

# **Thesis**

## **Evidence-based practices: Reading comprehension instruction and teacher self-efficacy**

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## **Dedication**

This study is dedicated to  
my dearest husband  
for constantly being by my side,  
for being my best friend and critique,  
for accepting me flaws and all,  
and for loving me whole-heartedly  
all in God's grace.

## **Abstract**

Despite growing evidence informing educators for effective reading comprehension (RC) teaching, it is unclear how extensively this evidence base is implemented in practice and teacher self-efficacy can have a role to play. Recent estimates suggest about 15% of U.K. students are below expected levels of attainment by the end of KS2. While Educational Psychologists can support the implementation of evidence base in classrooms to raise literacy standards, there is a lack of U.K. studies that examined the extent that the evidence base in RC instruction is implemented in practice and how confident teachers feel about implementing them.

The aims of this study were three-fold. Firstly, to explore the extent that U.K. teachers used evidence-based practices when teaching RC. Secondly, to investigate teacher confidence levels in using them. Lastly, to examine the relationship between teacher self-efficacy and the extent they used evidence-based RC instructional practices. A mixed methods non-experimental fixed research design was used. The questionnaire sent out to 379 KS2 teachers resulted in 29 responses (i.e. 7.7% response rate). A subset of nine teachers participated in the systematic classroom observation of their RC lessons and a further subset of three teachers participated as case studies in follow up interviews.

The results indicated that some evidence-based practices were incorporated in KS2 RC instruction and teachers generally felt confident about their implementation. However, the range of evidence-based practices used was limited and it was not always practices with the strongest evidence base. A positive relationship between teacher self-efficacy and the extent that teachers incorporated evidence-based RC instructional practices was observed, although this relationship appeared complex. The findings from this exploratory study contributed towards the existing gap in research on implementation of evidence based teaching practice for RC instruction in U.K. schools. Implications for professional practice and recommendations for further research are considered.

## Declaration and Word Count

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

Signature:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

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## Introduction

Reading comprehension is generally the main goal of reading and it is critical for both academic and lifelong learning. It can be defined as the intentional thinking that occurs when readers actively engage in and reflect on text that they have read in order to extract meaning that makes sense to them (e.g. Cain, 2010; Department for Education and Skills (DfES), 2005; National Reading Panel, 2000). In recent years, both practitioners and researchers have increasingly shifted their attention away from research in early word reading literacy skills to more complex reading comprehension skills. Based on the extensive research that has been conducted, there is now a substantial evidence base about reading comprehension development and reading comprehension instruction. In addition, empirical evidence also shows that teacher self-efficacy can influence the teaching of reading. These are all areas that Educational Psychologists (EPs) can uniquely contribute towards as part of their service delivery.

For an instructional practice to be considered 'evidence-based', it must be consistent with existing scientific evidence in established theoretical knowledge and recommended practice. It should ideally be supported by a number of independent randomised controlled trials to demonstrate its specific efficacy but such 'gold standard' empirical evidence is often difficult in educational research so quasi-experimental studies should also be considered. Hence, evidence-based practices can be defined as the use of teaching approaches, programmes or interventions that are consistent with current theory and are supported by empirical evidence (see Carter & Wheldall, 2008 for a more in-depth discussion).

It is widely recognised by educators that good literacy teaching is likely to enhance learner achievement so it becomes even more important that teachers utilise evidence-based practices when teaching reading comprehension. As Carter and Wheldall (2008) argue, in addition to being "reflective practitioners", teachers also need to be "scientist-practitioners" and ground their instructional practices on the findings from rigorous scientific research that has successfully identified the critical components of effective classroom practice. This will then maximise limited

classroom instructional time and ensure that all children are provided with effective reading comprehension instruction as part of quality first teaching.

This literature review demonstrates the evidence base for effective reading comprehension instruction. It begins with an introduction of established theoretical knowledge about reading comprehension development and the reading comprehension process before examining a range of recommended classroom practices in the teaching of reading comprehension. In order to understand teachers' instructional decisions in the classroom, the influence of teacher self-efficacy on classroom practice is also considered. The review concludes with an outline of existing government guidelines for the teaching of reading comprehension in the U.K. and an overview of the local context in which this study is conducted before considering the implications for EPs.

The studies that are included in this review are carefully selected to describe and critique the areas being discussed. Relevant studies are identified from comprehensive electronic databases including ERIC, Google Scholar, and Web of Science, as well as a number of journals related to literacy development and teaching. Peer reviewed journals and relevant book chapters within the field of literacy teaching are used to support the selection of international studies, systematic reviews and meta-analyses that indicate evidence for effective practices in reading comprehension instruction. Major studies that have been commissioned by national agencies to look into reading comprehension instruction in various countries are also included as they are often important references for school management and educators when developing school-wide policies and classroom practices. In order to be succinct, the abbreviation RC will be used to refer to reading comprehension from this point on.

## Chapter 1: Development of Reading Comprehension

Although RC may be an easy concept to recognise, it is actually a complex task that involves several levels of cognitive processes. Decoding processes to decipher printed words into mental representations of meaning units, cognitive analyses to make sense of the relationships between these meaning units, activation of relevant prior knowledge and experience, and generation of inferences as information is integrated are just some of the knowledge and skills that a child needs to acquire in order to become a skilled reader.

### Characteristics of Skilled Readers

Duke, Pearson, Strachan, and Billman (2011) have concluded that skilled readers have many advantages over less skilled readers because they have more skills and strategies that they can utilise while processing text, as well as more knowledge of language, text structure and the world that can be integrated with the text input to aid comprehension. Duke and Pearson (2002) have listed the skills and strategies that good readers use when reading and this is reproduced in Table 1. In addition, Guthrie (2004) have also found that skilled readers are more motivated and engaged readers hence they set up a natural facilitative cycle where they can further develop their skills and knowledge as they read actively through copious amounts of text.

Table 1

*What Good Readers Do When They Read. Extract from Duke and Pearson (2002).*

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- Good readers are *active* readers.
  - From the outset they have clear *goals* in mind for their reading. They constantly *evaluate* whether the text, and their reading of it, is meeting their goals.
  - Good readers typically *look over* the text before they read, noting such things as the *structure* of the text and text sections that might be most relevant to their reading goals.
  - As they read, good readers frequently *make predictions* about what is to come.
  - They read *selectively*, continually making decisions about their reading —what to read carefully, what to read quickly, what not to read, what to reread, and so on.
-

Table 1

*(Continued)*

- 
- Good readers *construct, revise, and question* the meanings they make as they read.
  - Good readers try to determine the meaning of *unfamiliar words and concepts* in the text, and they deal with inconsistencies or gaps as needed.
  - They draw upon, compare, and *integrate their prior knowledge* with material in the text.
  - They think about the *authors* of the text, their style, beliefs, intentions, historical milieu, and so on.
  - They *monitor their understanding* of the text, making adjustments in their reading as necessary.
  - They *evaluate the text's quality and value*, and react to the text in a range of ways, both intellectually and emotionally.
  - Good readers *read different kinds of text differently*.
  - When reading narrative, good readers attend closely to the setting and characters.
  - When reading expository text, these readers frequently construct and revise summaries of what they have read.
  - For good readers, text processing occurs not only during “reading” as we have traditionally defined it, but also during short breaks taken during reading, even after the “reading” itself has commenced, even after the “reading” has ceased.
  - Comprehension is a consuming, continuous, and complex activity, but one that, for good readers, is both *satisfying and productive*.
- 

## Models of RC

Historically, researchers have attempted to represent the reading process using either bottom-up or top-down models. Bottom-up or stage models such as the one proposed by Chall (1996) and Gough (1972) suggest that children acquire skills in a linear, accumulative and sequential manner beginning with pre-reading skills, followed by decoding skills and eventually the ability to comprehend complex text. LaBerge and Samuels (1974) have even suggested a detailed model where RC is the natural consequence of being able to decode words clearly without further

cognitive input. However, stage models are often criticised for their inflexibility because not all children develop in the same prescribed order and children are not simply passive recipients of the text information since they appear to have more control over their knowledge and skills than what is allowed within each stage based on prerequisite skills (Paris & Hamilton, 2009).

In contrast, top-down models or information processing models, emphasise how higher-level cognitive processes interact and control the flow of information to the lower-level processes. Children are no longer passive recipients of text information as they divert limited cognitive resources to process the information presented in the text. Goodman (1976) suggests that reading is a psycholinguistic guessing game where the reader selectively samples the text, and makes hypotheses that are shaped using lower level processes to analyse relevant text features and read efficiently. Similar ideas have also been suggested by other researchers (e.g. Kolars, 1972; Smith, 1973). However, top-down models are widely criticised for their vague conceptualisation and lack of relative speed advantage in generating and testing hypotheses over bottom-up processes like decoding (e.g. Wildman & Kling, 1978-1979), especially since studies have found that good readers do not necessarily rely on conscious predictions in word recognition (e.g. Van Dijk & Kintsch, 1983).

Hence, interactive models that describe the interactions between both bottom-up and top-down processes will provide better descriptions of the RC process. Rumelhart (1994) suggests that a reader utilises all of the various available sources of knowledge simultaneously in order to generate the "most probable interpretation" of the text input. Some of the knowledge sources that he has identified include featural, letter-level, letter-cluster, lexical-level, syntactic, and semantic-level knowledge, all of which can operate in both bottom-up and top-down modes. Similarly, Stanovich (1980) proposes that readers construct meaning from text using multiple tools in a highly interactive parallel processing system where stronger skills or less resource-intensive skills can compensate for weaker or more resource-intensive skills.

Block (1992) highlights that the debate on "whether reading is a bottom-up, language-based process or a top-down, knowledge-based process" (p. 319) is over and researchers now accept that the two processes interact as well as the influence

of background knowledge in readers. Research has progressed to defining and studying the active control that readers have over their ability to understand a text. Block (1992) names this control as metacognition and it involves the reader thinking about what he is doing while reading. This is an area of great interest because studies have found that good readers possess more metacognitive knowledge about reading and more skills in evaluating and regulating their own cognitive processes while reading (Baker & Beall, 2009).

Kintsch and Rawson's (2007) influential framework of RC encompasses the ideas suggested in interactive models of reading and has shaped current understanding of the RC process. It proposes that RC relies on the analyses and integration of many different kinds of information in order to yield complex mental representations of the text message. The analysis of information occurs at different levels including word, sentence and text levels. Across these levels, processes of word recognition, parsing, referential mapping, and various inference processes then contribute and interact with the reader's prior knowledge and goals to construct mental representations or situation models.

### **Factors influencing RC outcomes**

In view of the multi-faceted levels of processing that occur during RC, it can therefore be influenced by many factors including those internally at the cognitive level and externally within the environment (e.g. Pearson, 2001; RAND Reading Study Group, 2002).

#### **Cognitive factors.**

Some researchers have concluded that two cognitive skills have the most influence on RC acquisition. Gough and Tunmer's (1986) Simple View of Reading model indicate two separate sets of continuous dimensions that contribute to RC – language comprehension and word recognition (decoding). Wren (2000) describes decoding as the ability to identify written words while language comprehension is the ability to extract linguistic meaning from oral language. Numerous studies have demonstrated that these two domains are distinct (e.g. Cain, Oakhill & Lemmon,

2005; Catts, Hogan & Fey, 2003; Cutting & Scarborough, 2006) while the Simple View formula suggests that the product, not the sum, of the two skills contributes towards RC (i.e. decoding x language comprehension = RC).

Hoover and Gough (1990) have attempted to validate the Simple View of Reading formula using multiple assessments to measure the development of cognition, language and reading in 250 U.S. students annually from either the start of kindergarten or the start of first grade right through second, third or fourth grades. They found high correlation scores of more than 0.8 between actual RC scores and the predicted RC scores derived from the formula for each of the different grade levels. More recently, Catts, Adlof and Weismer (2006) have studied three groups of eighth graders who are poor comprehenders, poor decoders or typical readers, and they show that the Simple View of Reading is useful in classifying the U.S. students to ensure appropriate reading interventions are in place. In the U.K., an influential review of reading instruction (Rose, 2006) also accepts this conceptual framework of RC as a guide for teaching practice.

Despite the apparent simplicity of the Simple View of Reading, a reader still needs to develop numerous underlying skills and knowledge before either decoding or language comprehension can be successful. Wren (2000) has summarised the findings from decades of research into a succinct framework that represents what is currently known about the cognitive domains that contribute to the acquisition of RC as shown in Figure 1.

Before extracting meaning from written words, the reader must first recognise or decode the words. Competency in this bottom-up process will then free up limited cognitive resources so that the reader can focus on deciphering meaning (e.g. Perfetti, Marron, & Foltz, 1996; Shankweiler, 1999; Torgesen, 2000; Wolf & Katzir-Cohen, 2001). Other studies have found that capabilities in lexical knowledge, including letter knowledge, concepts about print and knowledge of the alphabetic principle, and cipher knowledge that includes phoneme awareness, also contribute towards RC (e.g. Perfetti, 2007). Wren (2000) argues that these other interdependent cognitive processes and knowledge are subordinate domains of decoding abilities.

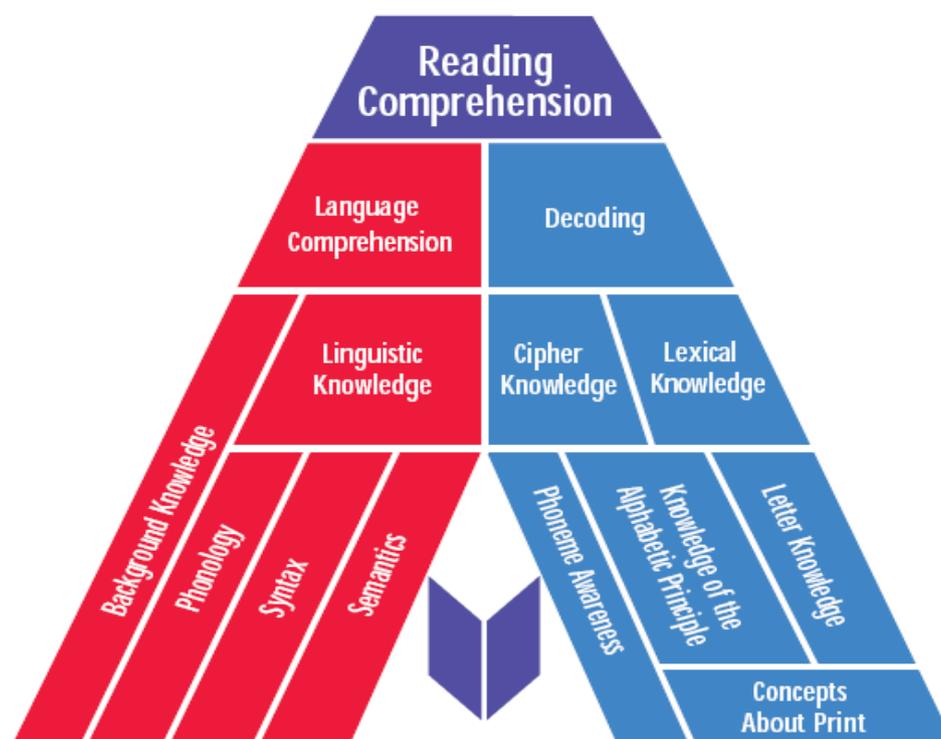


Figure 1. *The Cognitive Foundations of Learning to Read: A Framework.*

In addition to decoding abilities, the reader also needs to demonstrate language comprehension by understanding word meanings, relationships between words and language context (e.g. Gough & Tunmer, 1986; McCardle, Scarborough, & Catts, 2001; Nation & Snowling, 2000). There are also distinct contributions of linguistic knowledge, including phonology, syntax and semantics (e.g. Demont & Gombert, 1996; Nation & Snowling, 2000; Scarborough, 1990), and background knowledge (e.g. Weisberg, 1988) towards RC. Once again, Wren (2000) argues that they support RC because they underpin language comprehension in an interrelated manner.

Other cognitive factors known to influence variation in RC outcomes include reading fluency, inferential skills and attention (e.g. Cain, Bryant & Oakhill, 2004; Cain, Oakhill, Barnes & Bryant, 2001; Cutting, Materek, Cole, Levine & Mahone, 2009; Solan, Shelley-Tremblay, Hansen & Larson, 2007). In particular, metacognitive skills such as self-regulation and executive functioning are important for RC because they

support the monitoring and repairing of comprehension while reading (see Baker & Beall, 2009 for an overview of research in this area).

### **Environmental factors.**

Together with cognitive factors, environmental components can also interact with the reader's knowledge, skills and attributes to bring about successful RC. One such factor to consider are text features such as subject matter, linguistic quality and discourse type (e.g. Jetton & Alexander, 2001; Rand Reading Study Group, 2002). The subject matter of a text interacts with the reader's relevant background knowledge and enhances RC on a familiar subject or hinders RC on a novel subject. The linguistic quality of the text facilitates or hinders RC depending on its organisational structure, usage of unusual vocabulary, development and validity of ideas, and adherence to language conventions. The discourse type influences RC because different text genres (e.g. narrative or expository) elicit different types of processing.

The reading activity itself can lead to consequences for the reader including generation of knowledge, acquisition of an application procedure or engagement of the reader (RAND Reading Study Group, 2002). The purpose of reading can be externally imposed, such as when a teacher instructs a class to read a text and summarise the main ideas, or internally imposed, such as when the reader is interested in baking and reads recipe books extensively. In order to fulfil the purpose of the reading activity, the reader will employ different strategies like skimming to get the gist as in the reader who is required to summarise the text, or studying with the intention to retain the information for a longer time which is what the reader interested in baking will do.

Reading is a social-cultural activity and the reader's ability to comprehend the text depends on the social-cultural environment that they are in. Readers make use of cultural models, story lines and theories that they have assimilated based on their social-cultural experiences in order to make sense of a text (e.g. Strauss & Quinn, 1998). Hence, variations in personal experiences and exposure to different reading

environments both at home and in school will influence the extent of RC development.

### **Individual Differences and RC Difficulties**

Individual differences and RC difficulties can arise from variations in skills and impairments at many levels of the reading process. At one level as explained in the Simple View of Reading, any difficulties in word recognition or decoding (e.g. children with dyslexia) will have a significant impact on RC. However, even with adequate decoding skills, some readers continue to have specific comprehension difficulties (Nation, 2005), and they are described as 'poor comprehenders'. Previous estimates suggest that such readers exist in most typical classrooms and within the 7 to 10-year-old age range, poor comprehenders may make up about 10% of primary school children in the U.K. (Nation & Snowling, 1997). Furthermore, the percentage of poor comprehenders may increase from the primary to upper elementary grades (Allington & McGill-Franzen, 2009).

Longitudinal research designs have been used to investigate individual differences in RC and the factors that predict RC performance (e.g. Catts et al., 2003; Nation, Cocksey, Taylor & Bishop, 2010; Oakhill & Cain, 2012; Storch & Whitehurst, 2002). They have led to definitions of distinct subgroups of children with specific deficits as well as increase our understanding of the stability of these predictors across RC development.

Using a retrospective approach to determine the skill characteristics of children who go on to present with specific RC difficulties at mid-childhood, Nation et al. (2010) assessed aspects of early reading and language skills of children almost yearly from age 5 to 8 years. After fifteen children are identified as having specific comprehension deficits based on their RC performance at age 8, their early reading and language skills are then retrospectively compared with fifteen controls. Their results show that difficulties in oral language skills are good predictors of current and subsequent RC problems. This conclusion largely affirms the conclusions of other retrospective longitudinal studies that also show that variation in oral language skills are better predictors of RC skills than decoding skills (e.g. Catts et al., 2006).

Variation in early oral language abilities can predict subsequent RC development and the subgroups of good and poor comprehenders have distinct characteristics even as early as in the preschool years. These characteristics appear very stable and they persist throughout childhood. This is affirmed by Hulme and Snowling's (2011) review of the research evidence regarding the nature and causes of poor comprehension and their results show that broad language difficulties that often arise even before reading develops may result in subsequent poor comprehension. In addition, there is some emerging data that suggest that the two subgroups of good and poor comprehenders also show distinct differences in aspects of RC skills.

In another longitudinal study conducted in the U.K. that adopts a prospective approach where 23 poor comprehenders are first identified and their RC skills are tracked over time from age 7 to 11 years (i.e. Years 3 to 6), Oakhill and Cain (2012) conclude that in addition to the unique contribution of vocabulary and verbal IQ abilities to the prediction of RC ability over time, RC components such as inference, comprehension monitoring, and knowledge and use of story structure can distinctly account for later RC performance over and above general verbal skills and vocabulary skills.

Using Kintsch and Rawson's (2007) model of text analysis, Cain (2010) has examined the possible sources of failure in RC despite adequate decoding skills at two levels – understanding words and sentences, and putting ideas together to create a mental representation of the text. Her review of relevant studies concludes that at the word-sentence level, some poor comprehenders have weak semantic skills and difficulties with syntactic structure while at the text level, poor comprehenders are less likely to generate inferences, integrate information across sentences, monitor their own comprehension, and have knowledge about text structure. Due to the high cognitive demands placed on processing and storing information during the comprehension process, working memory difficulties may also contribute to RC difficulties (Cain, 2010; Seigneuric, Erlich, Oakhill, & Yuill, 2000).

## **Summary of Theoretical Knowledge about RC**

This first chapter has explored current theoretical knowledge about RC development by reviewing research evidence in identifying the characteristics of skilled readers, established models of RC acquisition, and factors contributing towards RC which in turn can predict and account for individual differences and difficulties in RC. The empirical and longitudinal research base clearly shows that foundational literacy skills such as language comprehension, decoding, vocabulary and grammar or syntax can facilitate RC, and skills that specifically contribute towards RC include making inferences, integrating information across text and creating mental representations. In addition, metacognitive skills and the influence of previous experiences are also critical for successful RC. Leading on from these review findings, the next chapter will examine a range of instructional practices recommended to be effective for increasing RC performance in children.

## **Chapter 2: Recommended RC Instructional Practices**

Previously when RC instruction was vaguely understood, it was widely assumed that RC was linked to intelligence and it would develop naturally once word reading skills were consolidated so specific instruction in it was unnecessary (Block & Lacina, 2009; Duffy, 2002). With the extensive research conducted within the specific area of RC and how to teach it in the years after 1975 (Duke & Pearson, 2002), there is now a growing awareness of the need to provide RC instruction distinct from instruction in word reading skills. However, a landmark paper published by Durkin (1978) has highlighted the appalling lack of RC instruction in U.S. classrooms and data from her observations shows that teachers are just "mentioners, assignment givers and checkers, and interrogators" (p. 50).

Within the same year, Pearson and Johnson (1978) ironically published a comprehensive review in order to summarise all existing research-based practices known at that time and this led to an exponential proliferation of research in RC instruction. Several reviews of the resulting evidence base, mainly conducted in the U.S. have identified important components for teaching RC effectively (e.g. Dole, Duffy, Roehler, & Pearson, 1991; Duke et al., 2011; Fielding & Pearson, 1994; National Reading Panel, 2000).

