

Phonics: A 'subject' or part of the bigger picture of reading? Views and practices of student teachers

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Abstract

This paper explores the extent to which student teachers, in their final year of a 3-year undergraduate programme teach phonics as part of a holistic reading programme linked to reading for meaning and for pleasure. It reports the results of surveys, lesson observations and interviews with a sample of students studying at one university in the Northwest of England. Findings suggest that student teachers do not always make these links and that the prevailing influence of school culture, notably mentors, on the practices of student teachers and their emerging subject knowledge can be significant.

Key words

Reading; phonics; student teachers; mentoring; subject knowledge.

Introduction

There is keen central interest in how well-prepared early career teachers are to teach early reading (Department for Education 2019a; DfE 2019b; Ofsted 2022a, 2022b). In England, using synthetic phonics as the prime approach to teaching children to decode unfamiliar words has been a principal policy since the Rose Review (Rose, 2006) and, while there is debate around the nature and the place of phonics (Johnston and Watson, 2005; Rose, 2006; Torgerson, 2019; Bowers, 2020; Wyse and Bradbury, 2022), it is generally accepted that phonics has a part to play in the teaching of reading (Beard, Brooks and Ampaw-Farr 2019).

There is a need for teaching skills and precision, but if this is not linked to the purpose of reading - meaning and pleasure - then phonics teaching may impact adversely on reading motivation (Lever-Chain, 2008) and/or result in 'readers' who merely 'bark at print' (Gough and Tunmer, 1986; Tennent 2015; Torgeson et al 2019). All teachers – including those new to the profession - need to have a conceptual understanding of reading (DfE 2019a) and to teach phonics balanced with other elements (Torgeson et al., 2019).

This study explores the extent to which undergraduate student teachers, in one HE institution, make connections between phonics teaching and reading for meaning and pleasure (DfE 2019a; DfE 2019b; Ofsted 2022b). As researchers and tutors on the programme, this was valuable to inform course design.

The teaching of reading: best practice

Effective teachers of reading foreground meaning making, linking phonics with other aspects of reading (Medwell et al., 1999; Pressley et al., 2001; Hall and Harding, 2003; Topping and Ferguson, 2005; Duke, Cervetti and Wise, 2018; Wyse and Bradbury, 2022) as conceptualised in different reading models (Gough and Tunmer, 1986; Scarborough, 2001; Tennent, 2015). The purpose of phonics learning is shared with learners explicitly in structured, discrete phonics lessons (Rose, 2006; Loudon et al., 2005; Carter, 2020a) as well as implicitly where the skills and knowledge are applied or taught through contextualised lessons (Medwell et al., 1999; Loudon et al., 2005).

Research denotes the importance of teachers planning frequent opportunities for children to apply

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their phonics skills and knowledge to read with increasing independence across the curriculum (Nathan and Stanovich, 1991; Rose, 2006; Ofsted, 2017; Carter, 2020b, Hendry, 2020). This promotes fluency and automaticity which frees cognitive space leading to greater understanding and pleasure (Nathan and Stanovich, 1991; Padeliadu and Giazitzidou, 2018). Effective teachers of reading identify and prioritise opportunities to share repeated readings of texts, model explicitly and ‘think aloud’ to support pupils’ cognitive load (Bilton and Tillotson, 2016, Rosenshine, 2012; Padeliadu and Giazitzidou, 2018). Moreover, such teachers make effective ‘in the moment’ teaching decisions that are responsive to children’s questions, barriers and misunderstandings (Griffith, 2017).

The connection between reading for pleasure and reading attainment (Ofsted, 2010; Cremin 2011; Cremin et al 2014; Centre for Literacy in Primary Education (CLPE), 2018; Ofsted, 2022b) has clear links with other studies identifying the importance of motivation for reading success (Wharton-McDonald, Pressley and Hampston 1998; Pressley et al., 2001) and should be embedded in any conceptual understanding of reading. While phonics teaching focuses on word-based content and skills, teachers can still be explicit about why children are learning letters and sounds and connections can be made to texts to contextualise the learning and profile its purpose (Carter, 2020a; Dombey 2010: Wyse and Bradbury, 2022); reading aloud can help children to see that reading can be pleasurable, thus encouraging volition. Without such links, there is a danger of children ‘doing phonics’ in purposeless isolation (Carter, 2020a).

