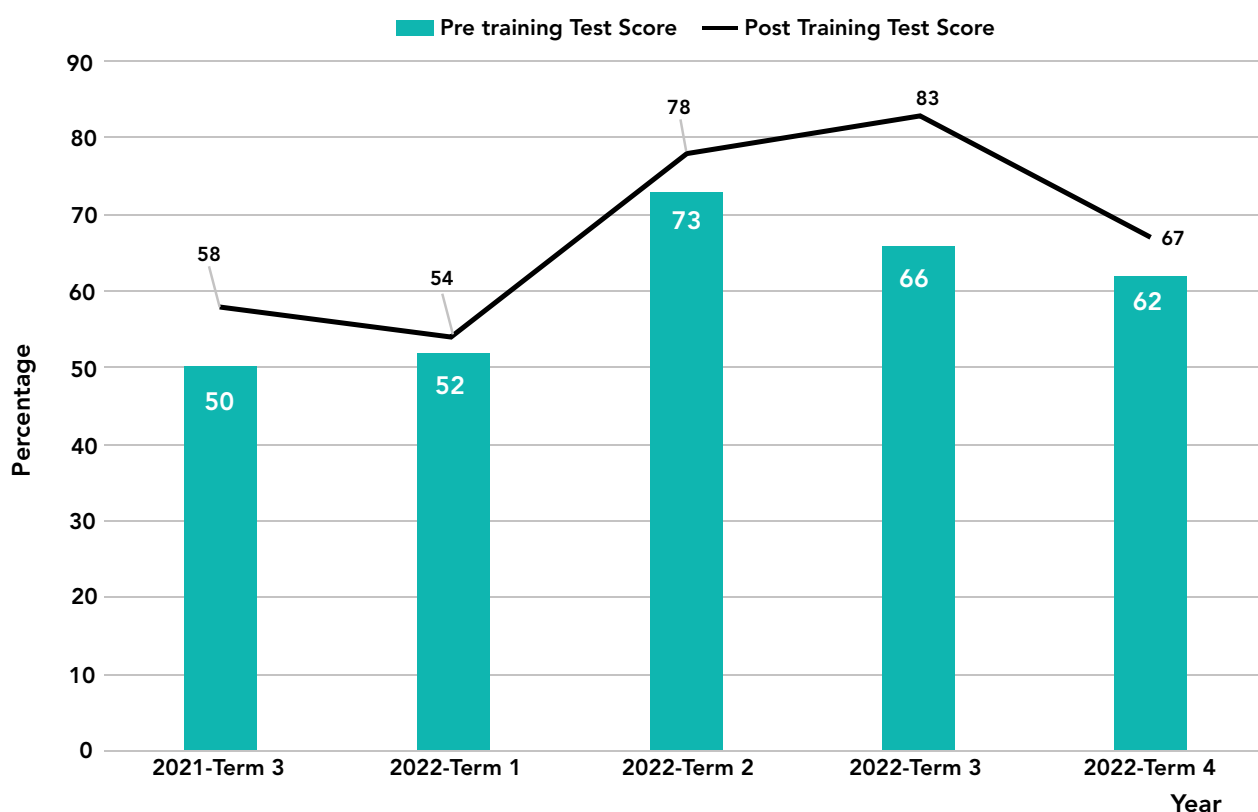


Figure 9: Teachers' test scores on knowledge of CLP methodologies (section B)

5. Teachers can articulate why they believe the infusion of competencies in teaching is beneficial for learners

During the interviews, teachers were asked whether they considered it important to incorporate the competencies into teaching, and all teachers reported that it was important. Several teachers stated that the infusion of competencies in their teaching is important for learners, because it will enable learners to thrive in a changing world.

Examples of teachers' responses regarding the value of the CLP to learners are as follows:

"The world is changing, we do not know [what] the future is going to be like. So, for that reason, we must help and teach our learners competencies which will enable them to be independent tomorrow." (Teacher 1)

"It is important, because they say it is [an ever] changing world...so if we do not teach them now how things are going, like ... technology and other things... in future they will suffer." (Teacher 2)

"What I don't like about CLP is that it is only for Grade 1. At least let them extend it to Grade 3 or 4 ... Because we managed to do some of the things right, and then when a child goes to Grade 2, then CLP doesn't continue, obviously those children will forget since they are young." (Teacher 3)

6. Teachers' understanding of competencies influenced their enactment in literacy lessons

During classroom observations, the researchers observed that when teachers had a good understanding of the competencies, they were able to deliberately infuse these competencies into their Grade 1 literacy lessons. Competencies such as communication, collaboration, critical thinking, and ethics were more frequently incorporated in lessons after the CLP training, as many teachers were already somewhat familiar with these competencies prior to the CLP training.