### **Components of Effective RC Instruction**

In a follow-up extensive literature review of the most recent research in comprehension instruction during that time, Fielding and Pearson (1994) suggest that four components should be incorporated in a successful programme of comprehension instruction. They explain that children should be provided with sufficient time for text reading, teacher-directed instruction in comprehension strategies, opportunities for peer and collaborative learning, and occasions to discuss responses to reading. The researchers feel that any programme that includes these four components will prepare students to experience success in reading by allowing them to practise their literacy skills and to learn new knowledge through a process of social learning with peers while under the guidance of the teacher.

In a meta-analysis of empirical research studies on reading, the U.S. National Reading Panel (2000) concludes that vocabulary instruction is one of the most important areas of comprehension and children should be taught a variety of comprehension strategies through a process of teacher modelling, scaffolding and opportunities to practise their newly acquired skills. The panel also concludes that teachers play a crucial role in RC instruction and they need to be equipped with relevant teaching skills in order to respond flexibly to students' needs for instructive feedback. Hence, there should be a strong focus on intensive teacher preparation to teach comprehension.

More recently, a narrative literature review of relevant research in effective RC instruction conducted by Duke et al. (2011) has defined 10 elements of effective RC instruction that every teacher should implement. They include building disciplinary and world knowledge, providing exposure to a volume and range of texts, providing motivating texts and contexts for reading, teaching strategies for comprehending, teaching text structures, engaging students in discussion, building vocabulary and language knowledge, integrating reading and writing, observing and assessing, and lastly, differentiating instruction.

### **Instruction in RC Strategies**

As suggested in the previous section, all of the U.S. reviews highlight the importance of teaching comprehension strategies to promote positive outcomes in students' RC performance. It is also now widely accepted that RC instruction depends on a supportive learning environment in classrooms as well as the explicit teaching of specific comprehension strategies (Trabasso & Bouchard, 2002). Duke and Pearson (2002) have termed this a "balanced comprehension instruction" and they propose "a model of comprehension instruction" that consists of five phases that describes strategy instruction as progressing from being teacher-centred to student-centred. The aim is to gradually release the responsibility of performing a task from a competent adult to the learner. Figure 2 demonstrates this shift of participation as the teacher delivers explicit teaching during direct instruction to the implicit learning that occurs during student participation.

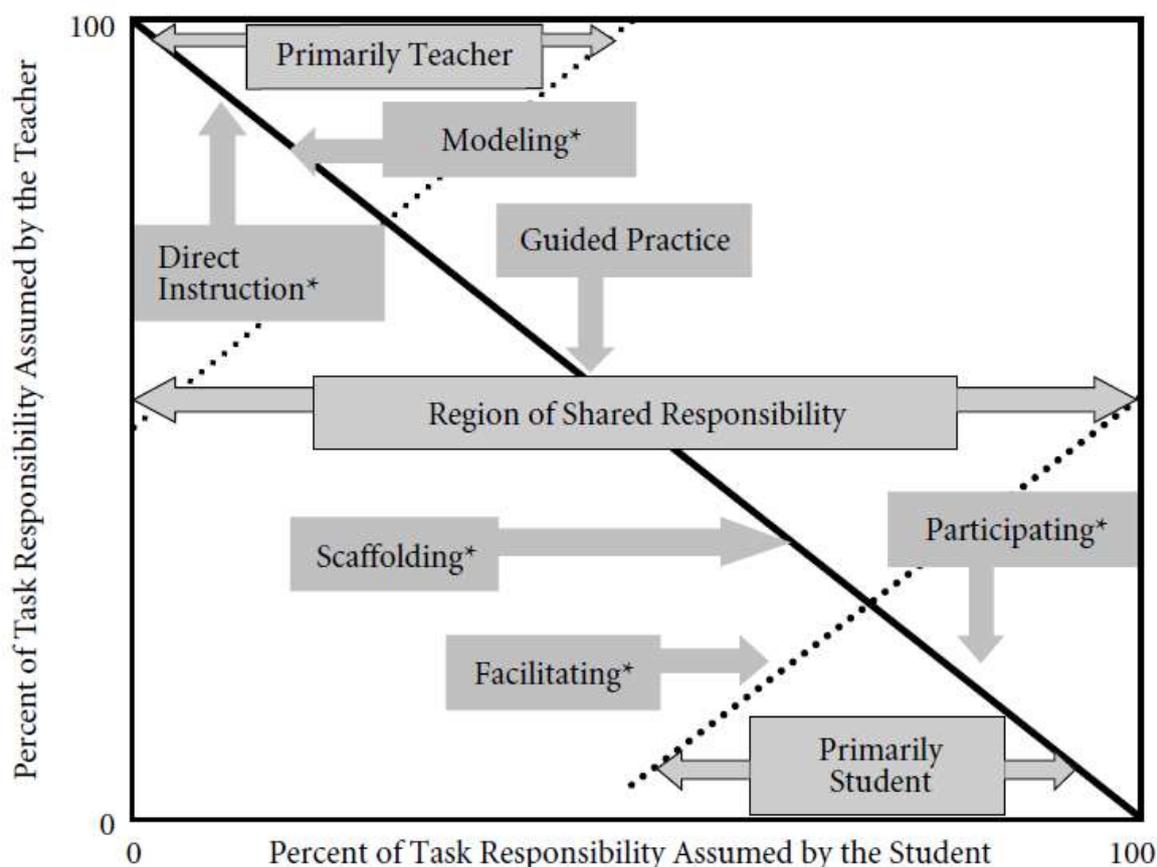


Figure 2. The gradual release of responsibility from teacher to student. Taken from Duke and Pearson (2002, p. 210).

In order to establish a supportive classroom environment for RC instruction, Duke and Pearson (2002) state that students should spend a large amount of time on actual reading, experience reading “real texts” and a range of text types, develop extensive vocabulary and concept knowledge, become skilled decoders, spend time on writing activities, as well as engage in “high-quality” talk with the teacher and their peers.

The literature has described an overwhelming number of RC strategies. Good readers will consciously and unconsciously use a range of comprehension strategies when reading a text while poor readers have a very small repertoire of comprehension strategies. Pressley and Afflerbach (1995 cited in Anmarkrud & Bråten, 2012) have reviewed think-aloud studies that investigate strategies used by skilled readers and they identify more than a hundred different comprehension strategies. They conclude that strategic readers use a finite set of cognitive and

metacognitive processes that will facilitate comprehension. However, research evidence has shown that comprehension strategies can be taught to children (Fielding & Pearson, 1994; Trabasso & Bouchard, 2002), including those with learning and reading difficulties (Kim, Linan-Thompson & Misquitta, 2012; Swanson & De La Paz, 1998). Pressley, Johnson, Symons, McGoldrick, and Kurita (1989) feel that the recommended strategies in the literature are based on theoretical analyses of reading and RC. Hence, they state that “teachers who use these methods are exploiting state-of-the-art knowledge about the nature of an effective mind” (p. 22).

Approaching RC instruction from the cognitive view of reading assumes that the reader actively constructs meaning through the integration of existing and new knowledge while using strategies flexibly to foster, monitor, regulate, and maintain comprehension. Numerous empirical studies have investigated the impact on RC development in students as they learn specific RC strategies which have been taught either singly or concurrently as a group. Consequently, some researchers have attempted to review these studies in order to develop recommendations for evidence-based practices in teaching and learning.

Dole et al. (1991) conducted a review and synthesis of emerging concepts of reading comprehension based on research accumulated over 20 years and identified five strategies that may be part of a comprehension curriculum. They propose that students should be taught to determine important information and differentiate it from unimportant information within the text that they are reading, summarise information effectively, draw inferences even while literal comprehension skills are being consolidated, generate questions especially if question-generating skills are taught in a structured training programme, as well as to monitor their comprehension and employ repair strategies when comprehension breaks down.

Dole et al. (1991) also highlight the changing role of the teacher from being “a director and manager of practice” to “a mediator who helps students construct understandings”. Hence, effective instructional actions will include planning of lesson objectives and activities that act as a blueprint from which teachers can make flexible adjustments according to students’ emerging understanding, selecting appropriate academic work to attain lesson objectives, providing information explicitly through

methods like teacher modelling to help students understand the selected academic work, and restructuring student understandings by obtaining feedback about their progress and gradually decreasing assistance to facilitate student independence.

Although Duke et al. (2011) feel that effective comprehension strategies vary from one research review to another, they note that frequently mentioned strategies include setting purposes for reading, predicting, activating prior knowledge, monitoring, visualising, drawing inferences, self-questioning and summarising. They have also identified some strategies that are more effective for particular text types, such as making sense of story structure for narrative texts and searching and skimming for informational texts. Once again, they recommend the model of instruction that Duke and Pearson (2002) describe where there is a gradual release of responsibility from the teacher to the student.

In an attempt to identify and recommend RC strategies that have received substantial published scientific support to educators, Pressley et al. (1989) have specifically surveyed and reviewed relevant experimental studies that demonstrate the potency of a range of RC strategies. In addition, their selection criteria dictate that each strategy can be taught singly and to children within a target age range of 8 to 13 years old (grade 3 to grade 8) who can learn to carry them out themselves. They identify summarisation, representational- and mnemonic-imagery, story-grammar, question-generation, question-answering, and prior-knowledge activation strategies including making inferences as being supported by substantial evidence base and they suggest that all of them, with the exception of the last strategy, can be easily taught. They also discuss how these strategies can be taught effectively, and conclude that comprehension strategy instruction has to be explicit, intensive and extensive which is generally based on a Vygotskian theoretical perspective (e.g., Vygotsky, 1978) to enable children to become independent, skilled and strategic comprehenders.

### **Guided Reading**

A widely-used approach to teach RC is Guided Reading. This method emerged in the 1980s as a form of small-group reading instruction in New Zealand and Australia

(Pinnell & Fountas, 2010) and it is common in the U.K. mainly because it is explicitly advocated for use within the literacy hour stipulated in the National Literacy Strategy Framework (DfES, 1998; 2006). The essential elements of Guided Reading involves planned, intentional and focused instruction where the teacher helps students to acquire reading skills and strategies within small-group settings consisting of students with similar reading abilities (Fountas & Pinnell, 1996).

After reviewing recommendations over the past 50 years from influential writers on how to teach reading, Ford and Opitz (2011) conclude that a successful Guided Reading lesson depends on specific elements such as the use of a three-part lesson plan structure that incorporates the use of specific teaching strategies at each phase (before, during and after reading) according to a main overall lesson objective, lessons are aimed to help children become independent readers while teachers facilitate and assess individual children when necessary, and recognising that comprehension is at the heart of reading so teachers continuously engage children in discussions about the texts they read. Pinnell and Fountas (2010) have also reviewed the research base for Guided Reading by describing how the approach can be used to accomplish eight main components of effective reading instruction.

In Fountas and Pinnell's (1996) outline of the Guided Reading process, the teacher works with a small group of students while the rest of the class are working independently. Materials used during Guided Reading include basal readers, trade books, big books, and magazines. The "before" reading block lasts about five minutes and can include building prior knowledge, making predictions, introducing new vocabulary, setting a purpose for reading, and explicit teaching of a comprehension strategy. The "during" reading block lasts about 15-20 minutes and possible activities include shared reading, or other grouping variations such as partner reading, echo reading, and choral reading. The teacher listens and facilitates when necessary or assesses reading progress using formats such as running records. In the final "after" reading block that lasts about 5-10 minutes, there is usually a closure activity linked to the story and aligned to the comprehension strategy introduced in the "before" reading block.

In order to facilitate comprehension in Guided Reading sessions, teachers may either specifically demonstrate and teach RC strategies or prompt readers to think and use these strategies. Research has suggested that asking certain types of questions can help students learn to read better (Andre, 1979) and teacher questioning has been found to be pertinent in Guided Reading sessions in order to scaffold discussions and facilitate RC development in students (Fisher, 2008). However, Phillips' (2013) case study of a teacher working with six students during three Guided Reading sessions suggests that when asking questions, teachers need to be aware that they provide sufficient wait time and pose questions in a conversational manner so as to prompt and develop student thinking and comprehension.

Despite the research suggesting how Guided Reading can be conducted, Tennant (2011) has found that there are no experimental studies that have been conducted to assess the efficacy of the approach in teaching RC and that there does not appear to be any evidence that it is superior to other approaches in raising literacy standards. However, there may be some emerging experimental research that suggests the use of a slightly modified Guided Reading version may be effective for improving RC levels in students learning English as a second language (Nayak & Sylva, 2013).

In addition to the lack of experimental studies investigating the efficacy of the Guided Reading approach, there are also many misconceptions about the approach perhaps due to the lack of specific structure and flexibility of activities within Guided Reading sessions. Hence, researchers like Burkins and Croft (2010) have identified these potential misunderstandings and they attempted to provide clarifications within six areas including the teacher's role within the gradual release of responsibility model, setting of an appropriate instructional reading level, understanding that text levelling and matching students to texts are subjective and unpredictable, the need for a balanced instruction where both word recognition and text comprehension instruction occur simultaneously, the need to teach children to integrate print and story skills, and the use of assessment to gain insight into children's reading processes.

## **Reciprocal Teaching**

An approach to teaching RC strategies in classrooms is Reciprocal Teaching. This approach is a form of multiple strategy instruction that enables students to coordinate the use of several RC strategies as used by good readers within a learning paradigm where the students can eventually use the strategies independently similar to the gradual release of responsibility from teacher to student process described by Duke and Pearson (2002). Palincsar and Brown (1984) have described the Reciprocal Teaching approach as:

a procedure ... where teacher and student took turns leading a dialogue concerning sections of a text. Initially the teacher modeled the key activities of summarizing (self-review), questioning (making up a question on the main idea), clarifying and predicting. The teacher thereby modeled activities: the students were encouraged to participate at whatever level they could. The teacher could then provide guidance and feedback at the appropriate level for each student. (p. 124)

In contrast to other vaguely described instructional methods for teaching RC strategies, the Reciprocal Teaching approach is more structured and four specific strategies – generating questions, summarising, clarifying and predicting, have been carefully selected to be taught because they can be engaged in by novice readers while allowing students to actively foster and monitor own comprehension simultaneously (Palincsar & Brown, 1984). Reciprocal Teaching has been developed to occur in the context of a dialogue between the teacher and students while doing actual reading and the goal is clearly established as obtaining meaning from the text. Its underlying theoretical foundation is derived from Vygotsky's (1978) developmental theory.

After a pilot study that has shown promising results in improving and maintaining students' RC skills (Brown & Palincsar, 1982), Palincsar and Brown (1984) undertook two more extensive studies to demonstrate the effectiveness of Reciprocal Teaching as an intervention for poor comprehenders.

In Palincsar and Brown's (1984) first study, 6 seventh grade students (age 12-13 years) who have received the Reciprocal Teaching intervention are compared to closely matched students who are either in an alternative intervention group or one of two control groups. After only about 20 days of intensive daily Reciprocal Teaching sessions in student pairs, all of the students in this group improve dramatically in their RC skills, while five of them also rise in their class rankings of comprehension scores. There is also some overall evidence that the students can generalise and transfer the strategies to new tasks.

Palincsar and Brown's (1984) second study replicates the Reciprocal Teaching group in their first study with four actual teachers trained in the approach and the instruction occurs in naturally occurring groups within school settings with their pre-existing groups of four to seven students. The results from the second study are very similar to those found in the first study while the teachers express enthusiasm about using Reciprocal Teaching once they have mastered it and noted the positive effects on their students.

Since Palincsar and Brown's (1984) original description of Reciprocal Teaching as a feasible and effective intervention approach for secondary school-age students with RC difficulties, other researchers have investigated the use of the approach as an intervention for post-secondary and primary school-age poor comprehenders (e.g. Hart & Speece, 1998; Lysynchuk, Pressley & Vye, 1990), as an additional support for English RC development in bilingual students or students learning English as a second language (e.g. Klingner & Vaughn, 1996; Padron, 1992), and as part of a regular teacher's teaching repertoire to support the development of RC skills in students of varying ability levels (e.g. Alfassi, 2004; Loranger, 1997).

Reciprocal Teaching has subsequently evolved to include a period of explicit teaching of the individual cognitive strategies to introduce students to the strategies and accompanying vocabulary prior to the original Reciprocal Teaching procedure. In Rosenshine and Meister's (1993) review of 19 experimental studies on Reciprocal Teaching (9 studies using the original Reciprocal Teaching procedure and 10 using the evolved structure), the results show that more studies that used the second

approach of including a period of explicit strategy instruction have obtained significant positive results in improving RC scores.

Using stringent inclusion criteria to determine the efficacy of Reciprocal Teaching interventions, Rosenshine and Meister (1994) have systematically reviewed 16 experimental studies conducted on children in grades three to seven. They conclude that the approach can increase RC performance for all students in a classroom and also for poor comprehenders. The systematic review also strongly suggests that children can benefit and generalise what they learnt as strategies during the Reciprocal Teaching sessions.

Despite the extensive amount of research conducted in the U.S. to ascertain the effectiveness of the Reciprocal Teaching approach, very little has been done in the U.K. (Brooks, 2013). However, a set of unpublished data contributed by Christa Rippon for Brooks' (2013) review of intervention schemes for children with literacy difficulties suggest that Reciprocal Teaching has led to some increase in reading accuracy and substantial increases in RC for 88 KS2 children. Due to the small number of children involved in Rippon's data, it is clear that more research is required in the U.K. to explore the use of Reciprocal Teaching during RC instruction both in mainstream classrooms and as interventions for low-achieving students.

### **Effective interventions for poor comprehenders.**

The evidence base for overcoming persistent RC difficulties is limited. However, Cain (2010) has identified several studies that demonstrate that poor comprehenders may benefit from interventions that provide focused training in individual component skills such as inference and integration, knowledge and use of text structure, verbal strategies using explicit strategy instruction, as well as mental imagery. Other reviews of the intervention literature have also made similar conclusions about the types of effective interventions (e.g. Allington & McGill-Franzen, 2009; Duff & Clarke, 2011).

Using these findings as a basis, Clark, Snowling, Truelove and Hulme (2010) have conducted a large-scale randomised controlled trial to evaluate the effectiveness of

three approaches to ameliorate RC difficulties in children aged eight to nine years. The first approach targets text comprehension skills including inference training, written narrative, metacognition, and Reciprocal Teaching. The second approach centres on specifically oral-language skills including listening comprehension and vocabulary. The third and final approach combines both text comprehension and oral language components. When compared with the control group of children on the waitlist, the children in all of the intervention groups are shown to make significant gains in RC and they are maintained 11 months later. The researchers conclude that all three approaches are useful for improving RC in poor comprehenders and that their difficulties in oral vocabulary knowledge may be an underlying factor for their RC problems.

Other than the content covered in intervention programmes for RC difficulties, Cooper and Kiger (2006) highlight that effective intervention programmes have several common characteristics including instruction in small groups or individually, structured and fast-paced lessons, systematic teaching of skills in the context of reading, use of levelled texts that progress in difficulty, and that the lessons are taught by qualified teachers. It can also be argued that due to the many factors that can affect RC, careful assessment of component skills other than overall RC scores may be necessary in order to ensure that appropriate interventions can be put in place to target particular areas of strengths and weaknesses in poor comprehenders.

### **Summary of Evidence-Based RC Instructional Practices**

Theories around RC development and years of classroom research consistently highlight that there are certain instructional factors that can contribute towards positive student outcomes in RC attainment as part of quality first teaching. In particular, teachers need to understand what to teach and how to teach RC based on sound research evidence in order to provide effective RC instruction. This concept for evidence-based RC instructional practices is illustrated in Figure 3 and it is used for the purposes of the current study.

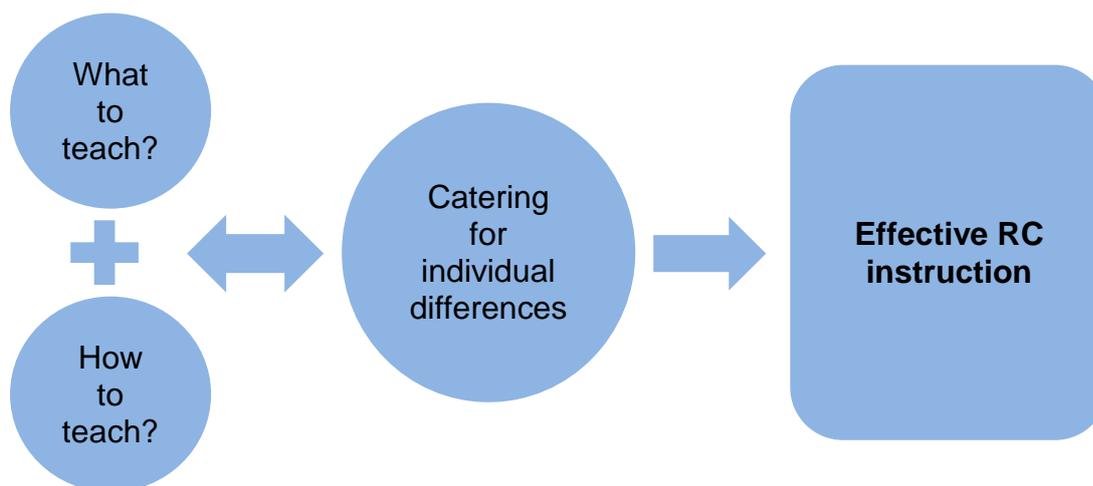


Figure 3. Proposed concept for evidence-based RC instructional practices.

Firstly, theoretical models of RC development and empirical studies imply that the teaching of foundational early literacy skills such as word recognition and language skills are important. However, RC instruction has to go further and include the teaching of specific RC strategies that readers can purposefully choose to use as appropriate when trying to extract meaning from text.

With regards to how to teach RC, the critical factors include the level of teacher input, the organisational and instructional format, as well as the teaching approach or mode of delivery. Teacher input should begin with explicit teaching with ample teacher-directed instruction and modelling before progressing into more guided instruction through teacher scaffolding in order to support children to gradually gain independence in practising and using the learnt RC strategies. RC instruction should also provide opportunities for children to discuss and respond to text, as well as engage in small-group collaborative learning activities. Two commonly-used approaches to structure small-group collaborative learning activities include Reciprocal Teaching and Guided Reading although Reciprocal Teaching appears to have a stronger evidence base.

In order to cater for inevitable individual differences in the classroom, the teachers also need to continuously adapt their practices in response to the needs of children with diverse RC abilities. For example, teachers should monitor and assess student progress in RC and differentiate their lessons or put in place appropriate

interventions when necessary. This responsive adaptation of instructional practices is represented by the bi-directional arrow in Figure 3.

### **Incorporation of Evidence Base into Practice**

Despite the extensive evidence base in theoretical knowledge about RC development and effective RC instruction, few studies have explored the extent that teachers incorporate the evidence base into their classroom practice. Furthermore, several studies conducted after Durkin's study (1978) continue to suggest that teachers are still not conducting sufficient specific RC instruction in their classrooms and their instructional actions are generally restricted to comprehension testing through question and answer methods (e.g. Concannon-Gibney & Murphy, 2010; Pressley, Wharton-McDonald, Hampson, & Echevarria, 1998). Concannon-Gibney and Murphy (2010) even suggest that teachers may have taken the Simple View of Reading model too literally and assume that RC will develop once decoding skills and language comprehension have been established without realising the need to teach RC strategies explicitly.