Considering this, research examining the practice of student teachers has identified patterns in their professional development. Twiselton’s work (2000, 2007) within primary English, identified a range of practice ranging from Task Managers to Curriculum Deliverers and finally, Concept and Skill Builders. Students in the former categories were mostly concerned with task-setting or curriculum coverage, while those in the latter category were much more focussed on learning, teaching skills and concepts needed for children to become proficient readers (and writers). Arguably, only the student teachers able to make connections in their teaching would be able to achieve the same holistic approach to reading, as the more experienced teachers in Medwell et al.’s study (1999).

A more recent study (Hendry, 2020) focussed specifically on student teachers’ development as teachers of early reading suggesting that they progress along a broad, positive continuum to become teachers of reading from their first school-based placement to their role as a newly qualified teacher (now known as early career teachers ECT). The participants in Hendry’s (2020) study were post-graduate (PG) student teachers following an Early Years (EYs) route. All their school-based experiences were in year groups where the teaching of early reading was a priority (Nursery – Reception – KS1), thus affording them many relevant, focussed opportunities to apply centre-based literacy instruction (Meeks et al, 2016). The student teachers moved from noticing and emulating practice (first school placement), to observing and emulating, to applying and connecting (final school placement) and finally, as an ECT, to extending and augmenting their practice. Like Twiselton’s (2007) Concept and Skill Builders, student teachers in these final two stages were seen to be making links – here between discrete phonics lessons and learning to read for meaning and pleasure.

Research (Ellis, 2007; Pope, 2019; Hendry, 2020) shows the influence of in-field experiences and the community of practice on the priorities and motivations of student teachers. This suggests that those responsible for mentoring student teachers play a key role in deconstructing practice and, with respect to the teaching of reading, show how links can be made between different elements of reading; a relationship emphasised in the Core Content Framework (DfE 2019a). However, some schools have developed unhealthy practices around the teaching of reading by over-inflating the place of phonics and teaching, not with reading development in mind, but so children pass the high-stakes Phonics Screen Check (PSC) (Carter, 2020a and 2020b; Wyse and Bradbury, 2022). This has led to a disconnect between phonics teaching and reading for many children and teachers (Carter 2020a and

2020b). Such narrow practice can have a negative effect on children’s motivation (Younger et al, 2005, Lever-Chain, 2008) and reading attainment (Organisation for Economic Cooperation and Development, 2009) and may also have an impact on the practice student teachers employ when teaching reading.

We were interested in the extent to which student teachers, in their final placement on a three-year 5-11 general primary teaching route - where there is only one guaranteed Key Stage One school placement – are making connections like the EYs student teachers in Hendry’s study at the ‘applying and connecting’ phase of their training. The specific research questions were:

- To what extent do student teachers make connections between discrete phonics teaching and the bigger picture of teaching reading for purpose and pleasure?
- To what extent does the practice of mentors influence their connection-making?

Methodology and Methods

The methodological underpinnings of the study were rooted in grounded theory (Glaser and Strauss, 1967) as the focus of the research was to uncover the underlying processes relating to student teachers in this area so that we, as tutors, could intervene and move practice forward (Glaser, 1978). As seen from the presentation of literature in this field, research exists but none is directly connected to undergraduate student teachers and systematic synthetic phonics and as such, the collection and interpretation of this data, we hope, will generate or discover theory that can be acted upon, initially, at an institutional level (Glaser and Strauss, 1967). Although the collected data connects to a specific cohort in a specific context, it is hoped that ‘fuzzy generalisations’ (Bassey, 2001) may have validity to subsequent cohorts. Our participants were identified through purposive sampling (N=45). They were student teachers on their final placement (Hendry, 2020), 20 KS1, 25 KS2, who were therefore recognised as having experiences that would produce the most pertinent data (Denscombe, 2021). It was considered they should be able to reflect upon their experiences as they neared the end of their training (McIntyre, Hagger and Burn, 1994; Fish, 1995).