However, there were some competencies, such as meta-cognition, growth mindset, and creativity which teachers still grappled with, resulting in less frequent deliberate infusion of these competencies during lessons. Data suggests that teachers sometimes had a superficial understanding or misconceptions about some competencies in the CLP. For example, one teacher described growth-mindset as, "the ability of learners to correct themselves," while another described it as, "an ability for one to see his mistakes." One teacher explained her inclusion of meta-cognition in the lesson as follows: "the learners had to think about their own thinking and correct themselves in their own mind before uttering a word that began with the phonic sound 't'".

This belief that learners would be able to correct themselves or see their mistakes is misplaced as foundation phase learners require scaffolding and prompts to guide their thinking. However, aspects of growth mindset and meta-cognition are incorporated in their responses. Understandably, teachers struggled to grasp some of these competencies because they were relatively new concepts to them and represented new ways of thinking about teaching and learning.

Similarly, many of the teachers have a limited understanding of the CLP; they described it as a detailed training programme that assists teachers to impart Home Language literacy skills to Grade 1 learners - they did not mention competencies for a changing world. For example, when asked how they would describe the CLP to another teacher, their responses included the following:

"CLP workshop empowers our education ... by teaching our learners to read and write. They also show us that when you teach a student to read and write, a student will start by learning the phonics." (Teacher 1)

"CLP it is the methodology that is helping the teacher to impart the skill to the learners to be able to love reading and understand reading with understanding and for enjoyment." (Teacher 2)

"It is a programme that gives a teacher a guidelines about what he/she supposed to teach in a classroom with the guidance of CAPS in Sepedi home language." (Teacher 3)

Only a third of the teachers indicated a more comprehensive understanding of the CLP, noting that it helps teachers to develop learners' competencies for a changing world. It appears that the training time may not have been sufficient to develop a deep understanding of the CLP and competencies for a fast-changing world, or that teachers were not sufficiently invested in the training to make more permanent changes to their teaching repertoires.

7. Previously entrenched methods sometimes served as barriers to exploring new pedagogies

Teachers engaged differently with new learnings combined with their prior knowledge and experiences when planning and enacting competency-based lesson plans. During classroom observations, some teachers exhibited greater agency by experimenting and expanding on the new learnings from the CLP in combination with prior experience. For example, the researcher observed that teachers were using CLP materials as teaching aids; some teachers used the Big Book, flashcards, and visual representations on the projector screen, as well as a globe. However, in some instances, teachers' prior knowledge, combined with years of teaching experience, made them inflexible and served as a barrier to trying new teaching approaches, resulting in outdated practices. For instance, during a lesson on segmenting and blending words, the researcher observed that the lesson was very teacher-centred, quite repetitive, and had too many instructions with learners collectively answering/responding to the phonic segmentation – not a step-by-step approach. Although the CLP training hand-out indicated step-by-step instructions for teachers to provide to learners, during the lesson the teachers deviated from the training and reverted to their previously used style(s) of teaching.

8. Positive teaching and learning experiences

Some teachers reported that the CLP led to improved communication with the learners, enabling them to identify which learners were struggling and how they could better assist. In addition to better communication skills, mindfulness activities were considered to have been successful in the classroom by calming learners and creating a happier learning environment, which facilitated better learner engagement and concentration in the lessons; consequently, teachers experienced the classes as being more exciting and enjoyable. Teachers reported the following:

"The class is exciting. The learners are responding, you see? It is no longer that kind of a programme where you spoke alone. I like the fact that CLP is learner centred. And then the learners are active, it teaches learners to communicate." (Teacher 1)

"I noticed that when we start using these competencies, these children start working freely. And then they are also happy in the class, they enjoy learning, and I have also learned that since these kids participate in class, they are able to grasp some of the things and never forget them." (Teacher 2)

"Now when the learner is tired in the class, I know that it is time to do mindfulness activities. I let them stand up, do breathing exercises, close their eyes, and place their hands on their laps. This is a way of returning their minds back to class. I never did those things before." (Teacher 3)



Teacher handing out materials to be used during group guided reading

Challenges and Suggestions for Improvement

In 2022, during the interviews, teachers were asked if they had faced any challenges while implementing the CLP in the classroom and to give suggestions for improvement. Although teachers largely report positive experiences during the implementation of the CLP in classrooms, a few challenges were raised. The table below shows the key challenges teachers faced and teachers' suggestions on how the CLP could be improved. The research team is reviewing these suggestions for improvement and will consider them in the design of future iterations of the CLP.

