

Infusing 21st-century competencies into scripted foundation phase literacy lessons



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Background: Despite large-scale interventions aimed at developing literacy skills, children's reading competence levels in South Africa continue to remain an area of concern. In addition, the need to prepare learners for the increased demands of a fast-changing world of learning and working is gaining attention in educational policy and practice.

Aim: Using a qualitative multi-site case study research design, the authors aimed to explore teachers' understanding and enactment of scripted literacy lessons that are designed to promote 21st-century competencies.

Setting: Five Grade 1 teachers were selected from four schools, three of which are in peri-urban and the other in a township area.

Methods: Data were generated in two phases across three teaching cycles. In the first phase, lessons were observed and recorded on video. The second phase consisted of stimulated recall interviews (SRIs) in which teachers commented on their recorded lessons.

Results: The findings showed that when teachers had relevant prior knowledge of specific competencies, they were better positioned to leverage these as a basis for their lessons. However, the findings also indicated that teachers' entrenched methods and ways of thinking were obstacles for change.

Conclusion: Training and development opportunities should pay sufficient attention to the practicalities of changing pedagogies and using scripted lesson plans.

Contribution: The findings contribute to knowledge on the affordances and challenges when designing training opportunities aimed at integrating 21st-century competencies into scripted literacy lessons.

Keywords: scripted lesson plans; competency-based lessons; 21st-century competencies; foundation phase; literacy; stimulated recall interviews.

Introduction

This article reports on a study that forms part of a larger multi-year project in South Africa to pilot educational interventions that integrate competencies for a fast-changing world of learning and working. It also reports on how these competencies can be included in the school curriculum (Eadie et al. 2021; Fadel, Bialik & Trilling 2015; Fadel & Groff 2019; OECD 2018). For the multi-year project, the curriculum area of home language literacy was selected. Specific competencies were infused into scripted lesson plans (NECT 2020b), aiming to integrate certain skills with the existing school curriculum in mind. Notwithstanding the criticisms against scripted lesson plans, the project team reasoned that a focus on early reading could help address the consistently low literacy levels of South African learners in the early years, while, concurrently adding 21st-century skills. The National Education Collaboration Trust (NECT) thus reasoned that purposefully infusing skills such as critical thinking, communication and collaboration into literacy lessons, could address the curriculum aim of teaching children to read with understanding. The curriculum expectations and focus on young children learning to read would thus not be negatively impacted, nor would the teaching time for reading be sacrificed; aiming to achieve both goals through one activity (Eadie et al. 2021).

In this article we report on a pilot study of the NECT project, investigating teachers' understanding and their enactment of scripted literacy lessons that are designed to promote 21st-century competencies together with reading development.

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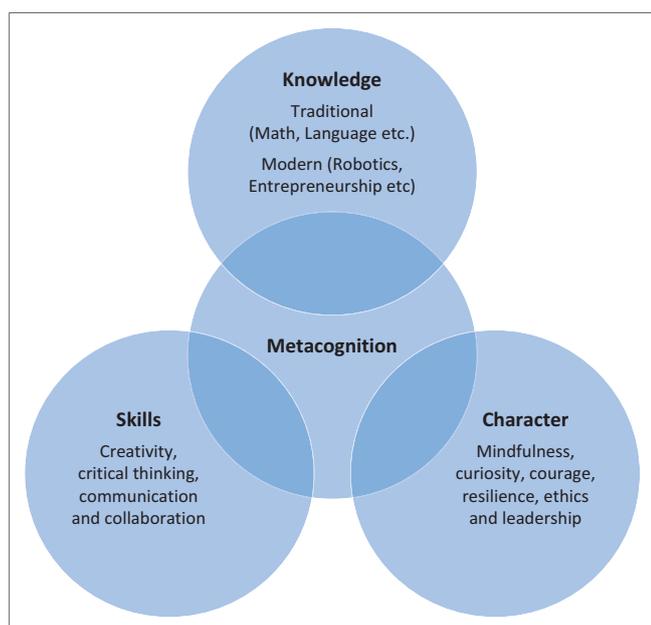
Infusing competencies in scripted lesson plans

Although competencies (for a fast-changing world) are often referred to as '21st-century skills' (Lavonen 2020; Niemi & Lavonen 2020), authors such as Ananiadou and Claro (2009:8) already differentiated between a skill and a competency, noting that 'skill' refers to the ability of an individual to 'perform a task or solve a problem' while a competency describes an individual's knowledge and ability to 'apply learning outcomes adequately in a defined context'.

In our pilot study, we refer to the Centre for Curriculum Redesign (CCR) (Bialik, Hall & Giebler 2018) (Bialik et al. 2018) when discussing the competencies because it framed the design of the scripted home language literacy lessons (NECT 2020a, 2020c). See Figure 1.

Firstly, the 'skills' category encompasses skilful communication, collaboration, creativity and critical thinking. To be able to navigate and engage successfully in a world of volatility, uncertainty, complexity and ambiguity (VUCA), learners should be able to communicate their ideas effectively, using various platforms (Trilling & Fadel 2009), while simultaneously listening actively and recognising the perspectives of others (Bialik et al. 2018; NECT 2020a). They also need to work together and think creatively to solve problems (Bialik et al. 2018; Lavonen 2020; Lieberman 1986) with action, while remaining reflective and realistic about the possibilities and limitations of their actions (Bialik et al. 2018). They need to think critically and introspectively, questioning and considering different perspectives to reach reasonable conclusions (Bialik et al. 2018; Snyder & Snyder 2008; Taimur & Sattar 2019).

Secondly, the 'character' competencies referred to in the CCR framework pertain to the development of dispositions of



Source: Bialik, M., Hall, C. & Giebler, M., 2018, *Competencies and subcompetencies: Proficiency levels*, Centre for Curriculum Redesign, Boston

FIGURE 1: The Centre for Curriculum Redesign Framework of competencies.

ethical behaviour. The ethics competency is crucial for ideas and actions such as combating climate change and advancing equity of diverse groups.