Themes that arose from the literature review, experiential data and conceptual frameworks were used to guide the observation and interview questions (Dey, 1993; Miles and Huberman, 1994) by generating a template for data collection and subsequent analysis (King, 2004). Themes to inform the data collection and subsequent analysis are presented in Figure 1. Initially, student teachers were asked to complete an online survey towards the end of their final placement to gather their professional views around early reading (N=45). The general survey approach aimed to verify the presence and generalisability of template themes to the whole cohort (Robson and McCartan, 2016; Denscombe, 2021), which would then be explored in further depth across a more focused voluntary response sample (N=7) from the original purposive sample. Phonics lessons taught by students from this sample were observed by the researchers to provide a shared context to frame the semi-structured interviews around their practise in action.

Focussed voluntary response sample

All 7 voluntary participants were in their final year of training and all had successfully completed a KS1 and KS2 professional placement in previous years. In this final placement, all trainees were expected to teach early reading, including phonics teaching. If placed in a class where daily phonics teaching was not timetabled, students were required to complete an Early Reading Professional Learning Task (ERPLT). This task included teaching discrete phonics and the application of phonics (for example in guided reading). Thereafter, they were expected to use this knowledge to support the progression of all readers in their base class, including those still insecure with word reading. Table 1. below indicates where participants were based (pseudonyms used to protect anonymity [Bloomberg and Volpe, 2019]):

Table 1. Participants base classes.

Base class timetabled daily phonics lessons	Base class did not timetable daily phonics lessons
Saira (Y1) Jo (Y1) Elaine (Y1)	Ruth (Year 4) Ellie-Mae (Y2) Charlotte (Y4) Ezra (Y3)

Reliability and validity:

Data analysis was deductive in that it was theory driven analysis (Bloomberg and Volpe, 2019). The themes were generated from the template analysis (King, 2004) and were the underpinnings of the data collection methods: survey, observation and semi-structured interview. Observations were used to discover and explain patterns of behaviour, interactions and relationships in a natural social setting (Bloomberg and Volpe, 2019). Themes from the template analysis were used to interpret the data to identify patterns. The themes became a code (Saldana 2016) that was also adopted to present the findings and discussion. Through mixed methods, triangulated approach of questionnaire, observation and semi-structured interview, researchers cross referenced and compared data and analysis across methods to check for validity of subsequent findings (Denscombe, 2021).

Ethical approval was sought and granted by the institution in line with the BERA guidelines (2018) prior to the commencement of the data collection, with students being clear that the project sat outside the processes that would award QTS, to overcome any potential power influence, student or researcher bias or manipulation of responses (Cohen, Manion and Morrison, 2018; Wisker, 2019).

Context

Our course stresses the importance of phonics as one necessary component in learning to read (Torgerson, Brooks and Hall 2006; DfE, 2019a; Wyse and Bradbury, 2022). Subject Content and Pedagogical Content Knowledge (PCK) (Shulman, 1986) are developed through university-based sessions including a module focussed on early reading and school placements. Formal teaching sessions are linked to assignments and audits that enable subject knowledge development to be monitored. Our partnership schools play a vital role in helping students further develop their PCK and to see links between research and practice (DfE, 2019a; DfE, 2021, Ellis, 2007).

Research Framework

Key research referred to in the literature review was used to identify desirable teaching practices linking phonics to reading for meaning and pleasure. These are shown in Table 2. and were used for data collection and analysis. This has been applied to the model of teaching found in most schools in England where daily discrete phonics lessons are taught and applied at other times (Rose, 2006).

Table 2. Research framework.