In order to explore the nature of RC instruction and specifically in the instruction of RC strategies, some studies have utilised predefined coding systems to analyse observational data. In a descriptive study of four Norwegian lower-secondary language arts classrooms, Anmarkrud and Bråten (2012) have analysed videos that are supplemented with teacher interviews to find out what teachers know about RC strategies, how much comprehension strategies instruction actually occurs in classrooms, how explicit the teaching of RC strategies is, and what common instructional formats (i.e. whole class instruction, individual seat work and group work) are used during comprehension strategies instruction. Their results show that there is a large variation amongst the teachers in terms of the amount of comprehension strategies instruction, only a small range of strategies are taught, the instruction is not explicit, and the instruction is generally conducted with the whole class. The interviews also suggest that the teachers lack professional knowledge about RC and how to teach it in general.

In another attempt to understand the nature of RC instruction at the elementary levels, Ness (2011) has observed 3,000 minutes of language arts instruction across 20 first- through fifth-grade classrooms in two elementary schools in the U.S. Using a classroom observation coding system that includes two main categories of comprehension instruction and non-comprehension instruction, the results show that 25% of language arts instruction is spent on explicit RC instruction. However, the teachers are only teaching a narrow range of RC strategies and the researcher suggests this may be due to the teachers' lack of confidence in teaching the other strategies or they are relying on prescribed instructional manuals. Although this study shows that the amount of classroom instruction in RC is more optimistic than the results of Durkin's (1978) seminal study, it is difficult to establish if teachers' confidence levels are related to instruction in RC strategies without the use of relevant measures of teacher confidence levels.

Strikingly, there appears to be a lack of similar studies conducted in the U.K. that explore what U.K. teachers do when teaching RC. This gap in research becomes even more apparent with regards to the teaching of RC strategies. One study that attempts to explore this aspect of RC instruction in the U.K. has been undertaken by Parker and Hurry (2007) who interviewed 51 KS2 teachers and observed their literacy lessons in 13 inner London primary schools during Autumn 2001. Their interviews focus on asking the teachers to describe helpful techniques for teaching RC and to identify the ones that they would use in their classrooms. In addition, their videotaped observations are analysed to identify 12 separate literacy events (i.e. shared reading of narratives) in which the classroom dialogues are further analysed to explore the teachers' use of questioning techniques and their modelling of comprehension strategies. Although this study only involves a small number of teachers, the results do begin to shed some light on how teachers teach RC in the U.K, which is mainly through direct oral questioning that often puts students in a passive role.

A key factor that determines how the evidence base in RC gets implemented in classrooms lies within teachers as they are often the ones who shape learning opportunities in classrooms (McCaffrey, Lockwood, Koretz, Louis, & Hamilton, 2004). Hence, it is important that teachers have the relevant knowledge and skills to

incorporate the existing evidence base in order to become effective teachers. In addition, personal beliefs such as self-efficacy may also be important.

### Chapter 3: Teacher Self-Efficacy

The concept of self-belief was primarily proposed by Albert Bandura and his Social Cognitive Theory (Bandura, 1977) has been a theoretical frame for self-efficacy that is widely-referenced by researchers in the fields of psychology and education. Bandura (1997) has defined self-efficacy as “beliefs in one’s capabilities to organize and execute the course of action required to produce given attainments” (p. 2-3). Self-efficacy is essentially concerned about one’s internal thoughts and beliefs about own capabilities in performing a specific task which is different from the colloquial term ‘confidence’ that is “a nondescript term that refers to strength of belief but does not necessarily specify what the certainty is about (Bandura, 1997, p. 382). Henceforth, this report would generally adopt the term ‘self-efficacy’ and if ‘teacher confidence’ was used, it would be described with reference to a specific situation such as teacher confidence in using evidence-based RC instructional practices.

Bandura (1997) has identified four specific sources of self-efficacy to be dependent on mastery experiences based on own past performances, vicarious experiences through observation of others’ performances, verbal persuasion from others, as well as current physiological and affective arousal. However, these sources have to be selected, weighted and integrated through a process of reflective thought known as cognitive appraisal before they can influence self-efficacy judgements. Bandura (1997) also explains that this cognitive processing involves two distinct functions where people can either focus on particular information as indicators of self-efficacy or to use sets of heuristics to combine information from different sources to construct views about self-efficacy.

Accordingly, teacher self-efficacy will refer to a teacher’s judgment of personal capabilities to bring about desired outcomes of student engagement and learning, even for challenging and unmotivated students within the context of a classroom (Bandura, 1977). Hence, a high level of this internal personal factor will allow teachers to feel more in control of teaching and learning situations (Guskey & Passaro, 1994), which will be RC instruction in the case of the current study. However, there are often contrasting views in the literature as to how to study and measure the impact of teachers’ personal beliefs about their efficacy on classroom

outcomes. In particular, teacher efficacy has been suggested to be related to theories such as self-concept (Brown, 2004), self-esteem (Turner, Oakes, Haslam, & McGarty, 1994), and locus of control (Rotter, 1966). Nonetheless, upon further exploration of these concepts, it can be seen that teacher self-efficacy appears different because of its emphasis on process judgments about task-specific actions that lead to the corresponding task-specific teaching and learning outcomes. In contrast, self-concept and self-esteem will refer to more global views about self-characteristics while locus of control will refer to the role or contribution that the teacher makes towards student outcomes.

Despite attempts to differentiate the teacher self-efficacy concept from other related concepts, there continues to be disagreement over the specific conceptualisation of teacher self-efficacy (Wheatley, 2005) which in turn has resulted in many researchers proposing instruments to measure teacher self-efficacy using very different constructs. For example, one of the earliest and probably most simplistic measures only had two items (Armor et al., 1976) while subsequent instruments may contain up to thirty or more items (e.g. Gibson & Dembo, 1984; Tschannen-Moran & Hoy, 2001). As some researchers have queried (Goddard, Hoy & Hoy, 2000; Tschannen-Moran & Hoy, 2001), it is still unclear whether teacher self-efficacy is context-specific and how far it can be transferable to other contexts. In addition, Wheatley (2005) also highlights that “quantitative responses to even the best-constructed scale items are still open to at least a dozen very different interpretations” (p. 758). Hence, it should be noted that developing an instrument to measure teacher self-efficacy in teaching RC may not be useful and it is beyond the scope of this study.

### **Teacher Self-efficacy and Classroom Practice**

Despite the many challenges of defining and measuring teacher self-efficacy, there are still merits to considering it when attempting to understand teacher classroom practice because numerous studies have shown that it is related to various student outcomes such as attainment (e.g. Armor et al., 1976; Ross, 1992), motivation (Midgley, Feldlaufer, & Eccles, 1989), and even students' own sense of efficacy (Anderson, Greene, & Loewen, 1988). In particular, teacher self-efficacy has a

strong impact on teachers' own classroom behaviour, perhaps because of its influence on their aspirations, goals that they set, and effort that they put in teaching. For example, teachers with high levels of self-efficacy are more inclined to experiment with innovative strategies and they are more receptive to change (Evers, Brouwers & Tomic, 2002; Sparks, 1988), persist through challenges in teaching struggling learners and to not refer them on to special education (Gibson & Dembo, 1984), demonstrate greater enthusiasm and commitment to teaching (Ebmeier, 2003; Guskey, 1984), as well as remain in teaching for longer (Ebmeier, 2003).

Furthermore, there is some research showing that low levels of teacher self-efficacy may be linked to teacher burnout (Evers et al., 2002; Skaalvik & Skaalvik, 2010) which suggests that in order to keep teachers in the profession and to continue to hone their teaching skills, teacher self-efficacy should not be ignored and steps should be taken to boost teachers' sense of self-efficacy. For example, Yost (2002) suggests that getting teachers to assume the role of mentors to other teachers will boost their own sense of self-efficacy. This appears to be a 'win-win' situation because in addition to the mentors increasing in their self-esteem, their mentoring work will also likely lead to an increase in the self-efficacy of the teachers being mentored.

Despite many studies on the impact of teacher self-efficacy on classroom practices, there is a limited amount of similar research conducted within the field of literacy instruction. This is of concern especially since many teachers feel that teaching reading to students with a wide range of abilities is one of the most challenging tasks that they face (Baumann, Hoffman, Duffy-Hester & Moon, 2000). Hence, teachers need to have high levels of self-efficacy before they can persist through the challenge, experiment with alternative forms of instruction and to take responsibility for supporting their students' literacy development. However, the limited amount of research in this area consistently shows that teacher self-efficacy can and does have an impact on literacy instruction.

In one of such studies, 31 teachers who worked with under-privileged students in New Zealand underwent a series of professional development sessions across six months that have been designed to introduce the teachers to new forms of literacy

assessment, teaching and monitoring approaches that are effective in bringing about positive changes in student literacy attainment (Timperley & Phillips, 2003). Although the teachers started with low expectations and low self-efficacy, both of these showed a significant increase by the end of the intervention. In addition, the teachers also expressed higher expectations of their students which should create more positive learning environments for this group of disadvantaged students. This suggests that increase in teacher skills and knowledge, and teacher self-efficacy can have an impact on teacher instructional practices.

In another study that used a multiple case study research design with six pre-service teachers who were employed as tutors for struggling readers, it was found that the pre-service teachers who had a high self-efficacy in their ability to teach all of their struggling readers to read also expressed high expectations towards the students' achievement and they would assume responsibility if students made or did not make progress (Scharlach, 2008). In addition, the study also showed that pre-service teachers with high self-efficacy also utilised supportive strategies that challenged the students to become more active and engaged learners because they believed that the students would be able to apply the strategies taught to them. Unlike the previous study, this study did not include an intervention to increase teacher knowledge and skills. Hence, it suggests that teacher self-efficacy alone, without changes in other teacher factors, can also have an impact on teacher behaviours.

Given the important influence that teacher self-efficacy has on teacher behaviours and classroom instructional practices, it will be crucial to understand how teachers can be supported to increase their self-efficacy within literacy instruction. Starting from the beginning of teacher preparation, Scrivens (1998) has found that after completing their initial teacher training, the majority of newly qualified U.K. primary teachers rate themselves as fairly or quite confident in teaching reading. Further exploration through follow up interviews with some of these teachers suggest that high teacher confidence levels in teaching reading is due to the inclusion of coordinated and well-structured coursework in the course where learnt skills and knowledge can be applied in real-life classroom contexts. Once the teachers are qualified, studies have shown that ongoing professional development will be critical in supporting their self-efficacy which will in turn lead to more effective literacy

instruction (e.g. Nathanson, Pruslow & Levitt, 2008). If the teacher is introduced to new pedagogy during training sessions as part of the professional development journey, it then appears that it will be important to provide follow up coaching or mentoring in order to maintain or increase teacher self-efficacy and the likelihood of sustaining implementation of the new teaching approach (e.g. Tschannen-Moran & McMaster, 2009). Hence, these studies suggest that teacher self-efficacy can be sustained and enhanced if appropriate support is provided throughout the teachers' teaching career.

In summary, teacher self-efficacy can have an influence on teacher classroom behaviours and this includes RC instruction. Hence, the proposed concept of evidence-based RC instructional practices can be adapted to include teacher self-efficacy as shown in Figure 4. Teacher self-efficacy can affect what teachers teach and how they teach RC while catering for individual differences in the classroom as part of quality first teaching in the U.K.

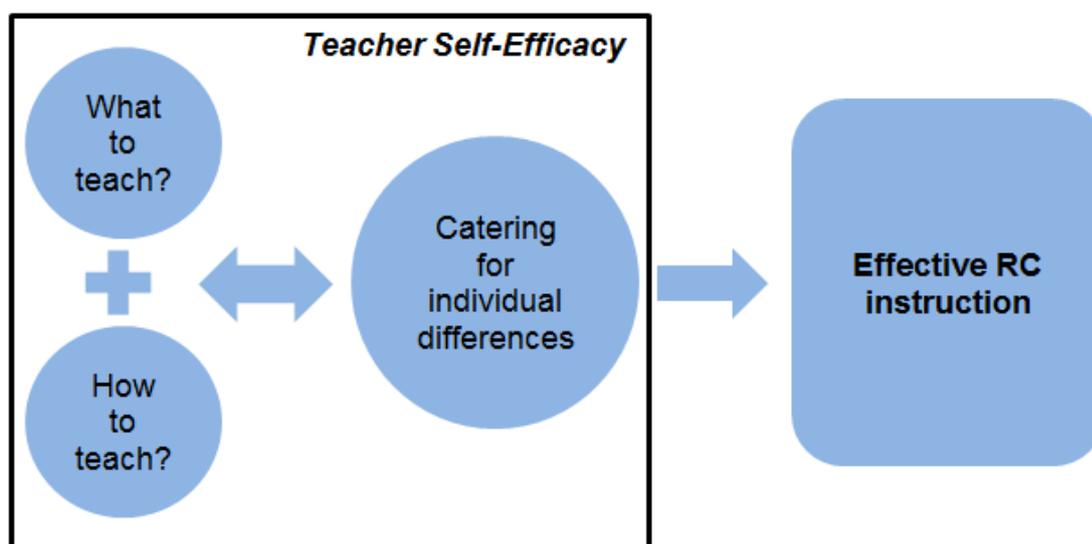


Figure 4. Teacher self-efficacy and the proposed concept of evidence-based RC instructional practices.

## **Chapter 4: The U.K. (England) and Local Context**

This section attempts to provide an overview of the U.K. (England) and local context in which this research study is conducted.

### **National Curriculum and Literacy Focus**

The emphasis in the teaching of reading skills in the U.K. (England) has mainly been on early reading skills such as phonics skills or decoding. This may be due to established research that suggests word recognition is a fundamental skill for becoming a skilled reader (Adams, 1990) and that pre-literacy skills, especially phonological or phonemic awareness, are strong predictors of word reading abilities in school (e.g. Ehri et al., 2001). Historically, there has been debate about the best approaches to teach reading and it has mainly been around the use of phonics-based instruction or the whole language approach (Groff, 1997). However, an independent review of teaching practices in the early years of formal education in the U.K. has shown that the systematic approach to teaching phonics is most effective in helping the majority of children become competent readers (Rose, 2006). This has influenced the practices of many current practitioners.

Hence, the current Primary National Curriculum (Department for Education (DfE), 2011), which provides the statutory requirements for teaching and learning in all classrooms in England, has a section on “word recognition and graphic knowledge” that clearly lists specific phonemic awareness and phonic skills that should be taught at KS1 (i.e. Year 1 to Year 2). The emphasis then shifts from early reading skills to RC at KS2 (i.e. Year 3 to 6). The general programme of study for reading at KS2 states that students should

“read enthusiastically a range of materials and use their knowledge of words, sentences and texts to understand and respond to the meaning. They increase their ability to read challenging and lengthy texts independently. They reflect on the meaning of texts, analysing and discussing them with others.”

The Primary National Curriculum does not state explicitly the strategies and approaches that teachers should use when teaching RC. Instead, the desired outcomes of specific skills and strategies that students should be taught are broadly indicated under various headings like “understanding texts” and “reading for information”. Similarly, the attainment target level descriptions for the National Curriculum Levels within the area of reading that students are expected to achieve (Levels 1-4) by the end of their primary school education (Year 6) also describe the main behaviours that students will display when they can “establish meaning” and “show understanding” of texts. The descriptions for Level 2 (students should have attained this level by the time they get to KS2) as well as Levels 3 and 4 (the majority of students in KS2 should be performing at these levels) are reproduced in Table 2.

Table 2

*Attainment Target Level Descriptions for National Curriculum Levels 2, 3 and 4.*

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Level 2

Pupils' reading of simple texts shows understanding and is generally accurate. They express opinions about major events or ideas in stories, poems and non-fiction. They use more than one strategy, such as phonic, graphic, syntactic and contextual, in reading unfamiliar words and establishing meaning.

Level 3

Pupils read a range of texts fluently and accurately. They read independently, using strategies appropriately to establish meaning. In responding to fiction and non-fiction they show understanding of the main points and express preferences. They use their knowledge of the alphabet to locate books and find information.

Level 4

In responding to a range of texts, pupils show understanding of significant ideas, themes, events and characters, beginning to use inference and deduction. They refer to the text when explaining their views. They locate and use ideas and information.

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Although now archived, assessment focuses based on the National Curriculum programmes of study and level descriptions developed by the Department for Children, Schools and Families (DCSF, n.d.) continues to be available as guidelines

for a more detailed assessment framework which teachers can use to determine the outcomes of their teaching and pupils' learning. There are seven assessment focuses that describe the main elements of performance within the reading attainment targets. These assessment focuses are reproduced in Table 3.

Table 3

*Assessment Focuses for Reading Attainment Developed by the DCSF.*

Assessment focus	
AF1	Use a range of strategies including accurate decoding of text, to read for meaning.
AF2	Understand, describe, select or retrieve information, events or ideas from texts and use quotation and reference to text.
AF3	Deduce, infer or interpret information, events or ideas from texts.
AF4	Identify and comment on the structure and organisation of texts, including grammatical and presentational features at text level.
AF5	Explain and comment on writers' uses of language, including grammatical and literary features at word and sentence level.
AF6	Identify and comment on writers' purposes and viewpoints and the overall effect of the text on the reader.
AF7	Relate texts to social, cultural and historical contexts and literary traditions.

A detailed basis for delivering the statutory requirements of the programmes of study for reading is then described in greater detail in a separate document that is now archived, the National Literacy Strategy Framework (DfES, 1998; 2006). As part of the National Primary Literacy Strategy, The DfES (2005) has also published a series of three leaflets entitled 'Understanding RC' to help KS1 and KS2 practitioners better understand RC and develop practical ideas for teaching it in the classroom. Leaflet 1 provides an overview of the RC process and how it should be taught using evidence from research and suggests a sequence for teaching within the literacy hour. Leaflets 2 and 3 give practical teaching suggestions for teachers to use in their own classrooms, including cognitive strategies and other semantic, interpretive and metacognitive awareness strategies.

According to the Primary Framework for literacy and mathematics (DfES, 2006), Guided Reading should be used within the KS1 levels (i.e. Year 1 to 2) to explicitly teach early reading knowledge and skills such as phonics and word recognition. As children progress on to KS2, the approach should be continued especially for the students who are reading below levels expected for their age groups as they need additional support to apply the range of reading skills and strategies as well as to maintain their interest and enthusiasm.

All of the above guidance provided should be part of quality first teaching in the U.K. Quality first teaching originates from the Department for Children, Schools and Families' guide to personalised learning (2008) that emphasises effective planning and lesson design for all children. In addition, quality first teaching is also described as being part of the high quality teaching expected within "Wave 1" of The Primary National Strategy's three Waves of Intervention model (Brooks, 2013). The key characteristics of quality first teaching is summarised as:

- highly focused lesson design with sharp objectives
- high demands of pupil involvement and engagement with their learning
- high levels of interaction for all pupils
- appropriate use of teacher questioning, modelling and explaining
- an emphasis on learning through dialogue, with regular opportunities for pupils to talk both individually and in groups
- an expectation that pupils will accept responsibility for their own learning and work independently
- regular use of encouragement and authentic praise to engage and motivate pupils.

(DCSF, 2008, p. 12)

However, being able to teach reading cannot simply be the rigid delivery of instructional activities which are usually prescribed in national and commercial teaching packages. For example, Flynn (2007) has illustrated the rich complexity of the processes involved in general literacy teaching in the U.K. Through the use of a combination of interviews and questionnaires with three Year 2 teachers who have

been identified as “good teachers” and their head teachers, structured observations and audio recording of nine literacy lessons (three per teacher), and collection of performance data on each school, she concludes that the key driver of their success does not lie in them following a set of teaching objectives such as those provided in the National Literacy Strategy in the U.K. Instead, she argues it has more to do with subtle and intuitive teacher behaviour, teacher subject knowledge and teacher–student interaction.

In contrast, after exploring teacher content knowledge and its relationship with overall teacher effectiveness and student outcomes as part of a larger five-year study about the reading instruction of teachers teaching disadvantaged and diverse student populations in the U.S., Moats and Foorman (2003) suggest that teachers should be explicitly taught the content that they are responsible for teaching to their students. They also propose that teachers be given opportunities to practise these concepts in order to develop the more subtle insights in pedagogy which are necessary if more effective practice is desired. The triangulation of data from various sources such as questionnaires, classroom observations and teacher interviews makes their conclusion rather convincing although further research is still required to better understand the types and combinations of training experiences that are helpful for enhancing teacher effectiveness in teaching reading.

To determine the similarities and differences between 31 European countries with regards to their recommended approaches to teaching reading, the Education, Audiovisual and Culture Executive Agency (EACEA) (2011) has reviewed their official steering documents which are official documents about programmes of study. These documents also contain information such as learning objectives, learning content, model syllabuses, and guidelines on student assessment or attainment targets. Based on the inclusion criteria, only the Primary National Curriculum for KS1 and KS2 online documents are included when analysing the U.K. (England) context.

The EACEA (2011) concludes that although all of the 31 countries describe clear objectives for RC in their steering documents, only a third of the countries mention a range of cognitive RC strategies (e.g. drawing inferences, summarising text, making connections between parts of a text, using background knowledge, monitoring own

comprehension, and constructing visual representations) as well as higher-level metacognitive skills (e.g. self-correction of misunderstandings and reflection on own reading practices) to enhance students' RC at the primary level. In particular for the U.K. (England) context, the review also shows that five of the six RC strategies are mentioned in its steering documents for the primary levels of education but they do not indicate any of the higher-level metacognitive skills which research has also shown to be necessary for effective RC.

In general, the reviews that have been conducted over the years as outlined in the previous chapters and key national documents in the U.K. identify similar lists of effective comprehension strategies that can and should be taught to students. To understand the purposes of the comprehension strategies better, it may be helpful to group these strategies into categories of learning strategies. Weinstein and Mayer (1986) espouse that learning strategies are important because students need to be taught "how to learn, how to remember, how to think, and how to motivate themselves" (p. 315). Hence, students are given the tools to use various cognitive processes to learn and encode information. Weinstein and Mayer (1986) describe broadly five categories of learning strategies that have different effects on the cognitive processes in encoding (i.e. acquisition, selection, construction and integration of information) where rehearsal strategies have an influence on the acquisition and selection of information into working memory, organisational strategies affect the construction of information, elaboration strategies impact on the integration of information, comprehension monitoring strategies have an effect on all four cognitive processes of encoding through a metacognitive process, and similarly, affective strategies can also influence all four cognitive processes.

Using Weinstein and Mayer's (1986) taxonomy of learning strategies, the reading comprehension strategies that are consistently highlighted in the literature on evidence-based reading comprehension instruction can be categorised accordingly. Hence, skimming and scanning to extract information can be considered as rehearsal or memorisation learning strategies; summarising information and using text structure can be considered as organisation learning strategies; inferencing, using prior knowledge, predicting and visualising can be considered as elaboration learning strategies; while setting purpose for reading, self-questioning and

answering, self-checking and self-correction can be considered as monitoring learning strategies. Table 4 provides a summary of the reading comprehension strategies that have been identified by several reviews of empirical research in evidence-based RC instruction and the categories of learning strategies that they belong to.