Metacognition can be linked to a growth-mindset, which includes 'understanding one's own strengths and weaknesses, setting ambitious goals of various scope, focusing on one's agency and having high self-efficacy, practicing perseverance (focusing on task), seeing value in what is being learned, learning from mistakes and accepting feedback' (Bialik et al. 2018:52). Thinking metacognitively requires self-regulatory skills such as self-observation, self-assessment and reflection of how one learns (Drigas & Mitsea 2020), and self-awareness of the consequences of one's decisions and actions (Guterman 2002). I include meta-learning as it forms part of the analytical framework for this study. Meta-learning refers to an individual's ability to reflect and adapt accordingly. Dweck (2010) also explains a growth-mindset consisting of persistent engagement, using all available resources and utilising processes and methods, which lead to deeper learning (Dweck 2010; Robinson 2017).

In the present pilot study, the challenge lies in affording teachers the opportunity to learn how to integrate 21st-century competencies into the subjects they teach (Gut 2011). One of the ways could be through scripted lesson plans as a foundation. Such plans provide pre-structured content with step-by-step instructions, aimed at achieving consistency of implementation across different schools (Beatty 2011; Hiebert 2017). These plans have several affordances, for example, that they improve education in underprivileged schools (Beatty 2011; Shalem et al. 2016), provide structure and routine (Beatty 2011), improve assessment scores (Borman, as cited in Wyatt 2014) and change ineffective practices (Shalem et al. 2016). Despite the affordances, there are challenges with their implementation. One of the common challenges across the literature of published studies is the lack of teacher autonomy (Beatty 2011; Datnow & Castellano 2001; Wyatt 2014). In this regard, Beatty (2011:398) found these plans, perhaps unintentionally, send a message of 'best practice' that could be perceived as a monopoly. Teachers might feel that the practices or methods in the plans are considered the only effective practices or methods, unintentionally disregarding teachers' prior knowledge and experiences. Despite these disadvantages, we are of the view that scripted lesson plans that explicitly include 21st-century competencies into literacy lessons could prove useful in the South African school context and that research needs to be conducted to investigate their effect on a large scale. In this regard, findings by Fleisch and Schoer (2014) confirm that scripted lesson plans implemented in Gauteng Primary Schools' Literacy and Numeracy Strategy (GPLMS) assisted teachers in developing purposeful classroom routines, leaving more time to focus on teaching.

Methods

A qualitative multi-site case study research design was used (Merriam 1998) for the study. The strength of a multi-site case study lies in the diversity of contexts represented by the

individual component cases (Bishop 2012). The 'bounded system' in this research are the four schools located in two provinces that were involved in the training programme, selected from peri-urban and township areas. The schools were selected purposefully (Merriam 1998) and in the schools the teachers were identified as participants in the study. This was based on the provincial departments inviting teachers to take part in the study. Five Grade 1 teachers were selected: two were from School 1, where the language of instruction is English and three were from School 2, where the teaching language is Sepedi.

The participants in this study agreed to take part in the research, after being invited through the provincial education departments to form part of the multi-level collaborative engagement between NECT and the Department of Basic Education (DBE). They had been trained in an established programme, using purposively designed competency-based scripted lesson plans (CLPs) developed by an experienced independent service provider sourced through the NECT. The programme consisted of three sessions, each comprising 2 days of training, spread over the period 2020–2021. The first author attended the training in order to familiarise herself with the materials, methods used and expectations. Data were collected in two phases over three teaching cycles, spanning a period of 6 months (Table 1). In the first phase of each cycle, the first author, together with a trained research assistant, observed lessons, which were also video-recorded. This was followed by an SRI with each of the teachers, using the video recordings. This was phase 2 of each cycle. Using a trained and experienced research assistant for data collection in the Sepedi schools was necessary because the author does not know Sepedi. The research assistant translated the questions and conducted the interviews in the peri-urban schools in Sepedi. An independent service provider was responsible for transcribing the data. The first author collected the data in the township school and took overall responsibility for interpreting the video recordings and observations in both phases, working closely with the research assistant when interpreting the data from the Sepedi schools.

We used ATLAS.ti 9, a computer-assisted qualitative data analysis software programme (CAQDAS), to manage and facilitate the coding process, analysis and the management of data. We used the software to obtain a deep understanding of the data, aiming to ultimately identify themes across the data (Bourke & Clark, 2006, 2021). We applied principles of the 'constant comparative' method to compare data within cycles and eventually between data sets (Kolb 2012; Merriam 1998). The unit of analysis was how the teachers understood and enacted or implemented the lessons that were designed to promote 21st century competencies.

The raw data from observation schedule notes, video recordings of lessons and SRIs were organised firstly into codes, which were then clustered together to form categories, using a rule of inclusion as per Maykut and Morehouse (1994) and Merriam and Tisdell (2016), and then into themes (Braun &

TABLE 1: Data-collection timeframes.