Discrete Lesson	Linking phonics to reading for meaning and pleasure: key aspects and indicative references	Classroom examples
	Profile purpose (Pressley et al, 2001; Rose, 2006; Flynn,2007, Louden et al,2005; Carter, 2020b)	Explicit message e.g. Today we are going to learn a new grapheme that will help us with our reading
	Model the application of content and skills (Medwell et al, 1999; Topping and Ferguson, 2005; Bilton and Tillotson, 2016)	Key skills of blending and segmenting are applied to new content knowledge. Modelling these skills and gradual release of responsibility so children are reading new words in each lesson.
	Meaning making (Medwell et al, 1999; Pressley et al, 2001)	Children read phrases and sentences in addition to individual words (links to ‘profile purpose’ above). Sentences/phrases are embedded in a relevant context. Word meanings are clarified.
Outside the Discrete Lesson	Create opportunities to practise and apply skills and knowledge (Rosenshine, 2012; Bilton and Tillotson, 2016; Ofsted, 2017; Padeliadu and Giazitzidou, 2018)	Provide frequent opportunities to model application and for children to practise: shared, guided and 1:1 reading. Adapt resources in other lessons that require children to read.
	Use assessment (Nathan and Stanovich, 1991; Griffith, 2017; Carter, 2020a, Hendry, 2020)	Ensure independent reading material is closely matched to current word-reading stage.
	Motivate (Wharton-McDonald, Pressley and Hampston 1998; Pressley, 2001)	Embed ‘Reading Aloud’ and a buzz about books to motivate children to become readers.

Findings

While some student teachers demonstrated practice that recognises phonics teaching as part of an holistic approach to the teaching of reading, others were making tentative links at best. On the initial questionnaire (N=45), participants were asked to explain to parents why phonics is taught. Data revealed that most student teachers could not clearly explain the place of phonics in teaching children to read. None of the responses coherently linked phonics teaching to reading for meaning or pleasure.

Only two of the respondents were able to offer an explanation that suggests phonics is one component of reading. For example:

Phonics involves the relationship between sounds patterns children hear in words and how they are written down. The aim of phonics is to teach children how to decode words. This decoding ability is a crucial element in reading success.

The majority – 43 participants - gave explanations equating phonics teaching with reading. Some suggested phonics helps with understanding words. For example:

To teach children how to read.

Phonics is taught because it provides children with the skills required to be able to read and then ultimately spell and write

By using phonics children can read and write, this is fundamental to their understanding of both.

Phonics aids children’s spelling and understanding of words. They can understand the sound of each letter and this will help them to decode and understand words that they have not seen before.

Two gave woolly responses that mention phonics skills but could not connect this to reading at all.

The questionnaire asked participants about key teaching practices outside and within discrete phonics sessions and practice was further explored through the observations and interviews.

Outside the discrete lesson - apply, assess, motivate (see Table 2.).

Apply

Responses from the questionnaire suggested that 37 respondents frequently modelled the application of phonics skills and knowledge through shared reading but that only 21 regularly used guided (group) reading or 1:1 reading. Interview data support this lack of ‘practice and apply’ time for some children. Some student teachers accepted their mentors’ practice while others questioned it.

Ruth described children in her year 4 class who received word-reading intervention but did not practise their reading outside of this. Books were sent home, but she lacked knowledge around school practices, and she could not state what the school’s adopted reading scheme was:

Erm...I’m not sure...sorry.’

Saira reflected and questioned practice she was experiencing:

On this placement there has been no guided reading. It’s on the timetable but doesn’t happen... It had a back seat. I felt some children could go further...’

Ellie-Mae's interview responses to questions about providing opportunities for children to practise and apply phonics skills and knowledge across the curriculum were vague. When asked what consideration she gave to this she answered:

Not very much.

Questionnaire data indicated that 35 participants claimed to consider the word reading stage of their learners and adapt reading material used in other lessons accordingly; only 10 participants could exemplify this – others spoke about other scaffolded strategies including using the teaching assistant or other children to read to them or providing pictures.