Table 4

*Lists of RC Strategies.*

Category of Learning Strategy	Dole et al. (2001)	Duke et al. (2011)	Pressley et al. (1989)	National Reading Panel (2000)	Understanding RC (DfES, 2005)	National Curriculum (DfE, 2011)	EACEA (2011)
1 Rehearsal/ Memorisation	Determining importance	Searching and skimming				Scan texts to find information	
2 Organisation	Summarising information	Summarising and retelling	Summarisation	Summarising	Summarising	Skim for gist and overall impression	Summarising text
		Story-grammar	Recognising story structure	Recognising story structure	Text structure analysis Sequencing texts	Make connections between different parts of a text Use organisational features and systems	Making connections between parts of a text
3 Elaboration	Drawing inferences	Drawing inferences			Interpretive strategies	Use inference and deduction, Look for meaning beyond the literal	Drawing inferences
		Activating prior knowledge	Prior-knowledge activation	Using prior knowledge	Activating prior knowledge	Use knowledge of other texts that have been read	Using background knowledge
		Previewing and predicting Visualising and creating visual representations	Imagery	Making mental images	Prediction Constructing images	Contextual understanding	Constructing visual representations
4 Monitoring	Generating questions	Setting purposes for reading Self-questioning and thinking aloud	Question-generation, Question-answering	Question generation, question answering	Questioning		
	Monitoring comprehension	Monitoring, clarifying, and fixing		Monitoring comprehension	Metacognitive awareness		Monitoring own comprehension

## Profile of National and Local Student Populations

Research in education has consistently considered the potential influence of student background and circumstances on student literacy attainment. Elements that are frequently considered include gender, ethnicity, first language and socio-economic factors like student eligibility for free school meals and students with Statements of Special Educational Needs (SEN). Au and Raphael (2000) discuss how this student demographic information becomes even more important when literacy instruction is increasingly seen to move from transmission to transactional approaches within a social-constructivist paradigm where teachers constantly adjust their instruction in order to engage their students within meaningful teaching and learning contexts.

The Research and Statistics Unit (2012-2013) of LA X in which this research study is conducted publishes annual Education Statistics to provide statistical data on the Education Service within the borough. Based on data collected in January 2013, 50.5% of the primary school population<sup>1</sup> are boys and 49.5% are girls; the primary school population in LA X is composed mainly of Black African students (24.3%), followed by Black Caribbean (15.9%) and White British (15.2%) such that students of minority ethnic origins<sup>2</sup> make up 84.8% of the student population; 33.6% of the primary school population in LA X are eligible for free school meals; and 22.8% of the primary school students have been identified, either informally by their teacher within the stages of the SEN Code of Practice, or formally by the LA through Statements of SEN. Based on data collected in 2012<sup>3</sup>, the report also indicates that 51.1% of the primary school population speak a main language other than English and 35.8% of the primary school students are classified as non-fluent bilingual pupils who speak or understand a language in addition to English but they are not fully fluent in English.

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<sup>1</sup> The primary school population refers to state-funded primary schools including primary academies and primary free schools.

<sup>2</sup> The DfE (2013a) defines those pupils who have been classified according to their ethnic group and are other than White British as of 'minority ethnic origin'.

<sup>3</sup> The 2013 pupil survey data for social characteristics of the school population was not available at the time of the Education Statistics 2012-2013 going to print.

The DfE (2013a) Statistical First Release reports that at the national (England) level based on data gathered in January 2013, 51.0% of the primary school population are boys and 49.0% are girls; 19.2% of students (including children in maintained nurseries) are known to be eligible for and claiming free school meals; 28.5% of the primary school population were classified as being of minority ethnic origin; and 18.1% of the students have a first language that is known, or believed, to be other than English. Another DfE (2013b) Statistical First Release based on data gathered in January 2013 reports that 17.6% of the primary school population in England have been identified to have SEN, including those with SEN but not Statements and those who have Statements of SEN. A comparison of the statistics about the primary school population at the national and local levels are presented in Table 5.

Table 5

*Comparison of the Primary School Population in LA X and at the National (England) Level.*

<u>Characteristic</u>	<u>LA X</u>	<u>National (England)</u>
Gender		
Boys	50.5	51.0
Girls	49.5	49.0
Classified as of 'minority ethnic origin'	84.8	28.5
<sup>a</sup> First language is other than English	51.1	18.1
<sup>b</sup> Eligible for free school meals	33.6	19.2
Identified with SEN	22.8	17.6

<sup>a</sup> The 2012 data is used for LA X as no data for 2013 is available.

<sup>b</sup> Note that the data at the National (England) level also includes children in maintained nurseries.

According to the Research and Statistics Unit (2012-2013) of LA X, the attainment levels of the students in the LA have risen dramatically over the last ten years. The LA's reading attainment (87%) is on par with the national indicator (87%) when

comparing the percentage of students who reach Level 2<sup>4</sup> and above at KS1 and its English achievement (88%) is above the national figure (85%) when comparing the percentage of students who reach Level 4<sup>5</sup> and above at KS2 in 2012. English achievement at KS2 consists of both reading and writing components. These statistics are represented in Table 6.

Table 6

*2012 Literacy Attainment Levels in LA X and at the National level.*

	<u>LA</u>	<u>National</u>
% of students reaching Level 2 and above for reading at KS1	87	87
% of students reaching Level 4 and above for English (reading and writing) at KS2	88	85

In order to confirm that all children have attained an age appropriate level of phonics decoding skills, the DfE introduced a statutory Phonics Screening Check for all Year 1 students in 2012. The maximum score for the assessment is 40 correct responses with 32 being the expected standard that a Year 1 student should be working at. The indicators used are students 'working at' (Wa) the level of the check and 'working towards' (Wt). In 2013 at LA X, 73% of the Year 1 students who were eligible for the assessment were working at the expected level compared to 69% nationally. Similarly in 2012, LA X also outperformed the national level in the check. These statistics are presented in Table 7.

Table 7

*2013 Year 1 Phonics Screening Check results in LA X and at the National level.*

	<u>2012</u>	<u>2013</u>
LA X (% working at (Wa) the expected level)	66	73
National (% working at (Wa) the expected level)	58	69

<sup>4</sup> Level 2 attainment description: Pupils' reading of simple texts shows understanding and is generally accurate. They express opinions about major events or ideas in stories, poems and non-fiction. They use more than one strategy, such as phonic, graphic, syntactic and contextual, in reading unfamiliar words and establishing meaning.

<sup>5</sup> Level 4 attainment description: In responding to a range of texts, pupils show understanding of significant ideas, themes, events and characters, beginning to use inference and deduction. They refer to the text when explaining their views. They locate and use ideas and information.

In summary, there are numerous national guidelines and government documents available as references for teachers in the U.K. when planning and delivering RC lessons. This suggests that teachers in the U.K. should feel rather supported in their capacity to deliver effective RC lessons. The students in LA X are generally performing as well or better than the national averages. However, it is clear that about 15% of U.K. students nation-wide are still not meeting expected levels of attainment by the end of KS2. This is worrying because illiteracy can result in massive social and financial costs (Cree, Kay & Steward, 2012).

## **Chapter 5: Implications for Educational Psychologists**

Educational Psychologists have a clear role in supporting teachers and schools to strive towards positive outcomes for children and young people. The DfE's most current Draft SEN Code of Practice (2014) has described EPs as having the necessary specialist knowledge and skills to provide an extensive range of services to schools such as advice on teaching and learning, counselling, staff training, behaviour management and practical evidence-based interventions. Traditionally, schools have generally employed EPs to assess and work with the most vulnerable children who often present with the lowest attainment levels as part of inclusive practices. However, schools now increasingly see that EPs can also contribute towards the improvement of the wider school community and are now willing to engage EPs in creative ways at a more 'macro' or systemic level in order to cater to the needs of all mainstream, including those with SEN. These changes in perspectives of the EP's role have been described in several papers within a special edition of the Educational and Child Psychology journal published by the British Psychological Society that focuses on Educational Psychology and Special Educational Needs (Figg & Gibbs, 2000).

By being an external party to the school system, the EP is able to adopt a 'meta' perspective when looking at the wider system around the child, including the school, family and any other key individuals and influences (Beaver, 2011). In particular, EPs can work very closely with teachers who play key roles in delivering effective evidence-based practices in the classrooms for all children. Firstly, as self-efficacy is a psychological phenomenon shown to be important for classroom teaching and learning, it will be reasonable to expect EPs to have the prerequisite knowledge of its development and an understanding of any contributing factors or barriers to it. Hence, where teacher self-efficacy is of concern, EPs are well positioned to enhance a teacher's confidence in teaching perhaps through classroom observations and teacher feedback using the consultative process which is now a key method of service delivery by many EPs in the U.K. (Booker, 2005).

As Wedell (2000) explains, EPs are involved in schools at various levels including systems intervention, providing in-service training, and conducting detailed

investigation and intervention of individual children and young people. Although these may generally be for promoting the inclusion of children with SEN, EPs are also frequently consulted to provide advice in supporting quality first teaching for all students through similar activities. Hence, coupled with their understanding of the cognitive process and environmental influences on reading comprehension development as well as up-to-date knowledge of recent research as part of their professional practice, EPs can support schools and teachers in utilising evidence-based practices during reading comprehension instruction in order to raise literacy standards in the U.K.

## **Chapter 6: The Present Study**

The earlier literature review chapters have presented a large amount of literature on the RC process and several reviews conducted across the past few decades have identified key evidence-based practices for teaching RC. These recommended evidence-based practices have highlighted the importance of teaching specific RC strategies and basic literacy skills such as word recognition and language comprehension as well as careful consideration of classroom organisational and instructional formats while initial direct teacher input is gradually reduced as students gain confidence in reading independently. Although it may be reasonable to assume that many teachers will be aware of this evidence and incorporate as many of the evidence-based practices into their classrooms as possible, very few studies have directly explored this assumption through actual classroom observations.

In the few observational studies conducted in countries like the U.S. (e.g. Ness, 2011) and Norway (e.g. Anmarkrud & Bråten, 2012), they mainly focused on the teaching of RC strategies only without considering the implementation of a wider range of evidence-based RC instructional practices. Meanwhile, other studies in RC instruction (e.g. Concannon-Gibney & Murphy, 2010) have surveyed teachers' understanding and practice in teaching reading, including RC, using questionnaires and interviews without conducting actual classroom observations. Although these studies have made unique contributions towards research in RC instruction, it will be critical for further research to obtain teacher perspectives about their RC instructional practices and triangulate their perspectives with actual classroom data.

In the U.K., even lesser research has been conducted to explore the extent that teachers incorporate evidenced-based practices in their RC instruction and to investigate if teachers even feel confident about utilising these practices as part of general instruction for all students. This is despite a range of national guidelines and documents that act as references for teachers when planning and conducting their RC instruction.

An earlier exploratory study of interviews with five KS2 teachers in the U.K. which aims to examine teacher understanding of RC and their RC instructional practices,

as well as teacher perspectives towards RC difficulties and teacher training suggest that these teachers have some understanding of the RC process and they may be incorporating some evidence-based practices in their RC instruction (Zheng, 2012). The teachers in this small-scale study are able to identify prerequisite knowledge and skills for RC such as decoding, making inferences and vocabulary knowledge.

Consistent with the current evidence base about effective RC instruction, the teachers in the exploratory study report that they used whole class reading activities, differentiated teaching, teaching activities such as teacher questioning and discussion, word analysis and vocabulary, and teacher modelling, as well as the teaching of cognitive and metacognitive reading strategies. However, little explicit RC strategies instruction (e.g. Reciprocal Teaching) occurs and the focus is on using either Guided Reading or teacher-guided discussions to teach RC which may be due to teachers adhering to government guidelines on literacy instruction in the U.K. (e.g. DfES, 1998). Although the teachers report that they currently feel confident about their competencies after many years of teaching and training experiences, they feel that their initial teacher training is insufficient in preparing them to teach RC competently. Unfortunately, the results from this study need to be interpreted cautiously given the small sample size.

Hence, the main purpose of the present study was to further explore the extent that U.K. teachers used evidence-based practices for teaching RC in their classrooms and to assess their self-efficacy in using them. Using Figure 4 as an illustration, the present study focuses on the extent that KS2 teachers include evidence-based practices to inform their lesson plans for what to teach to support RC skills in developing readers and how to teach RC to these children. A secondary aim was to evaluate their perceived self-efficacy in using these practices in the classroom. These aspects of evidenced-based RC instruction are underlined in Figure 5.

Due to the complexity of the responsive nature of catering for individual differences in the classroom on teacher behaviour, a decision was made to not focus on how teachers adapted their practice to cater for individual differences in RC abilities in their classrooms although the findings from the current study can potentially inform on future research conducted in this area.

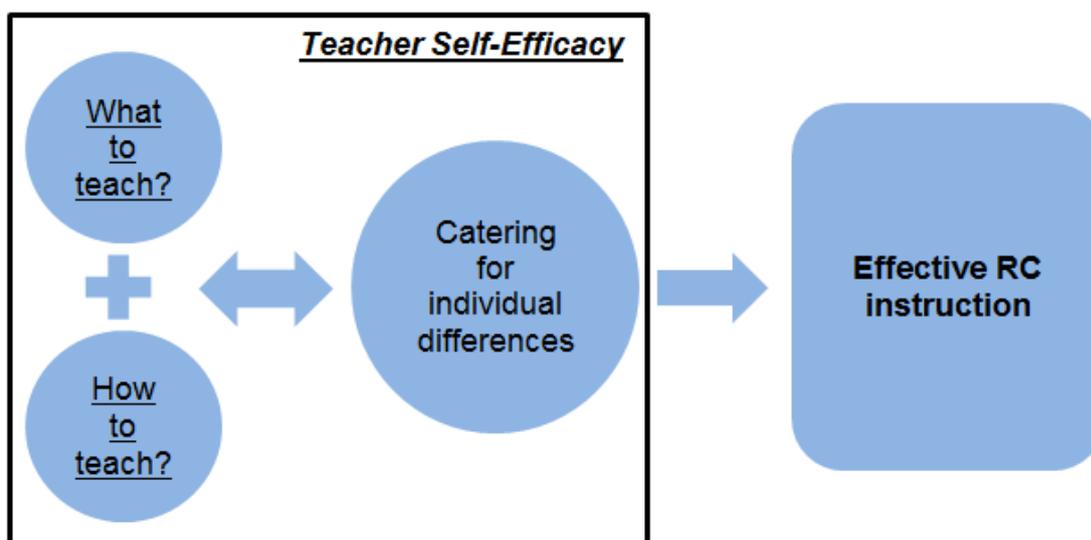


Figure 5. Aspects of evidenced-based RC instructional practices explored in current study.

Once these two sets of data are collected, links between teacher self-efficacy and classroom practices in RC instruction are examined. The findings from the study have the potential to contribute towards partly filling an apparent gap in research exploring teacher self-efficacy and instructional practices when teaching RC in the U.K. In addition, the outcomes from this study may also provide new insights into key components that should be included in teacher preparatory and continuous professional development courses in order to increase teacher self-efficacy, as well as to identify areas that EPs can contribute towards.

In summary, this study aims to address the following three research questions:

- 1) To what extent do teachers incorporate evidence-based practices when teaching RC?
- 2) How confident do teachers feel about incorporating these evidence-based practices when teaching RC?
- 3) Is there a relationship between teacher self-efficacy and the extent that evidence-based practices are incorporated when teaching RC?

## **Chapter 7: Methods**

### **Research Design**

A mixed methods non-experimental fixed research design that incorporated a questionnaire and a systematic classroom observation approach was used to gather quantitative data to objectively explore and describe the extent that teachers use evidence-based instructional practices when teaching RC. Additional qualitative data was also gathered through case studies of interviews with three teachers. The data collection took place over a four month period in three phases.

The focus of the first phase was to obtain teacher self-reports on the frequency that they used a range of evidence-based RC instructional practices within their classrooms and for teachers to assess how confident they felt about using these practices, both from a researcher-developed questionnaire. The purpose of the second phase was to obtain observational data to explore the proportions of instructional time being spent on various instructional practices being incorporated in actual RC lessons in order to triangulate the data obtained in the first phase.

In order to answer the first research question, exploratory and descriptive statistics were conducted on the quantitative data collected from the questionnaire to provide a description of the range of instructional practices that are reported to be used in classrooms frequently and this was triangulated with the quantitative analysis of the proportion of instructional practices being observed in actual classroom lessons using the systematic classroom observations in the second phase. The two sets of quantitative data were not analysed together due to the sampling procedure which would be explained in the subsequent participants and recruitment subsection. Further triangulation of data was also possible using the qualitative interview data from the third phase of the study with a subgroup of teachers.

The second research question was answered using exploratory and descriptive statistical analyses conducted on the quantitative data collected from the questionnaire to get a sense of how confident teachers felt about incorporating these evidence-based practices when teaching RC. Teacher confidence levels in

incorporating evidence-based practices were also explored through the qualitative data obtained from interviews with a subgroup of teachers.

Lastly, the third research question was addressed mainly through relational statistical analyses such as correlations between teacher-reported frequencies of using the range of evidence-based instructional practices included in the questionnaire and their confidence levels in using each of the described practices, both were data from the first phase of the study.

### **First Phase of Study: Questionnaire**

#### **Sample.**

The participants were KS2 teachers who have been invited to participate in the study during two rounds of recruitment.

In the first round of recruitment, target participants were all KS2 teachers from the 60 primary schools within an inner London borough where the researcher was on work placement as part of her doctoral training programme. Prior to contacting the schools, contact information of possible liaison school personnel such as Special Educational Needs Coordinators (SENCOs), Literacy Coordinators, or other members of the senior management team were either gathered via EPs working in the borough's Educational Psychology Service or via phone calls and emails to school administration offices. When possible, direct email addresses of the KS2 teachers were also obtained.

Once the contact information of liaison school personnel were obtained, an introductory email containing a Research Information Sheet (see Appendix A), a soft copy of the questionnaire and an online link to the web version of the questionnaire were sent out to them with an explicit request for them to forward on the email to the KS2 teachers in their schools. A similar introductory email was also sent out directly to KS2 teachers if their email addresses had been obtained. The teachers were given three weeks towards the end of the autumn term 2013 to respond to the questionnaire. A series of two reminder emails were sent out after the first and

second weeks which were then followed by a third and final conclusion email immediately after the deadline. It should be noted that in view of possible delays in returning completed questionnaires by post or via the EPs, responses were still accepted after the deadline.

Of the 60 schools, four schools firmly declined their participation in the study in response to the introductory email. Although not every school replied to the introductory email, it was assumed that the remaining 56 schools (93% of primary schools) agreed to participate in the study and the questionnaire should have been forwarded on to 379 KS2 teachers. The total pool of teachers who should have received the questionnaire was calculated by exploring staff lists in each of the school websites or via telephone calls directly to school administration offices to obtain information about the number of KS2 teachers in each of the schools.

A total of 29 teachers (7.7% of KS2 teachers) completed the questionnaire. Out of these 29 teachers who completed the questionnaire, 23 of them were female and the remaining 6 were male, the majority of them belonged to the age group of 26-35 years old, 24 of them were of White ethnicity while the remaining 5 were either of Black or Asian ethnicity. 27 of them underwent their initial teacher training in U.K. while the remaining 2 were trained outside Europe. See Table 8 for a detailed breakdown of the teachers' background information.

The 29 participants reported their teaching experience as ranging from 2 to 36 years ( $M = 8.3$  years,  $S.D. = 7.6$ ) and teaching experience specifically in KS2 as ranging from 1 to 23 years ( $M = 5.9$  years,  $S.D. = 4.9$ ). 23 of them also reported that they had previously taught other levels besides KS2. In particular, 19 of the teachers reported that they had taught in KS1. A comparable proportion of the 29 teachers reported that they were currently teaching each of the four levels in KS2. See Table 9 for the detailed information about the levels that the teachers reported to have taught and are currently teaching. The profile of the students in the literacy classes that these teachers taught was comparable to the statistics reported for LA X as a whole. Table 10 shows the details of the class profiles as compared to LA X.

Table 8

*Background Information of Teacher Respondents to Questionnaire.*

	Frequency (N)	Percentage (%)
<u>Gender</u>		
Male	6	20.7
Female	23	79.3
<u>Age group</u>		
16-25	3	10.3
26-35	17	58.6
36-45	6	20.7
46-55	2	6.9
55+	1	3.4
<u>Ethnicity</u>		
White	24	82.8
Black	3	10.3
Asian	2	6.9
<u>Country of initial teacher training</u>		
U.K.	27	93.1
Outside Europe	2	6.9

Although it was disappointing that the response rate within the first group of participants in the inner London borough was very low, this might not be surprising as the response rate to teacher self-completed questionnaires without the presence of the researcher was notoriously low with below 10% being very common, especially if the teachers were very busy (Wragg, 1999). Indeed, during the course of corresponding with various school leaders, the school leaders had repeatedly explained that the study was conducted at a very busy time of the year and they were not hopeful that many teachers would respond to the questionnaire.

Table 9.

*Past and Current Levels that Questionnaire Respondents Teach.*

	Frequency (N)	Percentage (%)
<u>Taught EYFS?</u>		
Yes	5	17.2
No	24	82.8
<u>Taught KS1?</u>		
Yes	19	65.5
No	10	34.5
<u>Taught KS3?</u>		
Yes	4	13.8
No	25	86.2
<u>Taught KS4?</u>		
Yes	3	10.3
No	26	89.7
<u>Current literacy year group</u>		
Combined 3 & 4	1	3.4
3	7	24.1
4	6	20.7
5	6	20.7
6	9	31.0

Table 10.

*Comparison of Class Profiles of Questionnaire Teacher Respondents and Local Student Profiles.*

Class profile	Current Study (Mean (S.D.))	LA X
% EAL	40.5 (25.1)	51.1
% Minority ethnicity	80.4 (21.0)	84.8
% Statemented	9.4 (12.7)	22.8
% Free school meals	33.1 (15.3)	33.6
% ≥ NC Level 2	93.1 (9.3)	87

Hence, after all of the questionnaires were completed by the first group of participants, invitations were extended to other KS2 teachers beyond LA X in order to gather more responses from a wider selection of KS2 teachers which would allow the collected data to be more representative of this group of teachers. This second round of recruitment followed a similar procedure as in the first round. The main differences were that the researcher did not contact the liaison school personnel directly and participants were only offered the option of completing the questionnaire via the online link.

The second group of participants were recruited via fellow Trainee Educational Psychologists (TEPs) at the Institute of Education and the time frame for this second group of participants to complete the questionnaire was three weeks in early spring term 2014. Unfortunately, this second round of recruitment resulted in only 2 KS2 teachers completing the questionnaire and both of them taught in schools within an outer London borough. Hence, it was decided that they would not be included in the study in order to maintain the cohesiveness of the group of study participants from the first round of recruitment.