Table 2: Key challenges faced and teachers' suggestions on how the CLP could be improved

Challenges	Suggestions for Improvement
Pacing – teachers found it difficult to keep up with the programme.	The CLP routine is longer than the daily routine in the DBE annual teaching plans; therefore, the duration of the CLP activities must be aligned with the DBE time allocations.
Some stories in the Big Book are too long – when reading the stories, learners get bored and fall asleep.	Shortening the Big Book stories so that learners stay captivated during shared reading.
Difficult vocabulary and names in the Big Book – some words are too difficult for Grade 1 learners and several teachers did not know the meaning of some words.	Using simpler vocabulary Using familiar Sepedi or Setswana words instead of using isiZulu or English names in the stories.
Two phonics per week is too much – it is difficult for Grade 1 learners to grasp two phonics per week.	Doing one instead of two phonics per week to minimize confusing learners. This will enable learners to grasp the phonics more quickly.
Overcrowded classrooms and limited space made group guided reading difficult.	During CLP training workshops, allocate more time to illustrating how teachers can conduct group guided reading in overcrowded classrooms.

Pacing remained a major challenge as many teachers have found it difficult to keep up with the programme. However, this is not unique to the CLP, this challenge is commonly experienced by teachers across Structured Learning Programmes when first implemented (Piper & Dubeck, 2021). Over time, and with sufficient practice and support, teachers in similar programmes generally begin to master the methodologies and keep up with the pace of the programme.

In addition to the suggestions for improvement highlighted above, the teachers suggested extending the programme to other grades, so that learners will not lose the skills learnt when they move to higher grades. When asked whether or not they would recommend the CLP to other teachers, all but one teacher interviewed said that they would recommend the CLP to colleagues (the latter felt that it was too difficult). The most prominent reasons for recommending the CLP were:

- The mindfulness aspect of the course, which was said to be beneficial in enabling them to create a more conducive learning environment;
- The detailed lesson plans, which make their jobs easier;
- The usefulness of the phonics aspects of the programme;
- The enriching CLP workshops.

7 >> CLP Critical Review Process

The CLP has undergone a series of critical reviews as part of the ongoing iterative process and is continuously being evaluated to understand how teachers are experiencing and implementing the programme in the classrooms. The critical review process included four phases illustrated in the figure below.

Phase 1

Center for Curriculum Redesign (CCR):
Experts in 21st century competencies review to assess how well the programme deliberately and systematically embeds competencies into content and pedagogy.

Phase 2

South African Foundation Phase teachers:
Review by Foundation Phase teachers from a variety of schools (high-fee independent, low-fee independent, high functioning)

Phase 4

NECT Edhub & UJ Department of Education:
Review & Consolidation of inputs

Phase 3

Student reviews: Third year Bachelor of Education students at the University of Johannesburg; Masters students at Harvard Graduate School of Education
Review of literacy and competency development components in CLP

Continuous feedback from Sandbox teachers using the CLP in Gr 1 Home Language

Figure 10: CLP critical review process

Refinements and Improvements made to the CLP

Insights from the critical review process and feedback from Sandbox teachers since 2020, were and are being used to make improvements to the CLP programme and to inform broader policy recommendations relating to competency-infused approaches to teaching and learning. The key learnings have resulted in continuous improvements to the CLP over the three-year period. These refinements included:

1 “Tagging” competencies in the CLP documents

Feedback from the Centre for Curriculum Redesign indicated that the inclusion of the competencies in the CLP documents was not clear enough, which might have contributed to teachers’ vague understanding of the competencies. They recommended that all competencies be “tagged” to foreground and highlight their inclusion, and to make teachers engage with them on a more regular and explicit basis. Tagging has been included in the core methodologies, the lesson plans, and the Big Book stories. Every tag includes an explanation of how the competency manifests in the tagged story or activity. As a result, the competencies are much more explicit in the CLP, and are more likely to be internalised by teachers.

2 The development of a series of competency “explainer” videos

Teacher feedback and performance showed that, despite the programme having competencies embedded into the classroom activities and highlighted during training sessions, teachers still struggled to deeply understand and implement the development of competencies. As part of the continuous efforts to improve the CLP, the Sandbox team in collaboration with Class Act took the decision to develop a series of competency videos, focusing on one competency per video. These videos were used to introduce a competency during each term’s training – the video introduced one competency in order not to overwhelm teachers with new concepts. These videos were shot in schools that are part of the Sandbox schools project with the intention of modelling to teachers how competencies be intentionally infused in a typical South African classroom. Each video is designed around 6 main sections:

- Introduction to the competency, which gives a broad explanation of the competency, illustrated by a concrete example;
- Understanding how and why to develop the competency, where an expert practitioner explains the importance of the competency;
- Strategies to build the competency in the classroom, where a number of strategies that can be used to develop the competency are explained and illustrated by classroom examples;
- A message to the teacher, which provides hints or tips to assist with their understanding and mastery of the competency;
- Teachers’ thoughts, where one or two teachers share their experiences of implementing the competency;
- Recap, where the main points related to the competency are reviewed.