This finding is also reflected in the interview data. Some participants struggled to describe how they planned opportunities for children to practise and apply phonics skills and knowledge outside of the discrete phonics lesson. Reading material used across the curriculum was not usually adapted to align with word-reading knowledge. Teaching assistants read to those children with insecure word-reading skills, or they were paired with more independent readers. This again mirrored the mentors' practice. For example, Charlotte spoke about a group of children in her year 4 class who were insecure word readers and who received intervention lessons from a teaching assistant (TA). She described meeting their reading needs in lessons:

'Erm... I always sit with those who are on phonics intervention. No, I haven't changed the text for them. My teachers prefers that they do (read) it themselves to see what they can pick out.

Ruth taught a word-reading intervention (in year 4) for three weeks in lieu of the TA:

I did not consider adapting my lessons to enable these children to access the reading material... as the teacher never adapted her model texts to suit these children, I never thought to do this either as the HTLA or teacher always read this for them.

In contrast, some student teachers routinely made clear links and adapted reading material:

Jo:

I want them to be able to apply their phonics more. Not to think oh, I can't spell this word or read this word. I was teaching a maths lesson. It was resourced by the other teacher - I remember thinking 'they are not going to be able to read this' – I remember saying to my mentor, I didn't want to over-step the mark - but my mentor said, 'No that's fine we are changing it' so I changed wording on the worksheet.

Ezra:

I tried to make sure they could practise reading in other subjects. For example, in history there was a timeline activity - each picture had a description ... I made sure the activity was decodable and key words were in there so they could practise. I did this sort of thing quite a bit...

Assess

Questionnaire data indicated that 31 participants did not use or have access to assessment data for children in their base class receiving phonics instruction in groups taught by other teachers; this included where children in KS2 were having intervention lessons, usually with a TA. Interviews with the focus participants confirmed that this was common practice by their mentors. One student initiated changes to existing practice, supported by her mentor:

Ezra:

I had 4 KS2 children on individual phonics plans. During placement I tried to get them to be more independent – to apply their phonics - trying to get that balance - if I asked them to read independently, they would look at me like I had 4 heads - they didn't know how to apply skills and knowledge – they didn't see reading as something they could do by themselves, they

were used to having an adult sitting with them and reading for them. It was so drilled into them that they had support for it always. They didn't see it [reading] as enjoyable.'

Motivate

There was little evidence from any of the data to show where student teachers made links with phonics learning and enthusiasm for reading to motivate children to see the purpose and pleasure in reading. Only Ezra explicitly mentioned reading for pleasure in the discussion around the application of phonics (see quotation above).

Inside the discrete lesson (See Table 2.).

Purpose

Data suggested that profiling the purpose of phonics explicitly in the discrete lessons was not a priority. This was not mentioned in any interview and there was no evidence gathered in any of the observed lessons. Children were not reminded **why** they were learning a new sound.

Model: The application of content and skills to read new words

Questionnaire data showed that 44 participants said they modelled how to blend to read new words in all phonics lessons, but this was not evidenced in the observed sessions. Although children were expected to read new words containing the new GPC, only one of the participants modelled the application of new and previously learned content and skills to show children how to read unfamiliar words containing a new GPC. Jo did this by explicitly reminding children of the steps involved in successful blending.

In Charlotte's lesson, there was no reading at all; the aim of the lesson was merely for children to be able to recognise a new grapheme. Charlotte explained this was because a mentor had, 'told (her) they were not ready to read'. Paradoxically, children were asked to spell words containing the new grapheme and modelling was unclear. One child wrote 'u' before 'q'. When asked how they would help the child to remember the order, Charlotte answered:

I am not sure to be honest. I don't know how ...

Saira was teaching the 'ph' grapheme but did not make any links to prior learning to help children make explicit links between 'ph' and the letter 'f' (although she did anticipate confusion between ph and th). Children were asked to read words but were not supported to do this by having the steps involved in blending explicitly modelled. Explicit reminders of other key messages were also absent, for example, 'What do we do if we come to a word we don't know?'