This study focuses on KS2 teachers because by this stage, it is expected that most students have acquired a sufficient level of word reading ability to transit from learning to read to reading for meaning. Hence, the teachers should be focusing on teaching RC instead of teaching early reading skills like decoding.

As indicated in the Primary National Curriculum (Department for Education (DfE), 2011), students who complete KS1 should be performing at Level 2 which describes their reading to be “generally accurate” and KS2 is when the students build on these early reading skills and use them to “understand and respond to the meaning” of texts. As outlined in an earlier section, according to the Research and Statistics Unit (2012-2013) of the LA, a high proportion of the students (87%) have attained at least a Level 2 for reading in the year 2012. However, by gathering information about the student profile in each teacher’s class, further analyses can be conducted in order to consider the possibility that teachers may adjust their instructional practices accordingly if a high proportion of their students have not attained Level 2 for reading in KS2.

## **Measure and procedure.**

### ***Teacher self-completed questionnaire.***

A questionnaire was developed to gather information in the first phase of the study. The questionnaire consisted of three sections – teacher background and class profile, instructional practices in teaching RC and perceived competencies. The complete version of this questionnaire is provided in Appendix B.

Section A gathered general information about teacher background and class profiles, including teacher educational backgrounds and teaching experiences, as well as information about their classes, including total number of students, number of students learning English as an Additional Language, number of students from minority ethnicities, number of students with Statements of SEN, number of students eligible for free school dinners and number of students who had attained National Curriculum Level 2 or above for Reading. The above information allowed comparisons to be made between the profile of the respondents and the national population in order to determine the representativeness of the findings as well as to allow further analyses between different groups of teachers (e.g. more experienced and less experienced teachers, teachers who participated in more days of continuous professional development and those who participated less). Information about the profile of the students in the respondents' current classes enabled considerations to be made if unusually high numbers of certain student groups as compared to national demographics have influenced the instructional practices of the teachers.

Section B was designed to elicit teacher self-reports on how frequently they incorporated a list of evidence-based instructional practices when teaching RC in their classrooms within the past two weeks. This list was created based on the extensive review of the literature on theoretical models of RC development and evidence-based RC instruction. In particular, the key references included the findings of studies summarised in Table 4. Hence, the items in this section of the questionnaire were related to the 'teaching of RC strategies' (ten items), 'teaching of

basic literacy skills' (three items), 'use of teaching approaches' (two items) and 'classroom instructional format' (three items).

Respondents were asked to consider the time frame of the previous two weeks prior to answering Section B of the questionnaire. Converse and Presser (1986) has suggested that questions requiring respondents to recall past events should be "bounded" so that all respondents use the same time frame. Respondents were asked to indicate how often they conducted each of the instructional practices using a generic five-point frequency scale with category labels ranging from 'never' to 'always'. Descriptors for these labels ranging from '0% of the time' to '>80% of the time' were also provided as reference when required. Each of the categories was labelled precisely in order to ensure that all respondents gave objective assessments of how frequently they employed each instructional practice (Oppenheim, 1992). In addition, this section also included two open-ended items for the respondents to provide further comments on the items in the section or about other skills/strategies that they taught and other teaching approaches/formats that they used in their literacy lessons.

Section C of the questionnaire was designed to get the respondents to assess their confidence levels in incorporating the same list of evidence-based instructional practices included in Section B. As outlined in the literature review, teacher self-efficacy has significant implications for classroom practice. Hence, it was expected that teachers' instructional actions would focus on areas that they felt more confident in and conversely, they would be less likely to incorporate instructional practices that they did not feel competent in. However, it should be highlighted that the aim of including this section in the questionnaire was not to develop yet another instrument to measure teacher self-efficacy. Instead, as no instrument has been developed to measure teacher self-efficacy in teaching RC specifically and existing measures of teacher self-efficacy in teaching reading may not be valid since teacher self-efficacy is not stable across contexts and subjects (Goddard, Hoy, & Hoy, 2000), a decision was made to draft novel items in this section of the questionnaire in order to provide initial data about how confident teachers feel about using specific evidence-based practices when teaching RC.

The respondents were asked to rate how confident they felt about incorporating each of the identified instructional practices using an ordinal six-point scale ranging from 'very low' to 'very high'. No midpoint category was included in the six-point scale in order to prevent the teachers from taking a neutral position with regards to their confidence levels which would make further analyses difficult especially since as many as 20 per cent of respondents might select the neutral middle position if it was offered as a category (Converse & Presser, 1986). A more fine-grained six-point scale was used, as opposed to a four-point scale, in order to minimise the error of central tendency phenomenon when respondents avoid rating themselves on the extreme categories (Oppenheim, 1992).

During the analyses of the data gathered in Sections B and C of the questionnaire, individual items were treated as Likert-type items while a summation of responses across all items in each section generated overall scores representing usage of effective instructional practices and self-efficacy in teaching RC which were treated as Likert scale data. Hence, statistical analyses appropriate for Likert-type items were used when exploring individual items (i.e. medians and frequencies) while statistical analyses appropriate for Likert scales were used when exploring overall scores (i.e. means and standard deviations) (Boone & Boone, 2012).

Face and content validity could be recognised because the items in the questionnaire were generated based on a detailed review of associated literature and consultation with experts in the field.

### **Piloting the questionnaire.**

The questionnaire was piloted on 3 KS2 teachers enrolled in the Masters in Special and Inclusive Education course (cohort 2013-2014) at the Institute of Education, University of London. Each teacher read the instructions and completed the three sections of the questionnaire independently, similar to the situation in which actual study participants completed the questionnaire. The pilot participants were also requested to write down their comments about their experience of reading, understanding and responding to each item as well as remarks about the overall

format and presentation of the questionnaire. This feedback was taken into consideration when finalising the final draft of the questionnaire.

The changes made to the questionnaire after the pilot study were within the first section of the questionnaire. Firstly, two items that elicited information about the participant's major field of study for their undergraduate and highest graduate degrees were omitted in order to shorten the number of items in the first section. Secondly, participants were asked to rate the extent that their initial teacher training or continuous professional development courses focused on literacy and RC using a scale of 1 to 10 instead of stating percentages to indicate the required information in an open-ended manner on three items. The pilot participants felt that the rest of the questionnaire was succinct and instructions were sufficiently clear to facilitate responses. They also did not require any clarification of words or items. Hence, no further changes were made to the second and third sections of the questionnaire.

## **Second Phase of Study: Classroom Observations.**

### **Sample.**

The participants in the second phase of the study were recruited from the teachers who completed the questionnaire in the first phase of the study when they were offered the option to participate in a follow up classroom observation. A total of 9 teachers (31% of teachers who completed the questionnaire) agreed to it.

Out of these 9 teachers, 7 of them were female and the remaining 2 were male, 7 of them were aged between 26-35 years old, 1 was aged between 36-45 and 1 was aged between 46-55, 7 of them were of White ethnicity while the remaining 2 were of Black ethnicity. 8 of them underwent their initial teacher training in U.K. while the remaining 1 was trained outside Europe. Their teaching experience ranged from 2 to 36 years ( $M=10.1$  years,  $S.D.=10.4$ ) and their teaching experience specifically in KS2 ranged from 1 to 15 years ( $M=6.1$ ,  $S.D.=4.0$ ). 7 of them also reported that they had previously taught other levels besides KS2. In the academic year of the current study, 5 of them were teaching Year 6, 1 was teaching Year 5, 1 was teaching Year 4, and 2 were teaching Year 3. The profiles of the classes that the observed

teachers taught were comparable to the overall class profiles of the teachers who completed the questionnaire. Table 11 shows the details of the profiles of the classes being observed as compared to the profiles reported by the teachers who completed the questionnaire.

Table 11.

*Comparison of Class Profiles of Questionnaire Reports and Observed Classes.*

Profile	Questionnaire Reports (Mean (S.D.))	Observed Classes (Mean (S.D.))
% EAL	40.5 (25.1)	38.5 (25.6)
% Minority ethnicity	80.4 (21.0)	76.2 (17.4)
% Statemented	9.4 (12.7)	4.0 (4.2)
% Free school meals	33.1 (15.3)	31.1 (10.3)
% $\geq$ NC Level 2	93.1 (9.3)	92.3 (10.3)

**Measure and procedure.**

***Systematic observation coding scheme.***

A predefined systematic observation coding scheme was developed to gather information about teacher instructional practices in actual classroom contexts as part of the second phase in the study. The coding scheme was based mainly on reviews of studies in RC instruction (Anmarkrud & Bråten, 2012; Ness, 2011) and the categories were chosen to reflect an appropriate level of detail for the current descriptive study. The coding scheme developed for the current study consisted of four main categories – (i) instructional format, (ii) literacy focus, (iii) level of teacher input and (iv) RC strategy. The main categories of instructional format and literacy focus served to provide the context of the observations while the last two main categories of level of teacher input and RC strategy served to capture a minute-by-minute record of instructional actions when teaching RC in classrooms.

The first main category of instructional format included four subcategories of whole-class instruction, group work, individual work, classroom management and others. The distinction between the first three subcategories of whole-class instruction,

group work, and individual work instructional formats is frequently used in classroom research (e.g. Galton, Hargreaves, Comber, Wall, & Pell, 1999). The subcategory of classroom management was also included in order to gather information about the time spent on this important and often necessary aspect of classroom teaching and organisation. Each of the subcategories within the main category of instructional format is described in Table 12.

Table 12

*Subcategories within the Main Category of Instructional Format.*

Sub-categories	Description
1. Whole class	All students are working on the same activity and they share a common goal or idea (e.g. all students listening to the teacher or presentation by a student).
2. Group work	Students are placed into groups of 2 or more to work together on a common task (e.g. in a reading group, working on a group project).
3. Individual work	Students work on assigned tasks individually without any need for peer interactions (e.g. the student is working alone at the desk).
4. Classroom management	Teacher gives instructions to organise activities, deal with misbehaviour or disseminate non-academic information (e.g. calling for attention, asking students to keep away stationery).

Even though the observations focused on requested RC lessons, it would be unlikely that the entire lesson consisted of only teaching activities dedicated to developing student abilities in comprehending and interpreting written text. Hence, the second main category of literacy focus included subcategories of word recognition, reading fluency, vocabulary, language comprehension, RC, and writing. This list was developed from other observational data that had previously captured the range of possible literacy-based instructional activities (e.g. Pressley, Yokoi, Rankin, Wharton-McDonald, & Mistretta, 1997; Taylor, Peterson, Pearson, & Rodriguez, 2002). Each of the subcategories within the main category of literacy focus is described in Table 13.

Table 13.

*Subcategories within the Main Category of Literacy Focus.*

Sub-categories	Description
1. Word recognition	Teaching activities to enhance individual word recognition (e.g. phonics decoding or sight word reading).
2. Reading fluency	Teaching activities to enhance the ability to read accurately and quickly (e.g. students taking turns to read a story or their written work aloud, silent reading).
3. Vocabulary	Teaching activities to enhance knowledge and understanding of individual words (e.g. discussion about the meaning of a word, using a dictionary to define a word).
4. Language comprehension	Teaching activities to enhance ability to extract meaning from oral language (e.g. discussion after watching a video or listening to a story read aloud by the teacher).
5. RC	Teaching activities to enhance comprehension and interpretation of written text (e.g. teacher asking questions to guide students' thinking about a text).
6. Writing	Teaching activities to enhance skills in grammar, sentence formation and written presentation of ideas (e.g. discussion about how to organise ideas in a written task, use of appropriate punctuation marks, discussion about structure of various text types).

Every time a code for the RC subcategory within the main category of literacy focus was recorded, the interval was also coded within the main category of level of teacher input. This main category of level of teacher input included subcategories of direct instruction or modelling, scaffolding, independent. These subcategories were based on Duke and Pearson's (2002) gradual release of responsibility model of comprehension instruction. Each of the subcategories within the main category of level of teacher input is described in Table 14.

Table 14.

*Subcategories within the Main Category of Level of Teacher Input.*

Sub-categories	Description
1. Direct instruction or modelling	Teacher provides an explicit description of the RC strategy and when and how it should be used. There is no student input. (E.g. teacher provides a demonstration or models the skill/strategy).
2. Scaffolding	Teacher provides varying amounts of input to guide students to use the RC strategy. The student(s) also give inputs. (E.g. 2-way discussion between the teacher and students, teacher asks guiding questions and students respond accordingly, teacher giving feedback).
3. Independent	Teacher allows students to use the RC strategy independently. There is no teacher input.

Similarly, every time a code for the RC subcategory within the main category of literacy focus was recorded, the interval was also coded within the main category RC strategy. This main category of RC strategy included subcategories of memorisation strategies, organisation strategies, elaboration strategies, and monitoring strategies as shown in Table 15. These were taken directly from Anmarkrud and Bråten's (2012) study which were in turn based on Weinstein and Mayer's (1986) taxonomy of learning strategies.

In addition to all of the subcategories described above, an 'others' subcategory was also included in each of the main categories to capture situations that did not fit into any of the predetermined subcategories. This subcategory was not used often and if it was used, qualitative notes were also made about the general gist of the observed 30-second interval, including teacher directions, materials used and student behaviour.

Table 15.

*Subcategories within the Main Category of RC Strategy.*

Sub-categories	Description
1. Memorisation strategies	Situations, episodes, dialogues, and utterances before, during, or after reading where teachers instruct or recommend students to select and rehearse information without transforming or moving beyond what is given in the text. (E.g. memorising key words or main ideas, skimming and scanning a text to extract key information).
2. Organisation strategies	Situations, episodes, dialogues, and utterances before, during, or after reading where teachers instruct or recommend students to order/arrange text information to get a better overview of relations among concepts and ideas in the text. (E.g. summarising, use of text structure).
3. Elaboration strategies	Situations, episodes, dialogues, and utterances before, during, or after reading where teachers instruct or recommend students to build connections between information given in the text and background knowledge or information from other sources. (E.g. making inferences, linking to prior knowledge/self, predicting, visualising).
4. Monitoring strategies	Situations, episodes, dialogues, and utterances before, during, or after reading where teachers instruct or recommend students to assess or regulate their own text comprehension (problem detection and problem solving). (E.g. determining the purpose of reading a text, self-questioning and answering, self-correction, checking if what was read makes sense).

***Using the systematic observation coding scheme.***

Prior to the start of the observations, each of the nine teachers from the first round of recruitment who agreed to be observed were contacted. It was requested that the observations should be of lessons that focused on RC. Hence, after initial negotiations, two observations were confirmed with eight of the teachers at mutually

agreeable times over a period of three weeks in early spring term 2014. As the ninth teacher could only offer a single time for the observation due to her busy schedule, she was only observed once. The amount of observation time was determined by the amount of instructional time allocated for the lesson.

As a result of the initial contact, the teachers were fully aware in advance of the upcoming presence of the researcher in their classrooms. In assuming the role of an observer-as-participant, the researcher was unobtrusive and did not take part in the lessons but both students and teachers were aware of the researcher's role as an observer. All observations occurred in whole-class settings where every student was present in the main classroom instead of alternative small-group settings where the teacher might only be working with a selected group of students outside the main classroom.

During each observation, teacher behaviour was coded in 30-second increments, adapted from a similar protocol used by Ness (2011). Coding began when teachers signalled the start of the lesson by calling for attention from the students or to explicitly state that the class was moving into the RC lesson. Conversely, coding stopped when teachers either explicitly stated that the lesson had ended or made obvious eye contact with the researcher to signal the end of the lesson. Within each 30-second interval, however many instructional codes that occurred were recorded which would then allow for multiple codes in one interval. This process was repeated for the entire duration of the observation. At the conclusion of each observed lesson, codes that appeared during the observation were tallied. As teacher behaviour was the key focus of the study, teacher actions at the local level were coded. For example, when an entire classroom was organised for small-group work, the researcher followed the teacher and only coded for his or her behaviour as various small groups were being supported while wider global student behaviour would be ignored.

### **Piloting the systematic observation coding scheme.**

Three rounds of pilot work were conducted and changes were made to the coding scheme after each round to ensure that it was easy to use and the categories were well-described in order to capture the descriptive information of each observed interval in the classrooms.

The first round of pilot work was conducted in a Year 5 class whose teacher did not participate in the actual study. The teacher came from a school in an inner London borough. Coding was done for five main categories – literacy focus, instructional format, text type used, level of teacher guidance, and type of comprehension strategy instruction (see Appendix C for the descriptions of the categories used in the first pilot study). A one-zero time sampling technique was used where within each set time interval of one minute, the researcher observes for the first 10 seconds and completes the coding in the last 50 seconds based on a retrospective judgement on the prevalent activity observed during the first 10 seconds.

This technique proved to be unsatisfactory because of the complexity of the variables being studied. These variables varied widely in terms of duration of occurrence. Hence, brief events like rapid teacher-student discussions around RC strategies were likely to be undercounted relative to longer events like whole-class instructional format. The main category of text type use was also found to be unnecessary as teachers tended to either only use a single text and text type for the entire lesson or many text types were used such as when students were given the choice to pick a book to read before answering a series of RC questions independently. In the latter example, it would be difficult to code for text type used during the intervals. Another major issue that arose was that it was difficult to establish links between the main categories of literacy focus and level of teacher input. As all intervals were coded for level of teacher input regardless of the literacy focus, it would be impossible to determine the level of teacher input when there was a literacy focus on RC which was the aim of the current study.

Consequently, a second round of pilot work was conducted with another Year 5 teacher in another inner London borough who also did not participate in the actual

study. The main category of text type use was omitted (see Appendix D for the descriptions of the categories used in this second pilot study) and a different time sampling technique was used. Instead of coding retrospectively after deciding which of many events took up the majority of a set time period as used in the first pilot, the second pilot study utilised instantaneous time sampling where the researcher coded the events happening at the moment within set intervals of one minute. Within each minute interval, individual events were only coded once regardless of how many times they occurred. Hence, this method would capture the occurrence of all events of interest in the study, including brief activities which would not have been accounted for in the previous pilot. The time sampling technique proved to be satisfactory but the one minute intervals were too long and it also reduced the amount of information that could be collected during the entire observation period.

To ensure that the coding scheme gathered relevant information to attain the aim of the research study to explore teacher instructional practices when teaching RC, the main categories of level of teacher input and type of comprehension strategy instruction were now only coded in the second pilot study when the sub-category of RC within the main category of literacy focus was recorded. With regards to the appropriateness of the categories being coded, there were some frequently observed literacy focuses such as reading fluency (e.g. student reading a text aloud) and language comprehension (e.g. class discussion about a video) that were not accounted for by the main category of literacy focus. In addition, it was challenging to code for the main category of type of comprehension strategy instruction as differences between the sub-categories were often subtle which made it challenging for an immediate decision to be made about the specific sub-category the instructional action belonged to without a more fine-tuned analysis of the discourse between the teacher and students.

As a result, a third and final round of pilot work was done on a video recording of a different RC lesson conducted by the same Year 5 teacher who was observed in the second pilot study. The same instantaneous time sampling technique was used except events were coded within thirty-second intervals instead of one-minute intervals. Some of the sub-categories in the instructional format, literacy focus, and level of teacher input main categories were either condensed or added to better

reflect the range of events observed or to ensure the coding process was manageable. The major change within the coding scheme was in the final main category of RC strategy. This main category consisted of four sub-categories (i.e. memorisation strategies, organisation strategies, elaboration strategies, and monitoring strategies) which would broadly encompass all of the sub-categories previously defined within the main category of type of comprehension strategy instruction as used in the second pilot study. In addition, the two main categories of level of teacher input and RC strategy were only coded within an interval when the sub-category of RC was also coded within the same interval. This final version of the coding scheme was easy to use, manageable within the thirty-second coding intervals and could capture relevant information to attain the aims of the research study. Hence, it was the coding scheme used for the actual observations in the second phase of the research study.

An intra-rater reliability analysis was performed using the Kappa statistic to determine consistency of coding for the video recording of the last pilot observation after an interval of a week (i.e. the researcher coded twice for the same videotaped lesson instead of involving an independent rater). The intra-rater reliability for all of the different sub-categories in the coding system ranged from 0.79 to 1.00 ( $p < 0.001$  for all values). This was acceptable as Landis and Koch (1977) has categorised kappa values above 0.61 as “substantial” and values above 0.81 as “almost perfect”. However, it should be noted that during this final pilot observation using the video recording, seven sub-categories out of the total 21 sub-categories did not occur during the lesson and hence were consistently coded as absent. These seven sub-categories were “individual work” and “others” within the main category of instructional format, “language comprehension” within the main category of literacy focus, “independent” and “others” within the main category of level of teacher input, and “monitoring strategies” and “others” within the main category of RC strategy.

### **Third Phase of Study: Case Study Interviews**

In order to triangulate the data gathered from the first and second phases of the study, a semi-structured approach was used to interview each of the 3 teachers in the third phase of the study.

### **Sample.**

The participants in the third phase of the study were recruited from amongst the 9 teachers who completed the questionnaire in the first phase of the study and participated in the follow up classroom observations in the second phase of the study. The teachers were selected to be interviewed for the case studies because they had either reported one of the highest frequencies and confidence levels in teaching RC strategies, reported one of the lowest frequencies and confidence levels in teaching RC, or there was a large discrepancy between the reported frequencies and confidence levels in teaching RC strategies based on their responses in the questionnaire. 4 teachers were initially approached to participate in the interviews but only 3 teachers were interviewed. The teacher who was invited but not interviewed was a Year 6 teacher who was busy with preparations for the upcoming SATs. Hence, it was difficult to arrange an interview time with her. A brief outline of each teacher's background and class profile were provided together with the outline of the interviews reported in the results chapter. Distinctive information was not disclosed in order to maintain confidentiality.

### **Measure and procedure.**

In view of the small number of respondents to the questionnaire, the third phase of the study was intended to provide more in-depth qualitative information in order to triangulate the data collected and to clarify on any surprising results from the earlier quantitative analyses. Hence, the interview questions were developed after the analyses of data collected from the first and second phases of the study were completed.

The flow of comments and questions asked during the semi-structured interview process were guided by the main objectives of quickly building rapport, understanding teacher thought processes when participating in the study, and deepening teacher reflection on teaching RC. Three key questions were asked and different probes were used according to the teachers' responses to each question. These are outlined in Appendix E. The three key questions were:

- 1) What were your thoughts when you were filling up the questionnaire?
- 2) Did you have different thoughts while responding to different sections of the questionnaire?
- 3) How does it feel like for you to teach RC?

In order to clarify on any surprising results from the earlier quantitative analyses, specific probes were also used after some of the key questions. For example, results from the questionnaire data showed that more than half of the respondents reported that they 'sometimes' or 'often' used Reciprocal Teaching during RC instruction. This was surprising as the researcher had not seen this RC teaching approach being used in any of the numerous observations she had done in her role as a Trainee EP. Hence, when probing for further responses to the second interview question, the researcher specifically checked for teacher understanding of the two RC teaching approaches (i.e. Guided Reading and Reciprocal Teaching) which were being investigated in the study.

After the interviews, the teacher responses were analysed as separate case studies through a narrative description of key ideas relevant to the objectives of the third phase of the study and the research questions of the entire study. Pertinent ideas that appeared across the case studies were also identified.