Cycle number	School	Teacher	Date	CLP Term/Week	Date set
Cycle 1	GS	P1	19.03	Term 1/Week 4	OS
	GS	P1	19.03	Term 1/Week 4	VO
	GS	P1	29.04	Term 1/Week 4	SRI
	GS	P2	23.03	Term 1/Week 4	OS
	GS	P2	23.03	Term 1/Week 4	VO
	GS	P2	12.04	Term 1/Week 4	SRI
	LS1	P3	08.04	Term 1/Week 7	OS
	LS1	P3	08.04	Term 1/Week 7	VO
	LS1	P3	09.04	Term 1/Week 7	SRI
	LS2	P4	19.04	Term 1/Week 5	OS
	LS2	P4	19.04	Term 1/Week 5	VO
	LS2	P4	20.04	Term 1/Week 5	SRI
	LS3	P5	12.04	Term 1/Week 8	OS
	LS3	P5	12.04	Term 1/Week 5	VO
LS3	P5	13.04	Term 1/Week 5	SRI	
Cycle 2	GS	P1	11.05	Term 1/Week 7	OS
	GS	P1	11.05	Term 1/Week 7	VO
	GS	P1	20.05	Term 1/Week 7	SRI
	GS	P2	20.05	Term 1/Week 7	OS
	GS	P2	20.05	Term 1/Week 7	VO
	GS	P2	25.05	Term 1/Week 7	SRI
	LS1	P3	17.05	Term 2/Week 3	OS
	LS1	P3	17.05	Term 2/Week 3	VO
	LS1	P3	20.05	Term 2/Week 3	SRI
	LS2	P4	11.05	Term 2/Week 1	OS
	LS2	P4	11.05	Term 2/Week 1	VO
	LS2	P4	14.05	Term 2/Week 1	SRI
	LS3	P5	15.05	Term 2/Week 2	OS
	LS3	P5	14.05	Term 2/Week 2	VO
LS3	P5	20.05	Term 2/Week 2	SRI	
Cycle 3	GS	P1	03.08	Term 2/Week 1	OS
	GS	P1	03.08	Term 2/Week 1	VO
	GS	P1	12.08	Term 2/Week 1	SRI
	GS	P2	06.08	Term 2/Week 1	OS
	GS	P2	06.08	Term 2/Week 1	VO
	GS	P2	11.08	Term 2/Week 1	SRI
	LS1	P3	01.06	Term 2/Week 5	OS
	LS1	P3	01.06	Term 2/Week 5	VO
	LS1	P3	07.06	Term 2/Week 5	SRI
	LS2	P4	07.06	Term 2/Week 5	OS
	LS2	P4	07.06	Term 2/Week 5	VO
	LS2	P4	14.07	Term 2/Week 5	SRI
	LS3	P5	04.06	Term 2/Week 5	OS
	LS3	P5	04.06	Term 2/Week 5	VO
LS3	P5	09.07	Term 2/Week 5	SRI	

Clarke 2006, 2021; Henning, Van Rensburg & Smit 2004; Strauss & Corbin 1998). Table 2 shows an example hereof, indicating how teachers' prior knowledge converged with classroom practice. Secondly, patterns across the categories were created to form three overarching themes. All ethical considerations were observed with regard to informed consent, confidentiality, and trust (Lichtman 2012; Ryan 2011).

Findings

The research set out to explore teachers' understanding and enactment of scripted competency-based literacy lessons. The data showed that teachers' prior knowledge and experience manifested in how they engaged with 'competencies for a changing world', which we discuss under three themes.

TABLE 2: Example of how raw data were coded using a rule of inclusion and emerging categories.

Category	Rule of inclusion	Example from raw data	Codes
Inclusion of well-understood competencies	Evidence of teachers including competencies that are well understood	'Learners' review each other's answers thus they critically think about errors'. (P2 OS T1 C2 PG2)	Enactment of critical thinking
		'[...] allowing children to voice out. And then when they start saying out their opinions that is where now the vocabulary comes out'. (P2 SRI T1 C1 PG8)	Enactment of communication
		'Possibilities are perhaps she might be sick, perhaps something bad happened to her (you know). So now the part of caring comes up to play'. (P1 SRI T2 C2 P3)	Enactment of ethics

Teachers' familiarity with certain competencies was reflected in their understanding

The data showed that when teachers had relevant prior knowledge of competencies, they were better positioned to leverage these as a basis for learning during the training and in the enactment of the lesson plans. We surmise that teachers' prior knowledge of critical thinking, collaboration, communication and ethics could stem from these competencies featuring in the curriculum of the foundation phase which emphasises developing learners that can apply creative and critical thinking skills to identify and solve problems (SA Department of Basic Education [DBE] 2011a:5).

Firstly, with regard to critical thinking, the data suggest that teachers were aware of the importance of literacy in developing learners' critical thinking skills, as supported by the following statement: 'Critical thinking helps learners [...] literacy is embedded there'. Teachers appear to recognise that the type of questions asked in the lesson plans prompt learners to think more deeply and critically, best captured by the following excerpts: 'Open-ended questions [...]. it's critical thinking'; 'think deep about them, you must analyse them and be able to identify problems, be able to solve them' and 'Critical thinking, where one can go deeper and ask questions, [...] then you can analyse, examine'.

Teachers also elaborated on how they purposefully focused learners' attention on learning skills that enabled them to analyse, compare and explore, highlighted by the following view: 'explicitly and purposefully bringing out that character of making children to see the differences and similarities which is a very, very important thing'. There is also evidence that the teachers are aware that developing critical thinking skills from a young age can equip learners with life-long skills: 'knowing that whatever problem or challenge he meets, he can be able to face it head on'. There seems to be clear recognition that teachers understand what critical thinking is, how it can be developed and why it is important.

Because teachers were already familiar with this competency, the CLP training could have solidified and deepened teachers' understanding by making explicit how this competency stimulates thinking in learners. Evidence of this was apparent in the observations and video recordings where we noted the teachers' use of prompts and questioning in the lessons: 'When learners respond, the teacher asks the rest of the class if the response is not only correct but how or why that response was reached'. Another example was how a teacher stimulated critical thinking by encouraging learners to predict how the story would unfold, captured as follows: 'The learners seemed to follow quite well throughout the reading and making up what could be happening in the story'.