Meaning making

Observed lessons saw students placing new vocabulary into oral sentences to make links with vocabulary development and distinguish between pseudo words. This aligned with the questionnaire data where 44 participants claimed to do this regularly. For example, Charlotte used words she felt children would not understand, into oral sentences and was able to say why:

...well, they had words for example quiz and quid - they wouldn't know what that (sic) means... that's why it's important otherwise...It would be like a nonsense word...if they didn't know what it means.

There were no observed opportunities for children to practise and apply skills and knowledge to read more than isolated words.

The mentoring of early reading

Findings from the data shared above demonstrated the influence of mentoring on student teachers' practices. Other examples were prominent throughout. Ellie-Mae and Charlotte had to complete the ERPLT outside of their base classes. Their mentors did not seem to value or support the professional tasks beyond allowing time for their completion. No provision was made for them to teach lessons where the phonics learning was applied; neither student received formal feedback on teaching they did as part of this development task and neither of their mentors engaged in professional discussions to enable them to make links to the reading needs of children in their base class.

Elaine's mentor intervened at the beginning of her placement when it was clear her PCK was insecure. After observing her teach her first phonics lesson early in the placement, he commented that she was not ready to plan and teach phonics effectively in their Y1 base class. A plan was developed to support her progress. The plan was limited to Subject Knowledge development around discrete phonics.

Discussion

The starting point for this study was to explore the extent to which primary undergraduate student teachers, on a course where there is only one guaranteed Key Stage One school placement, were making connections between phonics and other aspects of reading (Medwell et al., 1999; Pressley et al., 2001; Topping and Ferguson, 2005; Duke, Cervetti and Wise, 2018; Ofsted, 2022b; Wyse and Bradbury, 2022). The findings suggest that the professional journey described by Hendry (2020) is not guaranteed (Twiselton, 2000). While some participants were making links, others were not 'applying and connecting' by the end of their final school placement and indeed were operating at much earlier stages (Hendry, 2020), treating phonics lessons as a separate subject (Carter, 2020b). Key research tracking the development of students teaching literacy and reading in primary schools has focused on Postgraduate (PG) students (Twiselton, 2000; Hendry, 2020). It could be that student teachers following undergraduate routes into training develop in different ways to those on a PG course and further research into this is needed.

One of the most notable findings across almost all the participants, is that the purpose of phonics is not explicitly shared with children. There was also mixed evidence around participants modelling the use of phonics learning outside of the discrete lessons. Although 37 participants said they modelled how to apply phonics knowledge and skills through shared reading, this was not mentioned during interviews. Moreover, no participant mentioned reading aloud to children to model that reading can be pleasurable and therefore that phonics lessons are worthwhile. It may be that these things were a part of their practice but that they were not mentioned suggests it is not seen as a key aspect of teaching reading.

Subject Knowledge

Although beyond the remit of this study to draw firm conclusions, the focussed group data suggest patterns that concur with existing research and some that could warrant further study. Two distinct groups became apparent, with one group making more coherent connections than the other. Considering that Hendry's (2020) EYs participants had three teaching experiences in classes where the teaching of early reading is a focus, it would be reasonable to expect participants from this study, who were placed in KS1 for their final placement, to be making similar links. This was not the case. Two participants not making connections in practice were placed in KS1 for their final placement and one making the strongest connections was in KS2. To try to establish a possible reason for this, University assessment information on these participants was scrutinised; this indicated a possible link between content subject knowledge and practice. Those with secure content subject knowledge were more likely to have a developed conceptual understanding of reading and to demonstrate this both in their practice and through professional discourse during their interview. This suggests that gaining

experience in a year group where early reading is a focus may not by itself be enough to develop students into teachers who connect phonics with other aspects of reading.