### **Ethical Considerations**

Each participant was fully informed of the purpose and procedure of the study through the Research Information Sheet (Appendix A). Consent was sought from individual participants before they participate in the study either using a written form or an online acknowledgement depending if they choose to complete the questionnaire in hardcopy or online (see Participant Consent Form at the end of Appendix A).

Participation in this study was entirely voluntary and no monetary incentives or benefits were offered to participants. In addition, the teachers were informed that they could withdraw from the study at any time for any reason. Participants were

provided with opportunities to ask questions which were clarified prior to starting each phase of the study.

All data collected from the study was stored and managed by the researcher in password-protected storage devices. Participants were assured that all data would be treated with full confidentiality and information would be communicated without compromising their identities

## **Chapter 8: Results**

This chapter reports 3 sets of results from the 3 phases of data collection.

The first section reports the results of the analysis of the data collected from the Teaching RC Questionnaire in the first phase of the study. Teacher self-reports of their frequency of using each evidence based practice are described together with their self-rated confidence levels in using them (research questions 1 and 2) while results from a correlational analysis are reported to examine the relationships between teacher self-reports of their frequency of teaching RC strategies and their self-rated confidence in teaching them as well as their associations with teaching and training experiences (research question 3).

The second section reports the results of the classroom observations based on the systematic observation coding system used during the second phase of the study (research question 1). The findings are presented according to the main categories of the coding system.

Finally, the findings of the semi-structured interviews conducted with three teachers as discrete case studies in the third phase of the study are described in the third section to triangulate with results from the first and second phases of the study (research questions 1, 2 and 3).

### **Results from Questionnaire**

The results are presented according to teacher self-reports of frequencies and their confidence levels in three aspects of evidence-based practice during RC instruction (teaching of RC strategies, teaching of basic literacy skills, and use of different teaching approaches and classroom instructional format) before presenting the correlational analysis of relationships among frequency of teaching RC strategies, teacher confidence levels in teaching RC strategies, teaching experiences and training experiences.

Completed questionnaires were received from 29 KS2 teachers. 28 teachers answered all of the items in the questionnaire while 1 teacher did not respond to 2 items because she was unfamiliar with the Reciprocal Teaching approach to teaching RC skills. Nonetheless, all 29 questionnaires were deemed to have been sufficiently completed and they were included in the data analysis. It should be noted that the response rate for the questionnaire was very low at 7.7% of the target sample so the data should be interpreted with caution.

### Teaching of RC strategies.

In section B of the questionnaire, there were 10 items (i.e. items 20-29) that requested teachers to rate on a 5-point scale (ranging from “never” to “always”) the frequency that they taught a list of RC strategies identified from the relevant literature. The percentage of responses for each point of the scale and the median point for each item are presented in Table 16.

Table 16.

#### *Teacher Responses to Items 20-29 of Questionnaire.*

<u>Reported Frequency</u> <u>in Teaching Students to...</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>					<u>Median</u>
		<u>Never</u>	<u>Rarely</u>	<u>Some-</u> <u>times</u>	<u>Often</u>	<u>Always</u>	
Generate own questions	29	10.3	17.2	41.4	24.1	6.9	Sometimes
Summarise information	29	0.0	10.3	24.1	34.5	31.0	Often
Identify main ideas	29	0.0	3.4	24.1	31.0	41.4	Often
Relate text to past experiences	29	0.0	10.3	27.6	48.3	13.8	Often
Make predictions	29	3.4	3.4	24.1	37.9	31.0	Often
Make inferences	29	3.4	6.9	10.3	44.8	34.5	Often
Create visual representations	29	6.9	27.6	24.1	37.9	3.4	Sometimes
Monitor own understanding	29	6.9	13.8	31.0	31.0	17.2	Sometimes
Analyse text structure	29	6.9	6.9	34.5	37.9	13.8	Often
Set purpose for reading	29	3.4	27.6	17.2	44.8	6.9	Often

As shown in Table 16, the median reported frequencies suggest the RC strategies reported to be taught most frequently (i.e. “often”) were to teach students to summarise information, identify main ideas, relate text to past experiences, make predictions, make inferences, analyse text structure and set purpose for reading. In particular, many teachers reported to be “always” teaching their students to identify main ideas from text. Conversely, it was noted that a considerable proportion of teachers reported that they “never” or “rarely” taught students to generate own questions about (i.e. 27.5% of respondents), create visual representations from (i.e. 32.5% of respondents), monitor own understanding of (i.e. 20.7% of respondents), or set purpose for reading a text (i.e. 31% of respondents).

Using the scores 1 to 5 to represent each point on the rating scale respectively (i.e. 1 represents “never” while 5 represents “always”), a total overall score for the reported frequencies in teaching RC strategies (maximum score = 50) could be obtained for each teacher. The respondents as a whole reported that they taught RC strategies frequently ( $M = 35.62$ ,  $SD = 6.22$ ).

In Section C of the questionnaire, there were 10 items (i.e. items 40-49) in the questionnaire that requested teachers to rate on a 6-point scale (ranging from “very low” to “very high”) their confidence levels in teaching the same list of RC strategies that were identified from the relevant literature. The percentage of responses for each point of the scale and the median point for each item are presented in Table 17. The median reported confidence levels suggest the respondents have “rather high” or “high” confidence in teaching each of the RC strategies. Conversely, it was noted that a considerable proportion of teachers reported “low”, “rather low” or “very low” confidence levels in teaching students to make inferences (i.e. 10.3% of respondents), create visual representations (i.e. 13.7% of respondents), monitor own understanding (i.e. 20.6% of respondents), and set purpose for reading a text (i.e. 17.2% of respondents).

Similarly like before, using the scores 1 to 6 to represent each point on the rating scale respectively (i.e. 1 represents “very low” while 6 represents “very high”), a total overall score for the reported confidence levels in teaching RC strategies (maximum

score = 60) could be obtained for each teacher. The respondents as a whole reported high confidence levels in teaching RC strategies (M = 46.14, SD = 6.77).

Table 17.

*Teacher Responses to Items 40-49 of Questionnaire.*

<u>Reported Confidence Level</u> <u>in Teaching Students to...</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>						<u>Median</u>
		<u>Very</u>	<u>Rather</u>	<u>Low</u>	<u>High</u>	<u>Rather</u>	<u>Very</u>	
		<u>Low</u>	<u>Low</u>			<u>High</u>	<u>high</u>	
Generate own questions	29	0.0	0.0	6.9	41.4	44.8	6.9	Rather High
Summarise information	29	0.0	0.0	3.4	34.5	41.4	20.7	Rather High
Identify main ideas	29	0.0	0.0	3.4	27.6	44.8	24.1	Rather High
Relate text to past experiences	29	0.0	0.0	6.9	31.0	44.8	17.2	Rather High
Make predictions	29	0.0	0.0	6.9	24.1	34.5	34.5	Rather High
Make inferences	29	0.0	0.0	10.3	27.6	37.9	24.1	Rather High
Create visual representations	29	3.4	0.0	10.3	31.0	44.8	10.3	Rather High
Monitor own understanding	29	0.0	10.3	10.3	41.4	27.6	10.3	High
Analyse text structure	29	0.0	0.0	6.9	37.9	44.8	10.3	Rather High
Set purpose for reading	29	3.4	6.9	6.9	34.5	37.9	10.3	High

### **Teaching of basic literacy skills.**

In section B of the questionnaire, there were 3 items (i.e. items 30-32) that requested teachers to rate on a 5-point scale (ranging from “never” to “always”) the frequency that they taught a list of basic literacy skills that have been found to contribute towards RC development in children. The percentage of responses for each point of the scale and the median point for each item are presented in Table 18.

Table 18.

*Teacher Responses to Items 30-32 of Questionnaire.*

<u>Reported Frequency in Teaching Students</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>					<u>Median</u>
		<u>Never</u>	<u>Rarely</u>	<u>Some- times</u>	<u>Often</u>	<u>Always</u>	
Vocabulary knowledge	29	0.0	3.4	17.2	41.4	37.9	Often
Word recognition	29	0.0	13.8	20.7	41.4	24.1	Often
Grammar/Sentence structure	29	0.0	3.4	10.3	37.9	48.3	Always

The median reported frequencies suggest that teachers “often” or “always” teach the 3 basic literacy skills important for RC development. However, a considerable proportion of teachers report that they “rarely” teach students word recognition (i.e. 13.8% of respondents).

In Section C of the questionnaire, there were 3 items (i.e. items 50-52) in the questionnaire that requested teachers to rate on a 6-point scale (ranging from “very low” to “very high”) their confidence levels in teaching the same list of basic literacy skills that were shown in the relevant literature to contribute towards RC development. The percentage of responses for each point of the scale and the median point for each item are presented in Table 19.

Table 19.

*Teacher Responses to Items 50-52 of Questionnaire.*

<u>Reported Confidence Level in Teaching</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>						<u>Median</u>
		<u>Very Low</u>	<u>Rather Low</u>	<u>Low</u>	<u>High</u>	<u>Rather High</u>	<u>Very high</u>	
Vocabulary knowledge	29	0.0	0.0	10.3	17.2	48.3	24.1	Rather High
Word recognition	29	0.0	3.4	10.3	27.6	34.5	24.1	Rather High
Grammar/Sentence structure	29	0.0	0.0	6.9	27.6	41.4	24.1	Rather High

As shown in Table 19, the median reported confidence levels suggest the teachers have “rather high” confidence levels in teaching each of the basic literacy skills important for RC development. However, a considerable proportion of teachers report “low” or “rather low” confidence levels in teaching word recognition (i.e. 13.7% of respondents).

**Use of different teaching approaches and classroom instructional formats.**

In section B of the questionnaire, there were 2 items (i.e. items 34-35) that requested teachers to rate on a 5-point scale (ranging from “never” to “always”) the frequency that they used two different teaching approaches during RC instruction and a further 3 items (i.e. items 36-38) using the same 5-point scale about the frequency that they used different classroom instructional formats. The percentage of responses for each point of the scale and the median point for each of the above items are presented in Table 20.

Table 20.

*Teacher Responses to Items 34-35 of Questionnaire.*

<u>Reported Frequency</u> <u>in Using</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>					<u>Median</u>
		<u>Never</u>	<u>Rarely</u>	<u>Some-</u> <u>times</u>	<u>Often</u>	<u>Always</u>	
Guided reading	29	13.8	0.0	13.8	31.0	41.4	Always
Reciprocal teaching	28	20.7	17.2	34.5	24.1	0.0	Sometimes
Whole-class instruction	29	3.4	13.8	20.7	44.8	17.2	Often
Small-group instruction	29	6.9	6.9	24.1	48.3	13.8	Often
Individual instruction	29	17.2	27.6	27.6	20.7	6.9	Rarely/ Sometimes

The median reported frequencies on using the two teaching approaches during RC instruction suggest the teachers “always” use Guided Reading while Reciprocal Teaching is only “sometimes” used. Conversely, more teachers reported that they “never” or “rarely” used Reciprocal Teaching (i.e. 37.9% of respondents) as compared to Guided Reading (i.e. 13.8% of respondents) during RC instruction.

With regards to classroom instructional format, the teachers reported using whole-class and small-group instruction “often” while individual instruction was only “rarely” or “sometimes” used when teaching RC in their classrooms. A large percentage of the teachers also reported that they “rarely” or “never” taught RC using individual instruction (i.e. 44.8% of respondents).

In Section C of the questionnaire, there were 2 items (i.e. items 53-54) in the questionnaire that requested teachers to rate on a 6-point scale (ranging from “very low” to “very high”) their confidence levels in teaching the two teaching approaches during RC instruction and a further 3 items (i.e. items 55-57) using the same 6-point scale about their confidence levels in using different classroom instructional formats when teaching RC. The percentage of responses for each point of the scale and the median point for each item are presented in Table 21 below.

Table 21.

*Teacher Responses to Items 53-54 of Questionnaire.*

<u>Reported Confidence Level in Using</u>	<u>N</u>	<u>Scale Rating (% of Responses)</u>						<u>Median</u>
		<u>Very Low</u>	<u>Rather Low</u>	<u>Low</u>	<u>High</u>	<u>Rather High</u>	<u>Very high</u>	
Guided reading	29	0.0	0.0	6.9	20.7	27.6	44.8	Very High
Reciprocal teaching	28	10.3	10.3	20.7	27.6	20.7	6.9	High
Whole-class instruction	29	0.0	0.0	10.3	10.3	51.7	27.6	Rather High
Small-group instruction	29	0.0	0.0	6.9	20.7	27.6	44.8	Very High
Individual instruction	29	0.0	0.0	3.4	24.1	27.6	44.8	Very High

As shown in Table 21, the median reported confidence levels suggest the respondents have “very high” confidence levels in using the Guided Reading approach and “high” confidence levels in using the Reciprocal Teaching approach

during RC instruction. However, between the two teaching approaches, more teachers reported “low”, “rather low” or “very low” confidence levels in using Reciprocal Teaching (i.e. 41.3% of respondents) than in using Guided Reading (i.e. 6.9% of respondents).

With regards to classroom instructional format, the teachers reported “very high” confidence levels in using small-group and individual instruction, while their confidence levels in using whole-class instruction was “rather high” when teaching RC in their classrooms.

**Relationships among frequency of teaching RC strategies, teacher confidence in teaching RC strategies, teaching experiences and training experiences.**

In order to explore the relationship between teacher self-efficacy and use of evidence-based RC instructional practices, correlational analyses were conducted on the total scores for teacher-reported frequencies and confidence levels in teaching RC strategies together with measures of teacher training and teaching experiences gathered from Section A of the questionnaire.

Prior to the correlational analyses, each of the eight sets of interval data was formally checked for normality using the Shapiro-Wilk test which is a more sensitive normality test for small sample data sets (Ahad, Teh, Othman, & Yaacob, 2011) such as those in the current study where a statistical significance of  $>0.05$  would indicate normality. In addition, the skewness and kurtosis of the variables were also considered based on the guidelines of severe nonnormality (i.e. skewness  $> 3$ ; kurtosis  $> 10$ ) proposed by Kline (2005). These analyses are shown in Appendix F. Although the last four variables had a statistical significance of  $<0.05$  on the Shapiro-Wilk test, this should be interpreted with caution as the test has been shown to only have a statistical power of less than 0.4 (i.e. the probability of concluding nonnormality when nonnormality actually exists) when the sample size is less than 30 (Razali & Wah, 2011). On the other hand, all of the values fall within Kline’s guidelines for severe nonnormality.

Hence, the first four variables (i.e. total score for reported frequencies in teaching RC strategies, total score for reported confidence levels in teaching RC strategies, extent of initial teacher training focus on teaching early literacy skills, and extent of initial teacher training focus on teaching RC) were regarded as having met the normality assumptions and Pearson's correlation coefficient was used to explore the relationships between them. Conversely, Spearman's rank correlation coefficient was used when the last four variables (i.e. number of years in teaching KS2, number of years in teaching, number of days of recent CPD in literacy, and extent of recent CPD in literacy that focused on RC specifically) were included in the correlation analyses. The relevant correlation matrix for the analyses is presented in Table 22.

Table 22.

*Correlations among Selected Questionnaire Variables.*

Questionnaire Variable	1	2	3	4	5	6	7	8
1. Total score for reported frequencies in teaching RC strategies <sup>#</sup>	-							
2. Total score for reported confidence levels in teaching RC strategies <sup>#</sup>	.383 <sup>*</sup>	-						
3. Extent of initial teacher training focus on teaching early literacy skills <sup>#</sup>	.370 <sup>*</sup>	.201	-					
4. Extent of initial teacher training focus on teaching RC <sup>#</sup>	.571 <sup>**</sup>	.152	.618 <sup>**</sup>	-				
5. No. years in teaching KS2 <sup>^</sup>	.195	.175	-.130	.076	-			
6. No. years in teaching <sup>^</sup>	.237	-.014	-.216	.108	.787 <sup>**</sup>	-		
7. No. days of recent CPD in Literacy <sup>^</sup>	.109	.451 <sup>*</sup>	.186	.230	.364	.435 <sup>*</sup>	-	
8. Extent of recent CPD in Literacy <sup>^</sup> focus on RC specifically	.325	.420 <sup>*</sup>	.096	.298	-.024	.043	.354	-

\*  $p < .05$  (small association)\*\*  $p < .01$  (moderate association)<sup>#</sup> Pearson's  $r$  was used.<sup>^</sup> Spearman's rho ( $r_s$ ) was used.

The correlation analyses showed that teacher reported total score for frequencies of teaching RC strategies had significant positive small associations with teacher reported total score for confidence levels in teaching RC strategies ( $r=0.383$ ,  $p<0.05$ ), the extent teachers felt their initial teacher training focused on the teaching of early literacy skills ( $r=0.370$ ,  $p<0.05$ ), and the extent teachers felt their initial teacher training focused on the teaching of RC ( $r=0.571$ ,  $p<0.01$ ). Interestingly, teacher reported total score for frequencies of teaching RC strategies had no significant relationship with number of years in teaching [ $r_s=0.237$ ,  $p=0.216$ ], number of years specifically in teaching KS2 [ $r_s=0.195$ ,  $p=0.310$ ], number of recent CPD days received that focused on the field of literacy [ $r_s=0.109$ ,  $p=0.574$ ], or the extent that teachers felt their recent CPD in literacy focused specifically on RC [ $r_s=0.325$ ,  $p=0.085$ ].

The correlational analyses showed that teacher reported total score for confidence levels in teaching RC strategies had significant positive small associations with number of recent CPD days received that focused on the field of literacy ( $r_s=0.451$ ,  $p<0.05$ ) and the extent that teachers felt their recent CPD in literacy focused specifically on RC ( $r_s=0.420$ ,  $p<0.05$ ). However, teacher reported total score for confidence levels in teaching RC strategies was not correlated with the extent that teachers felt their initial teacher training focused on teaching early literacy skills [ $r=0.201$ ,  $p=0.295$ ] or RC [ $r=0.152$ ,  $p=0.432$ ], number of years in teaching [ $r_s=-0.014$ ,  $p=0.942$ ] or number of years in teaching KS2 [ $r_s=0.175$ ,  $p=0.364$ ].

In addition, teacher reported number of days of recent CPD received that focused on the field of literacy had a positive small association with number of years in teaching ( $r_s=0.435$ ,  $p<0.05$ ) but it was not correlated with number of years in teaching KS2 specifically [ $r_s=0.364$ ,  $p=0.052$ ]. However, there was no significant relationship between teacher reported number of days of recent CPD received that focused on literacy and the extent teachers felt their recent CPD in literacy focused specifically on RC [ $r_s=0.354$ ,  $p=0.059$ ].

## **Results from Systematic Classroom Observations**

The overarching aim of the classroom observations was to objectively gather information about actual classroom practices using a systematic coding system in order to triangulate with information gathered from teacher self-reports in the questionnaire used during the first phase of the study.

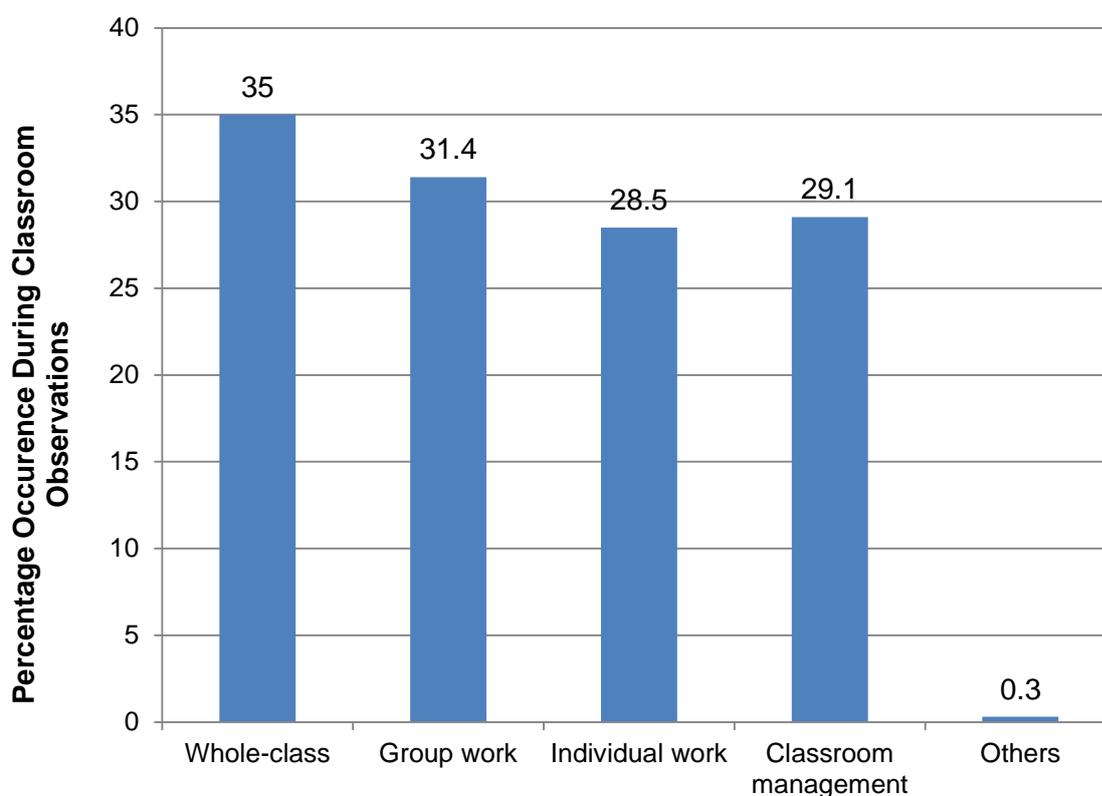
A total of 636 minutes of lessons that were intended to focus on teaching RC were observed and 1272 intervals of 30 seconds each were coded across nine teachers. It should be noted that each of the teachers, with the exception of one, was observed twice. The observed lessons took place with a variety of instructional materials and in a variety of settings. The selection of lessons to be observed was agreed with the teachers individually during a brief discussion prior to the observation period. This ensured that a comprehensive range of lessons that reflected how the teachers felt they taught RC were observed. To be precise, the settings included whole-class lessons, small-group Guided Reading lessons, and individual reading sessions. Hence, teachers who felt that they only taught RC in whole-class lessons were only observed during these times and this arrangement applied similarly to the other two settings. Conversely, teachers who felt that they taught RC in two different settings (e.g. whole-class lessons and small-group Guided Reading lessons) were observed once in each of the settings.

As described in the earlier methods chapter (p. 69-73), there were four main categories in the systematic coding system – (i) instructional format, (ii) literacy focus, (iii) level of teacher input, and (iv) RC strategy. Hence in this section of the report, the results of the classroom observations would be presented according to the main categories of the systematic coding system and further described by exploring the occurrence of subcategories in each of the main categories.