These videos have been well-received by teachers during training, indicating that they were inspired and motivated by seeing their colleagues demonstrate the successful implementation of the CLP.

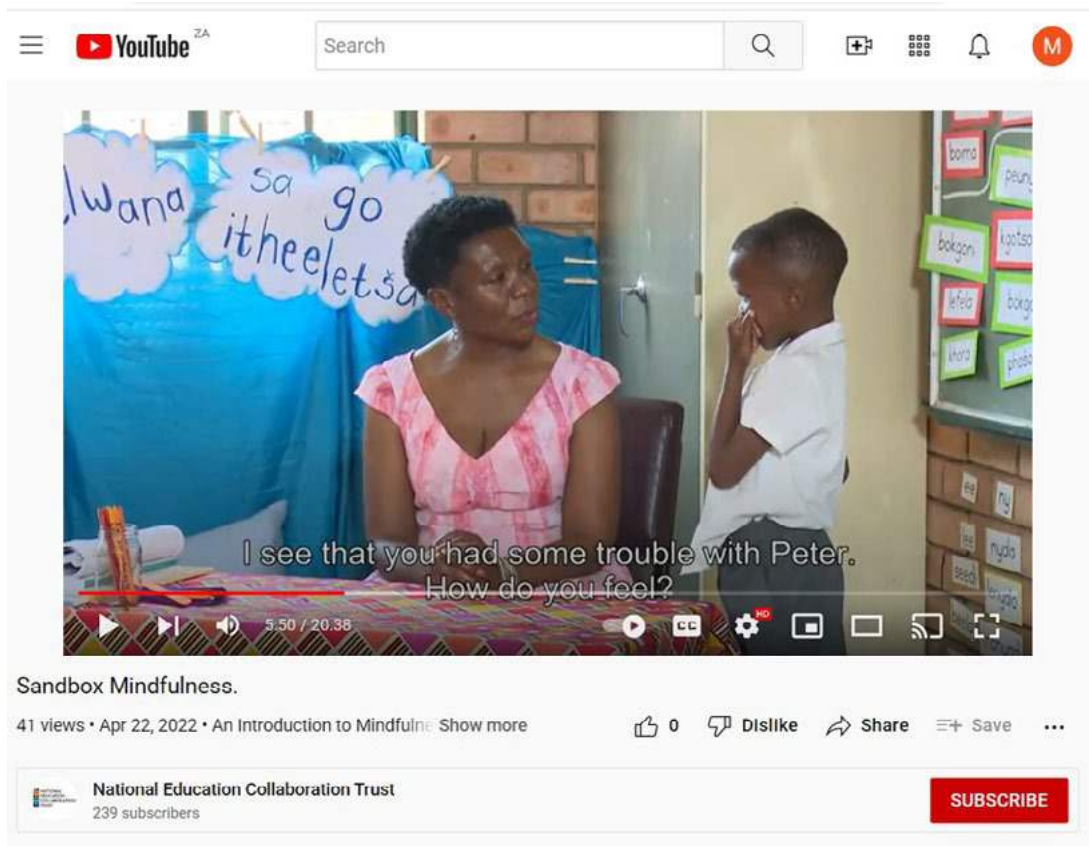


Figure 11: CLP Mindfulness video – watch here

Other CLP competency videos can be accessed using the following links

[An introduction to competencies](#)

[Creativity](#)

[Growth Mindset](#)

[Critical Thinking](#)

[Resilience](#)

[Metacognition](#)

[Courage](#)

[Communication](#)

[Curiosity](#)

[Collaboration](#)

[Ethics](#)

[Leadership](#)

[Mindfulness](#)

3 Revised Training Schedule

When the CLP was first implemented, in term 1 2020, the competency development component and the literacy methodologies were combined during training, and there was little explicit instruction around each competency. After feedback from teachers and the critical review, the decision was made to focus initially on consolidating the core literacy methodologies during training, with a short, explicit section on a particular competency. As training progressed and teachers began to master the literacy methodologies, more competencies were added to the training materials.

4 CLP Framework

As part of the development of the competency videos and updates to training materials, the CLP framework image was designed, outlining how competency development relates to literacy development in the programme. This framework, and supporting information, has been used in CLP materials and training, and plays a central organising role in the video series.