Participants with insecure content subject knowledge presented as 'doing phonics' rather than teaching reading. In their observed lessons, there was a lack of the message, 'you can be a reader', (Medwell et al., 1999; Pressley et al, 2001) and errors were observed; follow-up interviews indicated they were driven by commercial schemes and success of a lesson was linked to children 'knowing a new sound' rather than learning to read (Carter 2020b). Outside of the phonics lessons, little consideration was given to adapting reading material and few opportunities were created for children to apply phonics skills and knowledge by practising reading. Such routines may promote dependency and a lack of reading confidence in children (Webster, Blatchford and Russell 2013) as well as stunt the development of fluency (Nathan and Stanovich, 1991; Ofsted 2017; Padeliadu, and Giazitzidou, 2018). Commercial phonics schemes were 'lifelines' because 'the planning is done' (Ruth). This suggests a reliance and the likelihood of them being used indiscriminately with a focus on delivery rather than learning (Twiselton, 2000). While commercial schemes may be supportive to those with less secure subject knowledge, pre-written plans cannot help teachers to be responsive to student needs (Griffith, 2017, Hendry, 2020).

In contrast, student teachers with more secure subject knowledge used adopted schemes as tools and were more critical. For example, in an observed lesson, Jo was teaching a group of year 2 children who had failed the Phonics Screen Check (PSC) and were revisiting lessons previously taught. She was told she could only use example words indicated in the scheme's lesson, but she had assessed that the children could sight-read these words and was frustrated that she was unable to incorporate other words to develop their confidence to tackle unknown words:

If they can read goat, toad, from the scheme then really, I should...they should be able to read other words like coat, roast, coach that have GPCs in they know...I mean that's reading, isn't it?

The importance of teachers having secure content subject knowledge when teaching early reading is not a new finding (Fielding-Barnsley, 2010; Binks-Cantrell et al, 2012). This study adds to the evidence-base linking effective teaching with secure subject knowledge (Medwell et al, 1999; Flynn, et al 2007; Coe et al, 2014; Flynn, 2021) and suggests how content subject knowledge may impact on pedagogical choices and ultimately the learners in the classroom. Although more research is needed, it appears that secure subject knowledge – as with Saira, Ezra and Jo - may facilitate the confidence to change or at least question narrow reading practice if experienced. These findings resonate with those presented by Hendry (2020). She notes how improvements in content subject knowledge allowed participants to 'respond and innovate' by the mid-point of their training (Nathan and Stanovich, 1991; Griffith, 2017).

Mentors

While crucial, secure content subject knowledge may not be sufficient alone to ensure good teachers of reading (Leader-Janssen and Rankin-Erickson, 2013). Focussed mentoring on the teaching of reading is key in enabling participants to make connections between phonics and the bigger picture of reading (DfE, 2019a, Ellis, 2007). Some mentors demonstrated a lack of purposeful engagement with the ERPLT. This may be because of the challenges to find focussed time in busy schools (Hendry 2020) but is likely to be a key reason for the underdevelopment of the student teachers in this crucial area.

This could also be linked to mentors' own subject knowledge: studies show that not all teachers are aware of their own subject knowledge gaps and some of these may be mentoring student teachers (Cunningham et al, 2004; Pope, 2019; Flynn et al., 2021). There is also the possibility that the teacher-

mentors were aware of their own subject knowledge in this area and did not consider it a strength. Primary teachers are generalists and student teachers are not always mentored by experts in the teaching of early reading.

The two students in this study making the strongest connections not only had secure subject knowledge, but also had mentors who shared reading assessment information and actively supported them to act on things identified by their subject knowledge. For example, Jo made the assessment-informed decision that mathematic word problems needed to be adapted to align with pupils' word-reading knowledge (DfE, 2013; DfE 2021). Having her mentor's support allowed Jo to gain confidence in her decision-making and to make connections between learning experiences, thus allowing her to develop more conceptual understanding (Shulman, 1986) and apply learning to a new context (Heikonen, et al., 2020). Similarly, Ezra was supported in the changes she made to existing classroom practice.