### **Instructional format.**

There were 5 subcategories within the main category of instructional format. Figure 6 shows the breakdown of the occurrence of these subcategories across the 636 minutes of observed lessons. The RC lessons being observed could be fairly well

distributed across the whole-class, small-group and individual instructional formats. However, there were a slightly higher number of coded intervals for the whole-class subcategory, followed by the small-group subcategory and finally the individual subcategory. It was also noted that the teachers spent an almost equivalent proportion of instructional time on classroom management. The intervals that were coded under the “others” subcategory were mainly due to the teachers having to attend to external interruptions to the lessons (e.g. another member of school staff entering the class to resolve an issue with the computer).



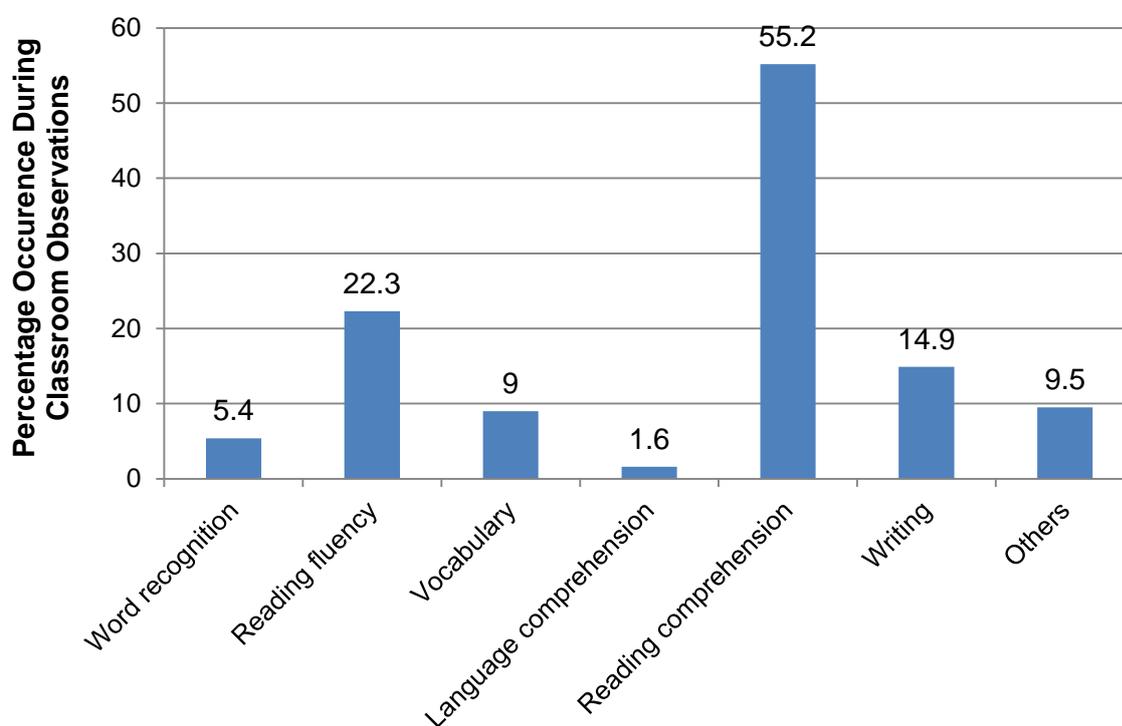
**Subcategories Within Main Category of Instructional Format**

Figure 6. Percentage occurrence of subcategories within the main category of instructional format.

**Literacy focus.**

There were 7 subcategories within the main category of literacy focus. Figure 7 shows the breakdown of the occurrence of these subcategories across the 636 minutes of observed lessons. Clearly, the lessons focused most on RC (i.e. 351

minutes or 702 intervals of 30 seconds each were coded for this subcategory) instead of any of the other possible literacy focuses. The next most frequently observed literacy focus listed in order would be reading fluency, writing, vocabulary, and word recognition. Language comprehension was observed least frequently. Intervals that were coded for the “others” subcategory were mainly due to the teachers having to spend time on classroom management (e.g. addressing inappropriate behaviours), organisation of activities (e.g. giving separate instructions to individual Guided Reading groups), or attending to external interruptions to the lessons.



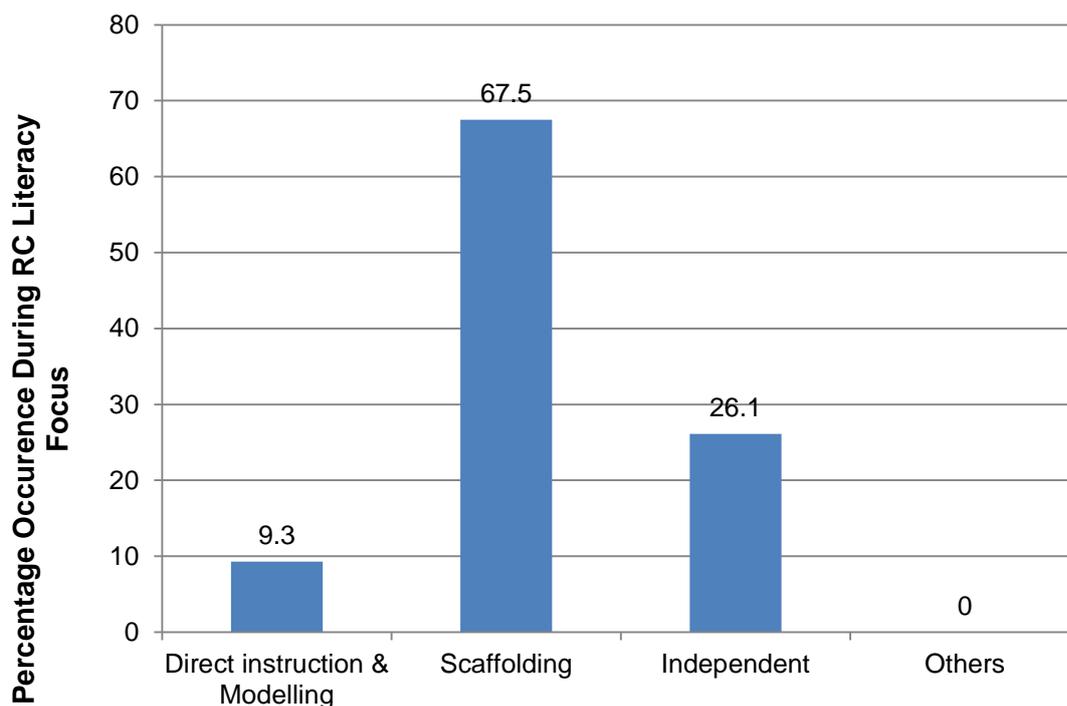
**Subcategories Within Main Category of Literacy Focus**

Figure 7. Percentage occurrence of subcategories within the main category of literacy focus.

**Level of teacher input.**

There were four subcategories within the main category of level of teacher input. Figure 8 shows the detailed breakdown of the occurrence of the subcategories within the main category of level of teacher input. However, it should be noted that level of teacher input was only recorded when RC instruction was observed and coded

within the main category of literacy focus. Out of the 351 minutes of literacy instruction coded to be specifically focusing on RC, the teachers spent a large proportion of this time on scaffolding their students' learning in order to guide them to use various RC strategies. The students were also given a good proportion of time to practise using the RC strategies independently without any teacher input. However, the teachers spent the least proportion of time on teaching the strategies explicitly through direct instruction or modelling.



**Subcategories Within Main Category of Level of Teacher Input**

Figure 8. Percentage occurrence of subcategories within the main category of level of teacher input.

**RC strategy.**

There were five subcategories within the main category of RC strategy. Figure 9 shows the detailed breakdown of the occurrence of the subcategories within the main category of RC strategy. However, it should be noted that RC strategy was only recorded when RC instruction was observed and coded within the main category of literacy focus. Out of the 351 minutes of RC instruction that was observed and coded within the main category of literacy focus, the teachers spent the most time on

teaching “elaboration” strategies where the students build connections between information given in the text and background knowledge or information from other sources. The next RC strategy that was frequently taught was “memorisation” strategies where the students select and rehearse information without transforming or moving beyond what is given in the text. The two RC strategies least frequently taught were “organisation” and “monitoring” strategies where students had to order or arrange text information to get a better overview of relations among concepts and ideas in the text, or to assess or regulate their own text comprehension respectively. The intervals that were observed and coded for the “others” subcategory were mainly due to the teachers assigning independent work to students where they had to answer a list of questions about a text and these questions did not appear to focus on a specific RC strategy (e.g. practise answering SATs papers).

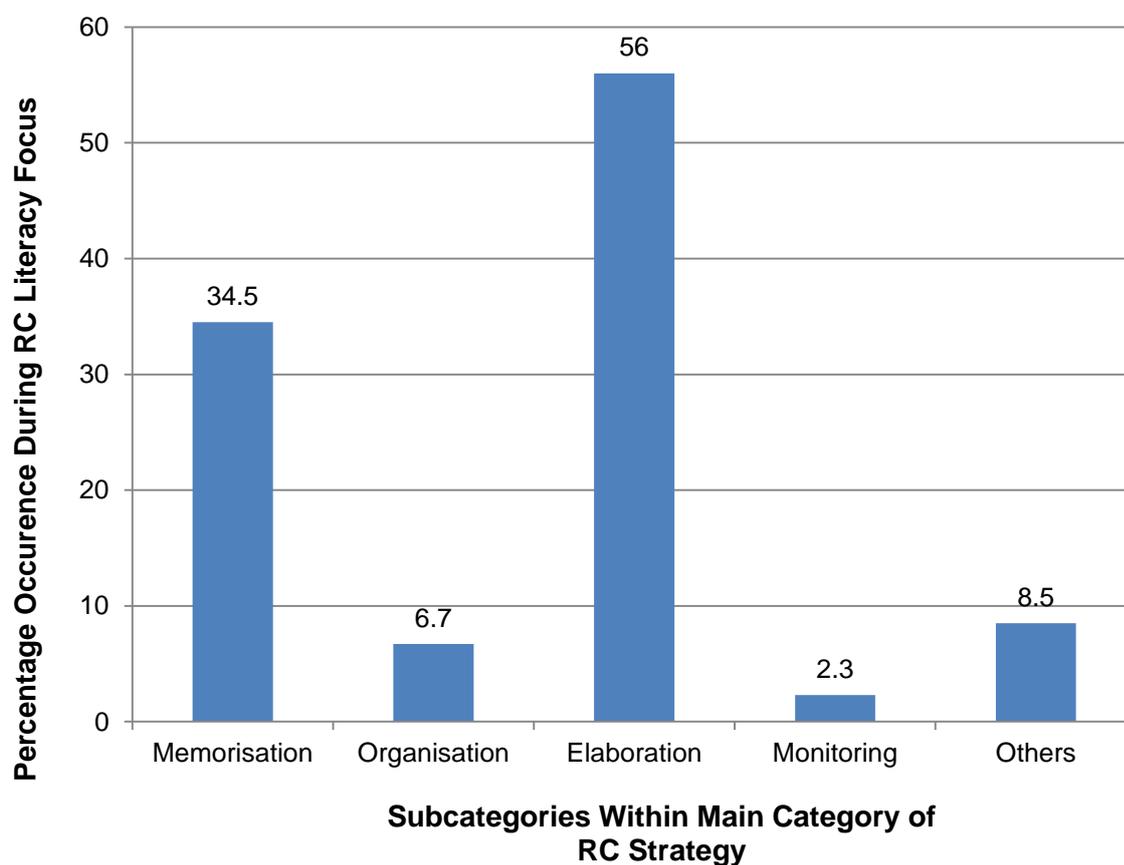


Figure 9. Percentage occurrence of subcategories within the main category of level of teacher input.

## Results from 3 Case Studies

In order to triangulate the data gathered so far, follow up semi-structured interviews were conducted with three teachers who have participated in both the first and second phase of the study. To be precise, they have completed the Teaching RC Questionnaire and their RC lessons were observed using the systematic classroom observation coding system. The results of the semi-structured interviews would firstly include a brief outline of each teacher's teaching background and school context before their responses were presented in a narrative format as individual case studies<sup>6</sup> before the pertinent points raised are identified and summarised in a final section. To recap, each teacher was asked the following key questions during the semi-structured interviews:

- 1) What were your thoughts when you were filling up the questionnaire?
- 2) Did you have different thoughts while responding to different sections of the questionnaire?
- 3) How does it feel like for you to teach RC?

### Case study 1: Teacher Debbie.

Debbie is a Year 3 teacher who has taught for almost 3 years, all of which were solely at the Year 3 level. She taught RC mainly through Guided Reading sessions although she also taught RC during whole-class lessons when she felt that it was beneficial for her students.

While teaching RC through Guided Reading sessions, Debbie was aware that she taught some of the RC strategies more often than others. She would like to have Guided Reading sessions everyday but it was difficult with other competing demands on the short time that the children spent in school. Hence, she maximised learning opportunities during other aspects of literacy lessons to get her students to practise reading. For example, she would get students to read aloud any work that was presented on the board.

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<sup>6</sup> Names of interviewees have been changed to maintain confidentiality.

With regards to Section C, Debbie felt that her confidence levels in teaching RC strategies were not very high because she was only in her third year of teaching. She felt that her PGCE training did not focus much on RC. She recalled that the course had covered the teaching of phonics but not the use of Guided Reading to teach RC. Hence, she had to gradually learn how to use Guided Reading sessions as an approach to teach RC after her initial teacher training. However, she also highlighted the uncertainty about how Guided Reading should be carried out, in terms of organising groups and activities in the class. Debbie was not familiar with the Reciprocal Teaching approach for teaching RC.

Debbie felt rather confident in teaching RC at the Year 3 level because she has been teaching the same level for almost three years. However, she recognised that she would struggle if she had to teach in Year 6 because she was not familiar with the assessment focuses and the expected competencies that students at that level should attain. Nonetheless, she felt that at the higher levels, there could be more opportunities for the students to practise RC skills more independently and she could also use different classroom approaches such as Reciprocal Teaching to teach RC other than Guided Reading. Conversely, she felt that she would probably be able to teach the lower levels or even at the Year 4 level because they would be similar to Year 3. However, she might need more support in conducting phonics lessons if she were to teach at the lower levels.

Debbie enjoyed working with groups of children to go through a text, pick out key sentences or ask them relevant questions in order to help the children understand the author's intentions or to build connections between different parts of the text. She currently felt confident in reading text with her students and to ask them guiding questions whereas previously, she often had to read the text in advance and to prepare questions that she could ask when reading with the children. It was helpful that each teacher in her school was given a list of good questions that could be asked about a text and she would occasionally refer to this guide to ensure that her questions were comprehensive. However, Debbie reflected it was difficult for her to plan her assessment focuses or lesson objectives and keep strictly to them when teaching. She recognised that different assessment focuses were more appropriate

for certain text types and also for children of different ability levels. Hence, Debbie would just “ask questions that come to (her) head”. She was not always aware of the decisions she made during teaching.

Debbie felt that teaching RC could be challenging because she had to cater for a class of children with varying abilities. Hence, she had to be aware of the children who did not get the chance to respond to questions and to consciously include them in order to ensure that she could check for their understanding of the text and to ensure that every child had the opportunity to learn. Debbie felt that the children’s backgrounds would not affect how she taught RC although it could be difficult if a child did not speak a word of English as she would not know how to teach them without going back to basics. She would continue to monitor the progress of each child and to identify them for additional support if necessary. Debbie would sometimes get the children to explain ideas in a text to one another as they often would be able to clarify the ideas in a simpler and more accessible manner than adults. By assuming the role of a “teacher”, the children could also reinforce their own understanding.

Debbie felt that teaching RC in whole-class lessons and small-group Guided Reading sessions served different purposes for her. She used whole-class lessons as an assessment tool to check if her students were able to answer questions by identifying relevant information in a text. However, she would use Guided Reading sessions to hear every child read as this was not possible within a whole-class setting. Hence, she would teach the RC strategies (e.g. making inferences and deductions) during whole-class lessons but practise these strategies during Guided Reading sessions with smaller groups after listening to individual children read. The two different settings for teaching RC would be complementary. However, she emphasised that she did not always teach RC during whole-class lessons especially since the school recommended that Guided Reading was used instead. Hence, Debbie would only use whole-class lessons if she felt that the children were not progressing in their skills during the Guided Reading sessions and this arrangement would also vary depending on the abilities and progress of each batch of students.

### **Case study 2: Teacher Ellen.**

Ellen is a Year 3 teacher who has taught for almost 4 years, and about half of that time was in teaching KS1. She taught RC solely through whole-class lessons.

Ellen recognised that the RC strategies mentioned in Sections B and C of the questionnaire were similar to the skills that teachers had to teach in her school. Seeing the list of individual RC skills had enabled her to better understand what RC was. In addition, Ellen's understanding of RC as consisting of various individual skills has been useful in guiding her lessons and assessments.

Ellen recalled that in her initial years of teaching before the school specified the RC skills that teachers had to teach, she was mainly teaching RC using trade books. At that time, her students simply read the given text in the books and answered a list of questions, many of which only required students to identify and retrieve text-based answers instead of drawing connections between different parts of the text and making inferences. In addition, Ellen had very little opportunity to discuss the inferencing questions with the students as they had to work independently and write down individual answers. With more experience, Ellen was now aware of the components of RC and by focusing on individual skills, it was clearer for her teaching and for her students to know what they were learning. This awareness was especially important for Ellen because she believed that students should enjoy reading with a purpose instead of just monotonously reading and answering questions.

Looking across the various sections of the questionnaire, Ellen became rather aware of how her confidence in teaching certain RC skills affected how often she taught them. She felt that she would teach the skills that she felt confident about more often than the skills that she did not feel particularly confident about. Hence, she reflected that it was beneficial that the school required her to teach a number of RC skills, including the ones she did not feel confident about so she took the initiative to understand what these skills were and explore how to teach them. Ellen's independent learning for herself had in turn made her feel more confident in teaching RC.

Ellen pointed out that she would now complete Section B of the questionnaire differently because the skills that she was currently focusing on in her teaching would have changed. When her students first entered Year 3, Ellen had to go through the basic skills first before teaching more abstract skills like making inferences. Hence, as her students have gotten older and she had introduced the more advanced skills like making inferences, she could have more discussions with them and to teach these advanced skills more often. She felt that children's age and readiness could guide teachers in pitching the difficulty of their lessons and selecting the types of RC skills to teach. Ellen also reflected that she now taught certain RC skills more frequently because of the progress in her students' writing skills. For example, her students have been exposed to more text genres so she often spent time discussing the purposes of different genres which in turn allowed her to engage her students to set a purpose for reading a text. Hence, RC skills would be closely linked to the other aspects of literacy development. Ellen also recognised that basic literacy skills like recognising and decoding single words were also important, especially for students with poor literacy skills.

Ellen reflected that experience in teaching made her feel more confident in teaching RC. In particular, she felt that the Guided Reading approach would be a useful approach. However, she also acknowledged that it was often challenging to manage student behaviour during Guided Reading sessions because she could only work with one group while the rest of the class was expected to work independently and be silent which also made it difficult for her to be certain that the other students were learning something in the process. Hence, she felt that the Reciprocal Teaching approach might be interesting because each student would assume a clear role to practise various RC skills. However, Ellen was not very familiar with the Reciprocal Teaching approach.

Ellen felt that certain student profiles might affect the way she taught. For example, if she had many EAL children in her class, she would naturally explain many words in order to allow the EAL children to pick up new vocabulary and to understand the text. She would also adjust her instruction in response to her students' answers. As different students make different connections to the text based on their previous

experiences, the diversity in the class has allowed her students to learn from one another.

Ellen felt that her own background and training experiences influenced her teaching practices. She suggested that every teacher had different experiences and exposure to different approaches for teaching RC. Hence, it would be helpful to observe how other teachers taught RC. She was aware that she had not received much training or CPD in literacy or specifically in RC so she might be less aware of ways to phrase her questions to guide her student in learning certain RC skills.

Ellen wanted her students to love reading so that they would have the skills to learn anything. Hence, it was useful that her school recently subscribed to a reading literacy scheme that provided a series of books with associated lesson plans to guide teachers in teaching reading and writing based on the same pieces of text. Hence, her students could truly immerse themselves in the books and engage in the various activities designed to develop their reading and writing skills.

When teaching RC, Ellen mentioned it was difficult for her to know that all students in her class had understood the given text and that they were meeting the learning objectives. She felt that reading was often more difficult to assess than writing because the demonstration of reading skills was more transient. She had tried various approaches to resolve this difficulty and she felt that it was particularly helpful if she was attuned to the children's needs and progress. She would also need to manage her class in order to ensure that she could accurately assess the target students during whole-class lessons and to provide them with additional support when necessary.

### **Case study 3: Teacher Ameera.**

Ameera is a Year 6 teacher who has taught for almost 36 years in various countries in the world including the U.S. and Guyana. She spent 15 years in teaching KS2-equivalent levels while the rest were either in KS3 or KS4-equivalent levels. Although her present school advocates the use of Guided Reading to teach RC, Ameera currently taught RC solely through whole-class lessons in order to prepare her

students for their impending SATs. Her class of 17 students is split into two groups during literacy lessons such that she instructed only eight students when teaching RC.

The items in the questionnaire made Ameera think about her practice because she often taught several RC strategies at the same time in her lessons because she wanted to “mix them up” and make it more interesting for her students. She was aware that when preparing her students for their SATs, they spent a lot of time to practise answering questions about a given text and her students did not enjoy that. Hence, she would also try to use different types of texts.

Ameera acknowledged that other teachers might choose to only focus on one strategy per lesson. She identified some strategies that should be taught all the time when reading such as identifying main ideas from a text. Other strategies might depend on the text type. For example, making predictions about a text would apply more for a narrative text while analysing text structure would be more for non-fiction texts. The teaching of recognising and decoding single words would depend on students’ age group. As the Year 6 students that Ameera taught would have developed adequate vocabulary and phonics skills, she expected them to decode novel words independently and she would not help them unless necessary. Hence, she would not usually teach them to recognise and decode single words specifically. She might briefly teach the other aspects of literacy such as grammar and sentence structure during her RC lessons but only if they were necessary to facilitate her students’ understanding of the text they were reading. She conducted separate grammar lessons to teach grammar and sentence structure in greater detail.

When Ameera used to teach Guided Reading, she would engage in more individual instruction because she could focus on particular students while the other students were working independently on other assigned activities. This was especially useful when she had to pre-teach certain vocabulary or concepts to an EAL child before engaging in the class reading. Although Ameera would usually read the text and plan for the comprehension strategies to teach, there was less need to do so while preparing her students for the SATs as she was familiar with the past assessment examples being used for practice currently.

Ameera felt confident in teaching RC strategies because she had “always been doing comprehension since (she) started teaching”. However, she only learnt more about using Guided Reading to teach RC when she came to the U.K. Although she preferred teaching RC in a whole-class setting, she would revert back to using Guided Reading when the two groups in her class combine back into the bigger class after SATs. She acknowledged that some of her students would prefer Guided Reading because they could do more interesting activities on certain days of the week which would make them enjoy reading better instead of only answering questions about a text when preparing for the SATs now.