Recommendations

Based on the research insights discussed earlier in this report, several recommendations are outlined below.

1. Continue to strengthen the CLP

a. **Incorporate teacher reflection to promote deeper learning**

Teachers' feedback confirms that the training provided the necessary foundation for learning about competencies for a fast-changing world. The deliberate inclusion of teacher reflections during CLP training workshops could contribute towards deepening teacher learning, as indicated by international best practices in teacher development.

b. **Deliberately encourage and incorporate teacher autonomy**

Teacher autonomy should be advocated for during the enactment of scripted CLPs as it assists teachers in their understanding as well as in adapting the CLPs to suit their individual teaching contexts.

c. **Incorporate competency assessments**

In order to support competency development, assessment should be aligned to curriculum and pedagogy. This could mean piloting and embedding assessments of competencies in the Competency-based Learning Programme, via assessment for learning approaches. This would also enable teachers and researchers to track changes in learner competencies and literacy over time.

2. Pilot CLP

a. **Pilot / mainstream into existing programmes:**

Continue to learn about the CLP in practice by expanding the prototype into a larger pilot, ideally scaling the CLP to include schools that have experienced

success in implementing traditional structured learning programmes. This will facilitate a deeper understanding of the feasibility of implementation and outcomes at a larger scale and in a variety of contexts. Consider mainstreaming the CLP methodology into existing national programmes such as the Primary School Reading Improvement Programme (PSRIP), Assessment for Learning (AFL), Embedding of Maths and Science and the District Teacher Development Framework.

3. Use CLP insights to inform broader curriculum strengthening efforts

a. Development/evolution of competency framework

Use insights from the CLP research to adapt and strengthen the implementation of the draft South African competency framework.

b. Developing terminology in local languages

Develop shared terminology for the competencies in local languages and use some familiar stories and names in Home Language Big Books.

c. Teacher development and LTSM

Use insights from the CLP to inform Teacher development and LTSM development, aligned to the strengthened curriculum.

Intentions and Limitations of the Study

The Sandbox project was designed as an exploratory study that aimed to gain a deeper understanding of the experiences and processes at play in schools that adopted these interventions. As such, the sample of schools was small (11 schools in total), and schools were given the choice to opt into the project. Given these intentions, the EDBR approach was selected for its ability to provide rich insights into complex processes of teaching and learning, and to enable rapid iteration on intervention designs. The project did not aim to achieve statistical generalisation to a larger population, but instead to achieve analytical generalisation (i.e., generalisation to a theory, model, or concept by presenting the research findings as particular cases of a more general model or concept) (Gravett & Eadie, 2021).

The EDBR approach, as designed for the Sandbox project, also cannot establish causality in the direct way of more controlled experimental approaches. However, the approach aims to produce “plausible causal accounts” through linking processes to outcomes (Design-Based Research Collective, 2003). This is often done through using mixed methods of data collection and presenting rich, “thick” accounts that aim to understand the processes and mechanisms at work in an educational setting (Gravett & Eadie, 2021). This approach was taken with the CLP to explore when, why, and how teachers were interacting with the CLP, and how they understood the intervention in relation to their classroom teaching. A different research design, like an impact evaluation, would be needed to more directly gauge the impact of the CLP on literacy and competency development.

10 Conclusion

The design, research, and evolution of the CLP have all contributed to a growing understanding of how to deliberately infuse competencies for a changing world into the teaching of curricular content in South African schools. By building on an established literacy intervention, the structured learning programme, the CLP appears to have provided a useful bridge for Grade 1 teachers that provided support in both literacy development and competency development, with teachers' skill and understanding of both components deepening over time.

Insights from the research suggest that the CLP teacher training provided a strong foundation upon which further learning was extended and deepened throughout the year, particularly through the light-touch coaching component in classrooms. Teachers rated the training highly and there was a clear positive relationship between their understanding of the materials and their reported level of confidence in implementation.

Although teachers may not necessarily demonstrate a deep understanding of how some of the competencies for a changing world are infused into the CLP, classroom observations and interviews indicate that they are indeed practicing and appreciating some of the methodologies designed to develop these competencies. There has been feedback that these methodologies have contributed to an improved classroom environment, and there is a growing understanding of the different types of competencies developed through the programme. This aligns with the literature on teacher development that outlines how changes in teachers' practice, and the effects of this change in the classroom, can contribute to a deeper theoretical understanding of the practice. As such, the insights from the CLP suggest that there is scope for the deliberate infusion of competencies into existing curricular materials and teacher development programmes in public schools.

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Notes

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