Secondly, teachers' familiarity with the collaboration competency also enabled their understanding and enactment in the lessons. Such a view is best summarised by the following excerpts: 'taught them to work together like when we do group guided reading for them to be able to work together'; and 'work nowadays need what, it needs cooperation'. As such, they were able to combine the skills of collaboration, communication and critical thinking into the lessons they taught, best captured by the following excerpt: 'Learners discussed in pairs what they did not like about the story and elaborated on their thinking'. The excerpt illustrates once more teachers' familiarity with this competency from the curriculum, where learners are expected to 'work effectively as individuals and with others as members of a team' (DBE 2011a:5). In addition, the foundation phase curriculum repeatedly suggests the use of small groups for group guided reading and paired reading activities in home language. As a result, teachers are accustomed to group and paired work because it is included in the curriculum and the experience they have of such activities that include collaboration among learners. However, facilitating group work requires more than simply placing learners into groups. It requires support from teachers to assist learners in determining each member's role, the processes to be followed within the group and the reflection to change these as the need arises (Grossman et al. 2019). It also means continuous monitoring of groups and providing guidance and prompts where needed to stimulate discussion (Grossman et al. 2019).

Thirdly, the data support the view that teachers had a fairly good understanding of the communication competency, describing it as the ability to express one's views and the exchange of ideas between two or more people. Examples that link their understanding to literacy include: '[...] allowing children to voice out. And then when they start saying out their opinions that is where now the vocabulary comes out'. The importance of this competency for a changing world was also articulated as follows: 'children must be able to communicate and be able to face the world out there'. They, however, recognised that the CLP deliberately drew the teachers' attention to this competency in their teaching: 'CPL methods are able to give our children a chance to discuss. Most of the time children discuss among themselves and

share ideas'. Their understanding of this competency can also be traced to the curriculum expectations of teachers to 'communicate effectively using visual, symbolic and/or language skills in various modes' (DBE 2011a:5).

Lastly, the ethics competency was well-understood, with teachers associating the importance of this competency with developing sound moral values in learners, '[...] to do with behaviour'. Teachers were also able to explain how it was integrated when enacting the CLPs. The following examples aptly summarise this view: 'Ethics, because that shows being good to others. After he hurt his friend's feelings, he found a solution which is ethical'. Moreover, during a shared reading lesson, one teacher noted the inclusion of the competency as follows: 'Monene's mother was doing a good work in the community of protecting the animal(s)'. The data indicate the inclusion of the competency in literacy lessons using stories to develop and make learners aware of acceptable rules of behaviour. Teachers' prior understanding of the ethics competency could stem from the inclusion of the Life Skills study area, personal and social well-being, in the curriculum where topics such as morals, Human Immunodeficiency Virus/Acquired Immuno Deficiency Syndrome (HIV/AIDS), rights and responsibilities, cultural and religious tolerance and the values within the constitution are discussed (DBE 2011b). Moreover, within the home language curriculum in shared and group guided reading, teachers are guided to include 'evaluation and appreciation questions' (DBE 2011a:11). These questions are phrased to include prompts such as 'Is it right that [...]?'; 'What did you think when [...]?' and 'Why did you like or dislike [...]?'. These questions encourage learners to think about the story from an ethical perspective. These types of questions are included within the foundation phase curriculum from Grade 1 and therefore teachers' exposure to the ethics competency formed their foundational knowledge.

Established methods and misconceptions could be stumbling blocks to teachers' learning

The data seem to support the view that teachers' prior knowledge combined with years of teaching experience, in some instances, resulted in the use of outdated practices in the classroom. In other words, previously entrenched methods, and ways of thinking sometimes created inflexibility and served as barriers to their learning. There were instances during the observations when teachers' strategies deviated from the CLPs, and they reverted to their previous style of teaching without including new knowledge. This could be a reverting to what Han (2013) refers to as outdated or fossilised practices where teachers disregard new information. A consequence of such practices, as reminded by Beatty and Feldman (2012), is that enabling deep and lasting 'pedagogical change' for teachers is challenging. For instance, in cycle 1 in a lesson on segmenting and blending words, learners are encouraged to repeat in choral fashion what the teacher says but are not given opportunities to practise and learn independently. This was captured in the observation field notes:

'There is some interaction in the classroom, the lesson is teacher-centred and quite repetitive with learners segmenting and blending the words. The learners collectively answer or respond to the phonic segmentation'. Another example was the poor utilisation of the classroom space during teaching. In cycle 1, 'the teacher is mostly stationed at the front of the class and does not move between learners'.

During cycle 2 'The teacher only used the front of the classroom while reading and showing the pictures'. Although the content was taught as per the CLPs, it did not occur to the teacher that using a particular style of teaching would limit learning opportunities for children seated at the back of the classroom. Longer training sessions with more opportunities for teachers to practise may have been more beneficial and prevented teachers from reverting to fossilised practices, thus enabling lasting pedagogical change.

On another occasion, a teacher applied strategies that did not take into consideration how much information children can internalise at any given time, captured as follows in the field notes: 'Perhaps too many instructions at a time. Not a step-by-step approach'. Of importance here is how much young learners in the foundation phase can process at any given moment, something referred to in the literature as a cognitive load. Gravett (2022) argues that scaffolding activities can assist in reducing the cognitive load on learners. The (NECT) training handout indicated step-by-step instructions for learners. Thus, by providing too many instructions, the teacher disregarded the training and reverted to her old style of teaching. While the first author did not delve into a conversation with the teacher about why she disregarded the training, our assumption is that like most teachers who have not completely internalised new learning and made it part of their repertoires, there would be a tendency to revert to fossilised teaching practices (Han 2013) when under pressure.

One of the reasons why teachers reverted to entrenched methods of teaching could, in our view, also be linked to a lack of understanding of how children in the foundation phase learn. This was evident when teachers explained their understanding of some of the competencies. For example, the inclusion of meta-cognition in the lesson was explained by one of the teachers as follows:

'they (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" and in a shared reading, I'm connecting to the story, they also then get triggered to also think about their own thinking.'

From these utterances, it would seem that teachers are of the view that children will develop these skills spontaneously and that very young learners would be able to correct themselves without guidance. Foundation phase learners require much scaffolding and numerous prompts to think more metacognitively (Chen & McDunn 2022). Another example during one of the SRIs was an explanation of a growth-mindset as the ability to: 'correct themselves. For one to see his mistakes'. Teachers' assumptions that this will

automatically take place indicates them underestimating the crucial role they play in engendering this through their pedagogical choices and use of prompting questions, words and phrases. These examples illustrate that while the teachers had some understanding of what metacognition means, they may not have a full understanding of children's learning and the appropriate pedagogical practices to elicit it.