Elaine's mentor clearly helped her to develop to the point where she was beginning to think about phonics in a more conceptual way (Shulman, 1986) but although she made some progress, she continued to view phonics as her focussed priority with respect to the teaching of reading. Moreover, she described the impact of observing her mentor in limited functional terms which was indicative more of a 'task-setter' or curriculum deliverer rather a Concept and Skills Builder (Twiselton,2000). This was influenced by her mentor's practice:

It helped me massively because I could gather ideas for teaching

Although her mentor had helped her to improve phonic PCK, there was no evidence that support was given to make connections between phonics and other aspects of reading. That the school has a Phonics Lead, whose role is separate from the Reading Lead, may be significant here as it suggests the school views phonics as separate to reading (Carter, 2020b). Student teachers' subject knowledge will develop within a school's culture (Pope, 2019) and they may not be challenged to view reading in a more conceptual way.

Interestingly, Saira was based in the same school as both Elaine and Ellie-Mae and consequently subject to the same contextual influences. However, her subject knowledge was secure and, unlike them, she was questioning some of the practice she was experiencing. Those with insecure content subject knowledge appear to emulate practice (Hendry, 2020) to 'fit in' (Lacey 1977) **and** probably because they do not realise that what they are experiencing is narrow practice (Cunningham et al, 2004). It may also be because they do not have the cognitive space to think beyond the demands of each lesson (Sweller, 2011).

Conclusions and Implications for future practice

The findings from this study show that some student teachers, on the brink of qualification, treat phonics teaching as a 'subject' that is separate from reading in its broadest sense. Insecure content subject knowledge appears to narrow pedagogical selection and limit the ability to link phonics teaching and learning with reading for meaning and pleasure. The sample size here is too small to draw firm conclusions but the results do raise a question regarding why some are not making links between phonics and other aspects of reading as they enter the profession, despite some espoused beliefs (Day, 1999).

Subject knowledge appears to have emerged as a main factor in student teachers being able to connect phonics to the bigger picture of reading both for themselves as teachers and therefore the learning of their pupils. It is suggested that limited content subject knowledge, (Pope, 2019) demonstrated by some of the participants, was a key factor in their inability to translate their beliefs

into practice (Pressley et al, 2001; Buckingham et al, 2013; Clark, Helfrich and Hatch, 2017; Flynn et al, 2021). Further research into the link between subject knowledge and undergraduate primary student teachers' pedagogical choices, is needed.

While secure subject knowledge is crucial, effective mentoring, focussed on how the different aspects of reading link together, is also key and this presents challenges in busy primary schools and where mentors are not subject specialists. Recent central directives (DfE 2019a; DfE, 2019b; Ofsted, 2022b) emphasise the importance of subject specific aspects of the ITT curriculum, and the centrality of early reading. Such directives are likely to place substantial demands on subject-focussed mentoring. Ideally all primary student teachers should have opportunities to learn from reading experts in school that will help them to make links and challenge 'piecemeal approaches' to subject knowledge development (Pope, 2019) but this has implications for the workload of such colleagues.

This research also supports previous findings showing the influence of in-field experiences on students' developing views and practice (Ellis, 2007; Pope, 2019; Hendry, 2020). Where student teachers are constrained by narrow practices (Carter, 2020a and 2020b; Wyse and Bradbury, 2022) and have limited subject content knowledge this may contribute to an ongoing negative cycle. Further research into how in-service teachers understand and view the place of phonics and the challenges around current approaches within schools and the use of commercial schemes is needed.

There are broad challenges for all ITE providers in ensuring that: all student teachers have adequate knowledge bases (Cunningham et al, 2004; Clark, Helfrich and Hatch, 2017); all school-based experiences develop students appropriately and mentors in school are supported to enable this. For our programme, next steps include reviewing how subject-specialist university tutors work with school mentors who are not experts in early reading to help students prioritise content subject knowledge development and make connections between phonics and reading for purpose and pleasure. This makes sense educationally as they hold important assessment data on student teachers – it could see the development of a more dynamic partnership (Ellis, 2007) that develops a shared understanding of expectations and the nature of reading.

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