Another way in which teachers' outdated pedagogical training served as a stumbling block for new practices is highlighted by one of the very experienced teachers' views that the CLP training content was not age-appropriate. This is highlighted by the following response in the SRI:

'So I was not happy when I saw in the CLP that we were to do the writing in capital letters because according to my knowledge and how we had been trained, my knowledge was that a learner would learn capital letter when he is in Grade two.'

The Grade 1 home language curriculum systematically includes the letter formation of frequently used capital letters in terms one and two and requires the writing of all capital letters by the end of Grade 1 (DBE 2011a). The teacher's misinformation speaks to:

- a reliance on outdated teaching practices (possibly learned 31 years previously),
- an unfamiliarity with the current curriculum requirements and;
- an inability to reconcile the CLP guidelines with her teaching. Experience on its own does not necessarily serve this teacher well; a reliance on entrenched teaching practices has also created a barrier to new learning.

Teachers' prior knowledge and experience coupled with new learning elicited experimentation

On the other hand, the Grade 1 teachers' past experiences and prior knowledge also served as a stimulus that prompted thinking beyond the scripted CLPs in home language literacy lessons. Teachers used their pedagogical content knowledge (PCK), prior knowledge and past experiences to make adaptations to the lesson plans. There are a few pertinent examples in the data. The first example is that with regard to group work activities, one teacher explained why she adapted the group activity to working in pairs, which is captured as follows:

'as a whole group that didn't all get a chance to say something based on the story, so, during that [paired learners] each learner gets an opportunity to speak. Some learners may be shy to speak in front of the whole group.' (P1 Female Grade 1 Teacher).

A second example is how the established and purposeful classroom routines were adapted. While the training handout included a morning mindfulness and concludes with 'end of day reflection' (NECT 2020a, 2020c), teachers adapted this activity, incorporating a mindfulness session during the day, saying the following:

''It was to help calm them. Calm them down, because they were coming from their lunch break and to also help them concentrate'';

''The learners seemed relaxed after the mindfulness exercise just after the long break'' and ''Mind you they are coming from the break, I wanted to bring them back to the class. Yes, I wanted them to refresh and stay away from the commotion they normally have during break, so that their minds can come back to class and be able to focus.'''

A third example is adaptations made to include additional teaching aids to accommodate their learners. By way of example, one teacher used a big book, flashcards, visual representations on the projector screen and a globe to illustrate to learners the distance between China and South Africa. Discussing this deviation from the training manual during the SRI, the teachers justified their use as follows: 'the real purpose of using teaching aids is to bring reality home'. A similar example discusses a different teacher's adaption of teaching aids provided by the NECT:

'I was supposed to use a flash card and show them the word like this first, and say REMA you see? So, I did not like this font, it is too small for them.'

The examples above illustrate that the teachers' prior knowledge of learners and the classroom situation, their years of experience in the classroom and an understanding of their current learners enabled them to adapt the learning from the training to support a positive classroom environment.

Another example of how teachers were able to transfer or adapt information from the training into their classroom is evident in the observation field notes:

'The teacher practises with the learners before she lets them do the writing. The teacher also practises the phonics with the learners before she poses questions on forming words while sounding the phonic letters.'

In this example, the teacher provides support to learners through her demonstrations and whole class practice sessions. The additional scaffolding contributes to learners' confidence to engage as instructed by the teacher, including multiple opportunities for learners to practise.

Discussion

Training and development opportunities for teachers in South Africa over the last two decades have been numerous and have at best shown mixed results (Fleisch & Schoer 2014; Howie et al. 2012; Taylor 2019). These opportunities were directed towards improving teachers' understanding of curriculum changes, content knowledge (Aunio et al. 2021; Shalem et al. 2016) and improving children's learning outcomes (Kimathi & Rusznyak 2018; Taylor & Van Fintel 2016). Previous researches on the use of CLPs have also been tried and tested by the DBE showing improvements in time management, use of routines and pedagogies (Fleisch & Schoer 2014; Shalem et al. 2016). However, the lesson plans in themselves did not improve teachers' subject knowledge and entrenched methods of teaching (Shalem et al. 2016). This has led to some despair in the sector, especially when learning

outcomes as measured in international benchmark tests continue to show very little improvement. Thus, to embark on yet an additional set of training this time combining CLPs with competencies could be viewed as a waste of resources and teachers' time. While acknowledging the failure of many previous training and development opportunities, we are of the view that this is insufficient reason not to invest in such opportunities for public school teachers.

In this pilot programme, the results are indeed mixed, but they also point to areas of improvement for the providers of training and for areas of follow-up in the classroom. On the positive side, there is clear evidence that teachers' experiences and relevant prior knowledge positively impact on how they learn new knowledge and on how they organise, interpret and implement it. This resonates with the principles of adult education and training, as outlined by Knowles, Holton and Swanson (1998). These include the importance of understanding the benefits of learning, recognising that life experiences are important resources of learning, as well as their readiness, orientation and motivation to learning. All new knowledge is filtered through a framework of existing knowledge (Knowles et al. 1998) and affects 'how judgments are made about this information, and what students are able to understand and remember' (Haslett, France & Gedye 2011:7). Drawing meaningfully on prior knowledge therefore impacts positively on how, in this study, teachers, 'remember, reason, solve problems, and acquire new knowledge' (Bransford & Johnson 2004:10). Experience also influences how adults approach learning, assimilate new information and transfer new knowledge (Miller 2000). In this study, we have found that teachers were able to adapt the CLPs to suit the circumstances of their individual classroom contexts and even make judgements about the unsuitability of some resources (e.g., flashcards). The evidence points to the possibility of a growth-mindset, albeit small, as the teachers actively engaged with new knowledge, resources, processes and methods to try other approaches, qualities that are linked to intrinsic motivation and lifelong learning (Dweck 2010). The data suggest that teachers were expanding and deepening their understanding (Dweck 2010; Robinson 2017). We argue that the nature of the training programme, followed by enactment in classrooms and further support from reflective sessions with teachers during the SRIs, contributed towards deepening teacher learning. Although the SRIs formed part of data collection, it also served an important function in making teachers' pedagogical thinking visible by giving them an opportunity to articulate their 'pedagogical beliefs, practical knowledge and theory-in-use behind' their actions (Valli, Perkkilä & Valli 2014:126).

On the flip side, while there were definite gains observed during this pilot project, there were also many challenging aspects. The first is that some teachers reverted to fossilised practices and deviated from the scripted CLPs. Examples from the data of fossilised practices include teacher-centred lessons with minimal learner engagement and complex instructions to learners with little scaffolding. The data indicate that teachers' prior knowledge combined with years

of experience sometimes served as a barrier. Their extensive prior classroom experiences resulted in certain habits of mind and presuppositions hindering the learning of new ideas and ways of thinking (Green 2002). Another challenge was teachers' misunderstanding of certain competencies. These include the metacognition, growth-mindset, creativity and mindfulness competencies. It is not unusual that teachers struggled with understanding these 21st-century skills and how it can be applied in the classroom. Thus, we acknowledge the importance of supporting teachers through deliberate pacing, sequencing and scaffolding in scripted lessons. From a training and development perspective, more attention should be attributed to learning transfer and transformation of practice, teachers reflecting on their learning and implementation and improved support for implementation of new knowledge in the classroom. The importance of teachers learning to apply thoughtful and deliberate practice systematically and consistently into everyday practice is important in fostering deeper learning.

It is therefore important in the training and reflection sessions to acknowledge teachers' experiences and practices and use these as a resource for reflection and analysis (Belzer 2004). During the pilot study, the teachers received training and then implemented the CLPs in their classrooms. It was, however, during the SRIs that teachers had the opportunity to reflect on their experiences from both training and enactment to further their understanding and identify areas for improvement which contributed towards their deeper learning.

Another obstacle pertaining to teacher learning that emerged in this study was a general lack of understanding of how children learn and develop. Such an understanding would include elements such as how learners develop cognitively, socially, physically, emotionally and linguistically (Darling-Hammond & Baratz-Snowden 2005). This kind of deep knowledge of children is what Shulman (1986) wrote about as the essential knowledge for teachers, as it has direct bearing on other classroom arrangements such as group dynamics, learner interaction with other learners and teachers, learner motivation or learner difficulties (Liakopoulou 2011). Teachers of the young need to understand developmental progression in learners and develop a pedagogical stance that links their stages of development to learning (Feiman-Nemser 2001). Such an understanding can help teachers to determine if learners are ready to learn specific concepts or to find appropriate ways to assist and guide learners (Bransford & Johnson 2004; Darling-Hammond & Baratz-Snowden 2005). An understanding of how children learn and develop should form the heart of any training programme. Without it, learning will be superficial with little or no transfer to practice.

Conclusion

The argument that training and development does not work or results in mixed reactions is insufficient motivation to stop pilot programmes that allow teachers and the learners they teach to learn new skills and competencies to prepare them

well for an increasingly unknown future. Thus, despite the less than desirable uptake of learning in this programme, teachers' experience and relevant prior knowledge impacted positively on how new knowledge was organised, interpreted and implemented. However, teachers' fossilised practices, and a weak understanding of how children learn and develop, compromised their learning and enactment in the classroom.

In conclusion, we can ask if deeper learning took place for our teachers in this study or not. To some degree, it did but learning transfer was sometimes superficial. We realise that the training and development opportunities did not pay sufficient attention to transfer and transformation of practice – this is a valuable learning for developers and trainers. In this regard, teachers need to be taught how to reflect on their learning and implementation, combined with ongoing support for implementation of new knowledge in the classroom.

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Authors' contributions

S.C. collected and analysed the data and wrote the literature with the ongoing supervision and contribution of S.R. N.P. wrote the discussion and edited the final copy.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Johannesburg Faculty of Education Research Ethics Committee (No. SEM 1-2020-013).

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Data availability

The authors confirm that the data supporting the findings of this study are available within the article.

Disclaimer

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References

Ananiadou, K. & Claro, M., 2009, *21st century skills and competences for new millennium learners in OECD countries*, ERIC database, ED529649, OECD Publishing, Washington, DC.

- Aunio, P., Korhonen, J., Ragpot, L., Törmänen, M. & Henning, E., 2021, 'An early numeracy intervention for first-graders at risk for mathematical learning difficulties', *Early Childhood Research Quarterly* 55, 252–262. <https://doi.org/10.1016/j.ecresq.2020.12.002>
- Beatty, B., 2011, 'The dilemma of scripted instruction: Comparing teacher autonomy, fidelity, and resistance in the Froebelian kindergarten, Montessori, direct instruction, and success for all', *Teachers College Record: The Voice of Scholarship in Education* 113(3), 395–430. <https://doi.org/10.1177/016146811111300305>
- Beatty, I.D. & Feldman, A., 2012, 'Viewing teacher transformation through the lens of cultural-historical activity theory (CHAT)', *Education as Change* 16(2), 283–300. <https://doi.org/10.1080/16823206.2012.745756>
- Belzer, A., 2004, "'It's not like normal school": The role of prior learning contexts in adult learning', *Adult Education Quarterly* 55(1), 41–59. <https://doi.org/10.1177/0741713604268893>
- Bialik, M., Hall, C. & Giebler, M., 2018, *Competencies and subcompetencies: Proficiency levels*, Centre for Curriculum Redesign, Boston.
- Bishop, P., 2012, *Multi-site case study*, 2nd edn., Mills, Durepos and Wiebe, Thousand Oaks, CA.
- Bransford, J. & Johnson, M., 2004, 'Contextual prerequisites for understanding some investigations of comprehension and recall', in D.A. Balota & E. J. Marsh (eds.), *Cognitive psychology: Key readings in cognition*, pp. 431–439. Psychology Press, London.
- Braun, V. & Clarke, V., 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology* 3(2), 77–101. <https://doi.org/10.1191/1478088706ap0630a>
- Braun, V. & Clarke, V., 2021, 'Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches', *Counselling and Psychotherapy Research* 21(1), 37–47. <https://doi.org/10.1002/capr.12360>
- Chen, S. & McDunn, B.A., 2022, 'Metacognition: History, measurements, and the role in early childhood development and education', *Learning and Motivation* 78, 101786. <https://doi.org/10.1016/j.lmot.2022.101786>
- Darling-Hammond, L. & Baratz-Snowden, J., 2005, *A good teacher in every classroom: Preparing the highly qualified teachers our children deserve*, Jossey-Bass, San Francisco, CA.
- Datnow, A. & Castellano, M.E., 2001, 'Managing and guiding school reform: Leadership in success for all schools', *Educational Administration Quarterly* 37, 219–249. <https://doi.org/10.1177/00131610121969307>
- Drigas, A. & Mitsea, E., 2020, 'The 8 pillars of metacognition', *International Journal of Emerging Technologies in Learning* 15(21), 162–178. <https://doi.org/10.3991/ijet.v15i21.14907>
- Dweck, C.S., 2010, 'Even geniuses work hard', *Educational Leadership* 68(1), 16–20.
- Eadie, S., Villers, R., Gunawan, J. & Haq, A.N., 2021, 'South African curriculum: Infusing competencies for a changing world', in F.M. Reimers, U. Amaechi, A. Banerji & M. Wang (eds.), *An educational calamity: Learning and teaching during the COVID-19 pandemic*, pp. 277–312, Independently published, Paris.
- Fadel, C., Bialik, M. & Trilling, B., 2015, *Four-dimensional education: The competencies learners need to succeed*, Center for Curriculum Redesign, Boston.
- Fadel, C. & Groff, J.S., 2019, 'Four-dimensional education for sustainable societies', in J.W. Cook (ed.), *Sustainability, human well-being, and the future of education*, pp. 269–281, Palgrave Macmillan, London.
- Feiman-Nemser, S., 2001, 'From preparation to practice: Designing a continuum to strengthen and sustain teaching', *Teachers College Record* 103(6), 1013–1055. <https://doi.org/10.1111/0161-4681.00141>
- Fleisch, B. & Schöer, V., 2014, 'Large-scale instructional reform in the global south: Insights from the mid-point evaluation of the Gauteng Primary Language and Mathematics Strategy', *South African Journal of Education* 34(3), 1–12. <https://doi.org/10.15700/201409161040>
- Gut, D.M., 2011, 'Integrating 21st century skills into the curriculum', in G.Wan & D. Gut (eds.), *Bringing schools into the 21st century*, pp. 137–157, Springer, Dordrecht.
- Guterman, E., 2002, 'Toward dynamic assessment of reading: Applying metacognitive awareness guidance to reading assessment tasks', *Journal of Research in Reading* 25(3), 283–298. <https://doi.org/10.1111/1467-9817.00176>
- Gravett, S., 2022, *Lesson design for a fast-changing world – Foundation and intermediate phases of schooling*, Faculty of Education, University of Johannesburg.
- Green, C., 2002, 'Adult education: An approach for use in consumer education programmes', *Journal of Family Ecology and Consumer Sciences = Tydskrif vir Gesinsekologie en Verbruikerswetenskappe* 30(1), 10–20. <https://doi.org/10.4314/jfec.v30i1.52824>
- Grossman, P., Dean, C.G.P., Kavanagh, S.S. & Herrmann, Z., 2019, 'Preparing teachers for project-based teaching', *Phi Delta Kappan* 100(7), 43–48. <https://doi.org/10.1177/0031721719841338>
- Han, Z., 2013, 'Fossilization', in C.A. Chapelle (ed.), *The concise encyclopaedia of applied linguistics*, vol. 2, Wiley-Blackwell, Hoboken, NJ.
- Haslett, S.K., France, D. & Gedy, S., 2011, 'Pedagogy of climate change: An introduction', in S.K. Haslett, D. France & S. Gedy (eds), *Pedagogy of climate change, Geography, Earth and Environmental and Sciences Subject Center*, Wales.
- Henning, E., Van Rensburg, W. & Smit, B., 2004, *Finding your way in qualitative research*, Van Schaik, Pretoria.
- Hiebert, J., 2017, *The unfortunate reputation of scripted instruction*, *Teachers College Record*, viewed 16 March 2022, from <https://www.tcrecord.org/Content.asp?ContentId=22211>.
- Howie, S.J., Van Staden, S., Tshele, M., Dowse, C. & Zimmerman, L., 2012, *PIRLS 2011: South African children's reading literacy achievement summary report*, Centre for Evaluation and Assessment, Pretoria.

- Kimathi, F. & Rusznyak, L., 2018, 'Advancing professional teaching in South Africa: Lessons learnt from policy frameworks that have regulated teachers' work', *Education as Change* 22(3), 1–25. <https://doi.org/10.25159/1947-9417/4042>
- Knowles, M.S., Holton, E.F. & Swanson, R.A., 1998, *The adult learner*, Betterworth-Heinemann, Woburn.
- Kolb, S.M., 2012, 'Grounded theory and the constant comparative method: Valid research strategies for educators', *Journal of Emerging Trends in Educational Research and Policy Studies* 3(1), 83–86. <https://doi.org/10.10520/EJC135409>
- Lavonen, J., 2020, Reimers, 'Curriculum and teacher education reforms in Finland that support the development of competences for the twenty-first century', in *Audacious education purposes: How governments transform the goals of education systems*, pp. 65–80, Springer, Cham. <http://library.oapen.org/handle/20.500.12657/37709>
- Lavonen, J. & Korhonen, T., 2017, 'Towards twenty-first century education: Success factors, challenges, and the renewal of Finnish education', in S. Choo, D. Sawch, A. Villanueva & R. Vinz (eds.), *Educating for the 21st century: Perspectives, policies and practices from around the world*, pp. 243–264. Springer, New York.
- Liakopoulou, M., 2011, 'Teachers' pedagogical competence as a prerequisite for entering the profession', *European Journal of Education* 46(4), 474–488. <https://doi.org/10.1111/j.1465-3435.2011.01495.x>
- Lichtman, M., 2012, *Qualitative research in education: A user's guide*, 3rd edn., SAGE, Thousand Oaks.
- Lieberman, A., 1986, 'Collaborative research: Working with, not working on', *Educational Leadership* 43(5), 28–32.
- Maykut, P.S. & Morehouse, R.E., 1994, *Beginning qualitative research: A philosophical and practical guide*, Psychology Press, London.
- Merriam, S.B., 1998, *Qualitative research and case study applications in education: Revised and expanded from case study research in education*, 2nd edn., Jossey-Bass, San Francisco, CA.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Miller, N., 2000, 'Learning from experience in adult education', in A. Wilson & E. Hayes (eds.), *Handbook of adult and continuing education*, pp. 71–86, Jossey-Bass, San Francisco, CA.
- NECT, 2020a, *Competency-based learning programme home language English training hand out Grade 1 Term 2*, EdHub.
- NECT, April, 2020b, 'Infusing competencies into foundation phase literacy education: The competency-based learning programme', The Sandbox blog, viewed 07 November 2021, from <https://sandboxblog.home.blog/2021/04/13/infusing-competencies-into-foundation-phase-literacy-education-introducing-the-competency-based-learning-programme/>.
- NECT, 2020c, *Competency-based learning programme home language English training hand out Grade 1 Term 1*, EdHub.
- Niemi, H. & Lavonen, J., 2020, 'Teacher education in Finland: Persistent efforts for high-quality teachers', in L. Lefty & J.W. Fraser (eds), *Teaching the world's teachers*, pp. 153–178, Johns Hopkins University Press, Baltimore.
- OECD, 2018, *Policy brief on the future of work: Putting faces to the jobs at risk of automation*, OECD Publishing, viewed 19 April 2021, from <https://www.oecd.org/employment/Automation-policy-brief-2018.pdf>.
- Robinson, C., 2017, 'Growth-mindset in the classroom', *Science Scope* 41(2), 18–21. https://doi.org/10.2505/4/ss17_041_02_18
- Ryen, A., 2011, 'Ethics and qualitative research', in D. Silverman (ed.), *Qualitative research*, pp. 416–238, SAGE, Thousand Oaks, CA.
- Shalem, Y., Steinberg, C., Koornhof, H. & De Clercq, F., 2016, 'The what and how in scripted lesson plans: The case of the Gauteng primary language and mathematics strategy', *Journal of Education* (66), 13–36. <https://doi.org/10.17159/2520-9866/i66a01>
- Shulman, L.S., 1986, 'Those who understand: Knowledge growth in teaching', *Educational Researcher* 15(2), 4–14. <https://doi.org/10.3102/0013189X015002004>
- Snyder, L.G. & Snyder, M.J., 2008, 'Teaching critical thinking and problem solving skills', *The Journal of Research in Business Education*, viewed 19 September 2022, from <https://asset-pdf.scinapse.io/prod/1498557474/1498557474.pdf>.
- South Africa. Department of Basic Education, 2011a, *Curriculum and assessment policy statement Grades R-3 English home language*, viewed 06 October 2021, from <https://www.education.gov.za/Portals/0/CD/National%20Curriculum%20Statements%20and%20Vocational/CAPS%20English%20HL%20GRADES%20R-3%20FS.pdf?ver=2015-01-27-154201-167>.
- South Africa. Department of Basic Education, 2011b, *Curriculum and assessment policy statement Grades R-3 Life Skills*, viewed 06 October 2021, from https://www.education.gov.za/Portals/0/CD/National%20Curriculum%20Statements%20and%20Vocational/CAPS%20Life%20Skills%20%20English%20_%20Gr%20R-3%20FS.pdf?ver=2015-01-27-162204-953.
- Strauss, A. & Corbin, J., 1998, *Basics of qualitative research: Techniques and procedures for developing grounded theory*, 2nd edn, Sage, Thousand Oaks.
- Taimur, S. & Sattar, H., 2019, 'Education for sustainable development and critical thinking competency', in W.L. Filho, A.M. Azul, L. Brandli, P.G. Özuyar & T. Wall (eds.), *Quality education*, pp. 238–248, Springer, Cham.
- Taylor, N., 2019, 'Inequalities in teacher knowledge in South Africa', in N. Spaull & D.J. Jansen (eds.), *South African schooling: The enigma of inequality*, pp. 147–168, Springer, New York, NY.
- Taylor, S. & Van Flintel, M., 2016, 'Estimating the impact of language of instruction in South African primary schools: A fixed effects approach', *Economics of Education Review* 50, 75–89. <https://doi.org/10.1016/j.econedurev.2016.01.003>
- Trilling, B. & Fadel, C., 2009, *21st century skills: Learning for our lifetimes*, Jossey-Bass, San Francisco, CA.
- Valli, P., Perkkilä, P. & Valli, R., 2014, 'Adult pre-service teachers applying 21st century skills in the practice', *Athens Journal of Education* 1(2), 115–130. <https://doi.org/10.30958/aje.1-2-2>
- Wyatt, T.R., 2014, 'Teaching across the lines: Adapting scripted programmes with culturally relevant/responsive teaching', *Pedagogy, Culture & Society* 22(3), 447–469. <https://doi.org/10.1080/14681366.2014.919957>