Ameera felt that both whole-class instruction and Guided Reading had their merits. However, Guided Reading was more challenging to conduct if there were no other supporting adults present. It would be difficult for a teacher to singly manage student behaviour and ensure that everyone was on task. In addition, Guided Reading might mean that only one group really got to practise using their RC strategies each day with the teacher. Conversely, whole-class instruction would ensure that every child would receive teacher input when learning comprehension strategies. Ameera had some experience with the Reciprocal Teaching approach when she was teaching in the U.S. but she has not tried using it here in the U.K. because she was required to follow school policies which advocated the use of Guided Reading. However, she might use aspects of the approach in her whole-class instruction. For example, she would assign different groups of children to work on making predictions, clarifying, summarising or asking questions about the text before the groups presented back to the class.

With regards to Section A of the questionnaire, Ameera felt that her teaching background and experience had a large influence in her current teaching practices. As she had the opportunities to teach in several other countries besides the U.K., she became more aware of the needs of EAL children and she could understand why some children made certain mistakes in their reading. She would also adjust her teaching accordingly to support them in their learning although this would be done unconsciously. Ameera felt that this came from her teaching experiences and not from ongoing CPD although her initial teacher training course in her home country

had components that focused specifically on teaching RC, including the comprehension strategies listed in the questionnaire. She felt that there was very little training provided in the U.K. to prepare teachers to teach RC.

Ameera also pointed out that student background, especially if they were EAL children, might influence how she taught. However, this was less of a factor now since she was currently teaching the Year 6 class and most of the children would have developed a sufficient level of competency in understanding and using the English language. The other student factor that might influence her teaching would be the need to manage student behaviour and to ensure that every child was on task.

Ameera enjoyed teaching RC because she recognised that RC was the foundation for all other subjects. Through teacher-student discussions during RC lessons, she could also establish a good rapport while informally assessing the progress in their reading skills. Consequently, once she had a sense of the reading competencies of her students, she could plan her lessons in the other aspects of literacy such as writing accordingly.

Ameera identified the lack of spelling instruction to be a challenge to teaching RC. She felt that spelling and dictionary work were important to develop children's vocabulary knowledge which would in turn support RC development. This would apply to both EAL and English-speaking students. She felt that children should be taught spelling and vocabulary skills instead of just getting them to memorise lists of words and assessed in class by their ability to write them out accurately. Another challenge to RC instruction would be children's enjoyment and confidence in reading. If children did not enjoy reading or lacked the confidence to read, they would also struggle with deeper levels of RC such as making inferences.

### **Summary and discussion of key points from case studies.**

Each of the teachers who were interviewed has raised pertinent points about their thoughts when completing the questionnaire and about their RC instruction. These are briefly summarised in Table 23.

Table 23.

*Summary of Key Points from Case Study Interviews.*

Key Points	Debbie	Ellen	Ameera
Teaching of RC strategies	<ul style="list-style-type: none"> <li>Some strategies were taught more often than others</li> </ul>	<ul style="list-style-type: none"> <li>Similar to skills her school required all teachers to teach</li> </ul>	<ul style="list-style-type: none"> <li>Taught several strategies at a time in instead of focusing on one</li> </ul>
Awareness of varying confidence levels	<ul style="list-style-type: none"> <li>Low confidence because only 3<sup>rd</sup> year in teaching</li> <li>Little focus of PGCE on RC instruction</li> </ul>	<ul style="list-style-type: none"> <li>She would teach the strategies that she had more confidence in more often</li> </ul>	<ul style="list-style-type: none"> <li>High confidence because she has always been teaching RC skills</li> </ul>
Source(s) of self-efficacy	<ul style="list-style-type: none"> <li>Teaching the same level for several year</li> </ul>	<ul style="list-style-type: none"> <li>Self-motivation to learn ways to teach RC strategies</li> <li>Teaching experience</li> </ul>	<ul style="list-style-type: none"> <li>Teaching experiences</li> <li>Initial teacher training outside Europe</li> </ul>
Use of different instructional formats	<ul style="list-style-type: none"> <li>Whole-class and small-group instruction could be complementary</li> <li>Whole-class instruction to teach strategies and assess children</li> <li>Small-group Guided Reading to hear children read and for children to practise strategies</li> </ul>		<ul style="list-style-type: none"> <li>Individual instruction to support children who needed it (e.g. EAL child)</li> <li>Whole-class instruction allowed every child to receive teacher input in every lesson</li> </ul>

Table 23.

(Continued)

Key Points	Debbie	Ellen	Ameera
Use of Guided Reading and Reciprocal Teaching approaches	<ul style="list-style-type: none"> <li>• Guided reading used often</li> <li>• No knowledge of Reciprocal Teaching approach</li> </ul>	<ul style="list-style-type: none"> <li>• Felt Guided Reading would be useful but recognised challenges of managing students' behaviours</li> <li>• No knowledge of Reciprocal Teaching approach</li> </ul>	<ul style="list-style-type: none"> <li>• Guided reading was more interesting for her students but difficulty in ensuring children were on task</li> <li>• Had knowledge about the Reciprocal Teaching approach but never tried using it in U.K.</li> </ul>
Factors influencing instructional practices	<ul style="list-style-type: none"> <li>• School policies</li> <li>• Children with varying abilities</li> </ul>	<ul style="list-style-type: none"> <li>• Children's age and readiness</li> <li>• Presence of EAL children</li> <li>• Personal background and teaching experience</li> <li>• Training (or lack of)</li> </ul>	<ul style="list-style-type: none"> <li>• Children's age group</li> <li>• Presence of EAL children</li> <li>• Need to manage students' behaviour</li> <li>• Need to promote children's enjoyment and confidence in reading</li> </ul>

The key points raised from the interviews affirm and extend some of the findings from the first and second phases of the study. The teachers acknowledged that some RC strategies were taught more often than others and they were aware of

these differences. They had varying levels of confidence in teaching RC strategies and their self-efficacy influenced the range of strategies that they taught. It was interesting that the teachers felt that their personal teaching experiences affected their confidence levels, especially since the findings from the questionnaire showed that confidence level in teaching RC strategies was not significantly related to number of years in teaching.

The teachers saw the value of using whole-class instruction to teach RC strategies and to ensure that every child gets regular teacher input for RC. However, small-group or individual instruction might also be complementary to the whole-class instruction, especially when differentiating activities and catering to the needs of children with lower abilities. Guided reading was the main teaching approach used for teaching RC but the teachers were also aware of the challenges in implementing it effectively. However, they had little awareness of alternative approaches, including Reciprocal Teaching that has a stronger evidence base for facilitating reading comprehension development.

Other than school policies that influenced the content of RC lessons and the teaching approach used, the teachers also identified several student factors such as student age and readiness for learning particular RC strategies, as well as students' language abilities especially if they were EAL children. Teacher background and personal experiences also influenced their instructional practices. Within the classroom, the teachers might also adjust their instructional practices if they had to manage student behaviours and ensure that the students remained motivated and enjoyed reading.

## **Chapter 9: General Discussion and Conclusions**

### **Introduction**

This final chapter considers the results of the current study within the context of previous relevant research and theory as described in earlier chapters. To follow up from previous observational studies in RC instruction (e.g. Durkin, 1978; Ness, 2011), the amount of instructional time that teacher participants in this study devoted to RC instruction is discussed. Each research question was then addressed in order. Firstly, the extent that teachers incorporated evidence-based practices into their classrooms when teaching RC was explored. Next, the teachers' reported confidence about incorporating these evidence-based practices when teaching RC was reviewed with reference to previous findings of other relevant studies. Subsequently, the relationship between teacher self-efficacy and the extent that they incorporate evidence-based practices when teaching RC was explored. In addition, other interesting and unexpected findings from the results of the study were also reviewed within each section. The chapter concludes with two final sections to describe the limitations of the study and implications for professional practice and further research.

### **Amount of Instructional Time Devoted to RC Instruction**

The data gathered from the classroom observations in this research suggested that the teacher participants were devoting about half of their RC lessons on actually focusing on RC instead of other literacy areas such as word recognition and writing. Previous research by Durkin (1978) has found that a mere 1% of reading instructional time is devoted to RC instruction while a more recent study by Ness (2011) has found that RC instruction has increased to occupy 25% of reading instructional time. Although it is heartening to find that the U.K. teachers are spending about 55% of the time during observed RC lessons on teaching RC, it should be noted that the current study is not directly comparable to the previous studies conducted in the U.S. due to the selection criteria of only observing lessons that have been planned to focus on RC instruction in the current study. It is likely that the proportion of time focusing on RC will decrease if lessons that have been

planned to focus on other aspects of literacy such as writing are included for the observations.

Nonetheless, this encouraging result may be attributed to several reasons. Firstly, the teachers may be getting more aware of current research and recommendations for the need to specifically teach RC which is evidenced by their intentions to plan and set aside specific lessons or times of the week to focus on RC instruction. School policy makers may also be similarly getting more aware of the need to specifically teach RC so school policies on appropriate teaching objectives and assessment targets have been developed to guide teachers in planning their lessons. This explanation may be evidenced by the teachers interviewed in the case studies who reported that school policies had a strong influence on what and how they teach RC.

With the growing awareness of the need to specifically teach RC within the community of education professionals, there is also an increased availability of instructional resources for teachers to use when planning their RC lessons. This can be seen when Ellen, one of the teachers participating as a case study in the research, described how a relevant literacy scheme that her school subscribed to has guided her to integrate RC instruction with other various aspects of literacy like writing in a cohesive manner.

Another reason for the result may be due to a pertinent student factor. As the observed teachers reported that they have assessed most of the students in their classes to have attained at least a National Curriculum Level 2, this suggests that their word level decoding and text reading is expected to be accurate and they are ready to build on these early reading skills and use them to comprehend texts. Hence, the teachers can naturally focus more on teaching RC specifically without spending as much time on other basic literacy skills which are necessary for developing RC. Teacher Ameera succinctly explained in her interview that because her students had an adequate level of basic literacy skills like word recognition, she was able to focus more on teaching RC strategies.

### **Research question 1: To what extent do teachers incorporate evidence-based practices when teaching RC?**

Referring back to Figure 3 (p. 33), this study adopted an explanation of evidence-based practices in RC instruction that informed teachers in their practices within 2 key areas of 'what to teach' and 'how to teach' based on the literature review of current theoretical knowledge about RC development (Chapter 1), recommended RC instructional practices (Chapter 2) and government guidelines (Chapter 4). The results from this study suggest that the teacher participants in this study were incorporating a number of these evidence-based practices in their own classroom although there were still some areas that were inadequate in their RC instruction. Research question 1 would be answered by considering (i) the extent that RC strategies were taught, (ii) the extent that basic literacy skills were taught, (iii) the use of Guided Reading and Reciprocal Teaching approaches, (iv) the use of different classroom organisational and instructional formats, and (v) variation of teacher input during RC instruction.

#### **Teaching of RC strategies.**

Using the taxonomy of RC strategies adopted in the classroom observation coding system based on Weinstein and Mayer's (1986) taxonomy of learning strategies, it was encouraging to note that many of the teachers reported in the self-completed questionnaires that they were often teaching a range of memorisation strategies (i.e. identifying main ideas), organisation strategies (i.e. summarising information, analysing text structure), and elaboration strategies (i.e. making inferences, relating text to past experiences, making predictions, setting purpose for reading). However, it was clear that monitoring strategies (i.e. generating own questions, monitoring own understanding) were reported to be taught less frequently and a number of teachers have even reported that they rarely or never teach them.

A rather similar picture emerged from the classroom observations conducted as part of the study. Monitoring strategies were least often taught during the intervals in the observations where the teachers focused on teaching RC skills. However, in contrast to the high reported frequencies of teaching organisational strategies (i.e.

summarising information, analysing text structure) in the questionnaire, the observations showed that organisation strategies were taught much less frequently than memorisation or elaboration strategies. This suggests that although teachers may be devoting a lot of their instructional time to teaching RC, they are not necessarily teaching a wide range of RC strategies. Instead, teachers appear to focus more on teaching memorisation and elaboration strategies.

The above result is similar to other studies conducted in other education systems that have also found the repertoire of RC strategies taught by teachers to be rather narrow (e.g. Anmarkrud & Bråten, 2012; Ness, 2011). This will be a source of concern because marginal teaching of organisation and monitoring strategies can be barriers to acquisition of deeper-level comprehension strategies in order to become skilled readers. Duke et al. (2011) have concluded that skilled readers have an advantage over unskilled readers because they have more skills and strategies to use while processing text, as well as more knowledge of language, text structure and the world that can facilitate text comprehension. In addition, organisation, elaboration and monitoring strategies appear to be the main types of strategies used by good readers when reading instead of memorisation strategies (Duke & Pearson, 2002).

A possible explanation for the result may be due to teachers relying on resource and guidance materials that do not sufficiently encompass a wide range of RC strategies when planning their lessons. As described in the first chapter, the U.K. National Curriculum does not explicitly state the RC strategies that teachers should teach by the end of KS2. Furthermore, memorisation strategies may appear to be encouraged through the inclusion of phrases like “refer to the text” and “locate and use ideas and information” while elaboration strategies are included through phrases like “beginning to use inference and deduction” as incorporated within the National Curriculum attainment target descriptions for reading at Level 4<sup>7</sup>. In addition, the assessment focuses indicated by the DCSF (n.d.) also continued to include similar phrases like “select or retrieve information, events or ideas from texts and use quotation and reference to text” and “deduce, infer or interpret information, events or

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<sup>7</sup> Reading attainment target level descriptions for National Curriculum Level 4: In responding to a range of texts, pupils show understanding of significant ideas, themes, events and characters, beginning to use inference and deduction. They refer to the text when explaining their views. They locate and use ideas and information.

ideas from texts". Although the DCSF has emphasised that these assessment focuses should be used as assessment tools rather than as classroom learning objectives, it is not unreasonable that school use them as guidelines for teachers to scope their lessons and plan relevant lesson objectives. Interview data from the case studies also suggest that teachers would plan their teaching objectives based on the trade books subscribed to by their schools or specific school curriculum developed in-house for teaching reading. Hence, the range of RC strategies that teachers teach will likely be only as varied as directed by available teaching resources or school guidelines. Observational studies conducted by other researchers have also previously suggested this explanation for similar findings of teachers' narrow focus on teaching a small number of RC strategies (e.g. Ness, 2011).

Other than teachers relying on available resource and guidance materials for determining their lesson objectives, teachers may also be teaching the RC strategies that they feel are most appropriate for the students that they teach at each stage of teaching. One key student factor will be perceived student readiness for learning higher-level RC strategies which is in turn influenced by their age and prior experiences. Teacher Ellen has expressed this possibility when she described how her frequency of teaching various RC strategies has changed from having to focus on more basic strategies when her students first started Year 3 to progressing on to teaching more abstract ones like making inferences in the second half of the year because her students have gotten older and she has already spent much time on introducing the more abstract strategies to them. Au and Raphael (2000) also describes how "one's perspectives, background, beliefs, and language shape the way the world is read, and in turn, the way the world is read shapes the meaning readers bring to the written word" (p. 178). Hence, students who do not have relevant background knowledge and language abilities may find it challenging to learn and utilise higher-level RC strategies to facilitate their engagement with texts at a deeper level.

### **Teaching of basic literacy skills.**

Numerous studies have shown that basic literacy skills like word recognition, language comprehension, vocabulary, and grammar (e.g. Clark et al., 2010; Hoover

& Gough, 1990; Nation & Snowling, 2000) can significantly contribute to the acquisition of RC in children such that any deficits in these areas can account for RC problems. Hence, it is encouraging that the KS2 teachers in the current study have reported that they frequently taught basic literacy skills like word recognition, vocabulary knowledge, as well as grammar and sentence structure. Classroom observation suggests that teachers also spend a relatively large amount of their instructional time (i.e. 22.3%) on teaching or practising reading fluency which is also another basic literacy skill that has been shown to be important for RC development (e.g. Kim, Wagner & Foster, 2011). However, word recognition and vocabulary instruction were not observed much during the classroom observation (i.e. 5.4% and 9% of instructional time respectively) despite the teachers reporting that they taught them frequently. In addition, language comprehension, which refers to the extraction of meaning from oral language instead of from text, was observed the least during the classroom observations (i.e. 1.6% of instructional time).

A reason for the lower than expected observations of instruction in word recognition and vocabulary in the classroom observations may be due to the profile of the teachers who volunteered to participate in the second phase of the study. Two thirds of the teachers being observed were teaching upper KS2 levels (i.e. Years 5 and 6) at the time of the study as compared to about half of the teachers who responded to the questionnaire. Nonetheless, it is unsurprising that lesser instructional time is spent on teaching word recognition and vocabulary at KS2 because the teachers have reported that most of the students in their classes have attained at least NC Level 2 (refer to p. 43). Hence, the students' reading should be generally accurate so they will be ready to build on these early reading skills and use them to comprehend texts. This will be especially pertinent at upper KS2 levels where the students will have developed their word recognition skills and vocabulary knowledge further.

However, teachers appear to be able to adapt their instruction according to the needs of the students. Interview data from the case studies suggest that teachers may choose to spend more time on teaching word recognition or vocabulary especially if the class consists of many students with poor reading skills or if there are many students with little knowledge of the English language because they are learning English as an additional language. Undeniably, this will require a teacher to

understand the range of skills and competencies that the students bring into the class at the outset and become attuned to their varying levels of RC development. An example would be Teacher Ellen who explained how she naturally paused and explained the meaning of more words when reading if there were more EAL students in her class in order to increase their vocabulary knowledge and to allow them to better understand the text.

Conversely, it is of concern that the classroom observation data suggests that language comprehension is taught least frequently (i.e. 1.6% of instructional time), especially since influential theories like Gough and Tunmer's (1986) Simple View of Reading model have shown that language comprehension has an important contribution towards RC development. The model also suggests that language comprehension will be the limiting factor for RC once decoding is adequate which is usually relevant at KS2 levels so it becomes more important that teachers work on developing their students' language comprehension skills. As children learn to read, the comprehension processes they use to understand written texts are synonymous to those they already use to understand spoken messages but the major difference is that the language of written texts is accessed through the eyes rather than through the ears (Rose, 2006). Therefore, it will be beneficial for children to develop their underlying language comprehension skills sufficiently before progressing on to RC that will require an additional skill of decoding or recognising written words.

The main emphasis on government documents and guidelines has been on the teaching of relevant strategies to develop students' understanding of written texts. Hence, teachers who rely heavily on prescribed guidelines and school resources that stemmed from national recommendations will understandably appear to focus less on language comprehension at KS2. This may be seen in the National Curriculum level 4 reading attainment target which appears to indicate that students should be working to "respond to a range of texts" and to understand written texts by applying text-based strategies like "refer to the text when explaining their views" and such strategies are probably not applicable when trying to comprehend spoken language.

### **Use of Guided Reading and Reciprocal Teaching approaches.**

The questionnaire data in the study suggests that teachers tend to teach RC using the Guided Reading approach. Although the questionnaire data also suggests that the teachers report using Reciprocal Teaching “sometimes”, the interview data suggests that they may have misunderstood what the approach entails and are not aware of Reciprocal Teaching as an alternative structured teaching approach for RC instruction. Guided reading may be the usual teaching approach adopted by many schools and teachers in the U.K. because it has been highly recommended in the National Literacy Strategy Framework (DfES, 1998; 2006). However, despite numerous attempts by researchers to clarify and explain how Guided Reading should be conducted in the classroom, the Reading for Purpose and Pleasure report by Ofsted (2004) has concluded that many teachers continue to be uncertain about the theories behind the approach and hence are often unable to deliver it successfully. Since the Ofsted report, case study interview data in the current study continues to suggest that KS2 teachers may still have reservations about using the approach in their classrooms because of the lack of clear guidelines on the procedure and their concerns that groups allocated to work independently during the sessions may not entirely be engaging in productive learning.

Fisher’s (2008) study of three case study classrooms in the U.K. has suggested that even experienced teachers may not be conducting Guided Reading in full accordance to the broad guidelines stated in the National Literacy Strategy (DfES, 1998). The researcher also made tentative conclusions that in order for Guided Reading to be effective, the teacher must understand the psychological underpinning of the approach and also to have the flexibility to engage students in dialogic problem solving instead of relying upon a teacher-directed stance to understanding texts. In addition to the issues behind effective implementation of Guided Reading in practice, Tennant (2011) has reviewed the literature and he found no sound evidence base for the effectiveness of the approach in supporting RC development.

Another explanation for why teachers and schools continue to depend on Guided Reading may simply be due to their lack of awareness of other teaching approaches. Parker and Hurry (2007) have suggested that because much of the focus on the

National Literacy Strategy has been placed on subject knowledge, rather than pedagogy, teachers are not given opportunities to explore other teaching approaches such as Reciprocal Teaching for developing RC. Interview data in the current study suggests that teachers may be keen to learn and use a more structured approach such as Reciprocal Teaching. This may be because they can see the benefits of teachers gradually relinquishing the responsibility of helping students understand a text better through constant question and answer sessions and allowing the students themselves to assume the responsibility of using a range of strategies to enhance their own understanding of a text through collaboration with peers.

### **Use of different classroom organisational and instructional formats.**

Both questionnaire and classroom observation data in the current study indicate that whole-class and small-group instruction are used more frequently than individual instruction. This contrasts with Anmarkrud and Bråten's (2012) finding that whole-class and individual work were carried out more often than group-work in Norwegian classrooms when teaching RC. However, within the U.K. context teachers are expected to teach entire classes and U.K. schools tend to advocate the use of small-group teaching approaches such as Guided Reading when teaching reading. It is encouraging that teachers are embracing the use of small-group teaching approaches especially since there is a clear evidence base that highlights the benefits of collaborative group work for supporting knowledge acquisition (e.g. Guthrie et al., 2004; Slavin, 1996) working in smaller groups allow student greater opportunities to engage in discussion of ideas and critical thinking while practising strategies that they have learnt. Furthermore, Ketch (2005) argues that conversation is a crucial component of RC and how to make sense out of the world in which we live such that she describes the use of discussion-based activities as the "thread that is woven throughout the comprehension quilt" (p. 9). Interview data in the current study also suggests that teachers feel that whole-class and small-group instruction are complementary where both provide opportunities for discussions about a text while small-group instruction allows teachers to focus on particular groups of students and the skills that they need more practice in.

Small-group instruction is also recognised as one of the core characteristics of effective intervention programmes for poor comprehenders (Cooper & Kiger, 2006), especially when attempting to differentiate instruction to suit different children's needs (Duke et al., 2011). This may explain why small-group instruction is used quite often in the observed RC lessons especially since general observations and informal conversations with the observed teachers suggest that the grouping of students during literacy instruction is mainly based on ability levels. However, the process in which the teachers assessed the students to determine their ability levels and whether particular interventions are used with the lowest ability students who may fit the profile of poor comprehenders is beyond the scope of the current study.

An explanation for why individual instruction in RC has been reported to be used rarely may be due to the difficulty of implementing it when the teacher has to ensure every child in the class is learning. The classroom observation data also appears to corroborate the teacher reports in the questionnaire. However, the classroom observation coding system in the current study is designed to record events that the teacher is directly involved in so if teachers proceed to work with small groups after allocating individual work for the rest of the class, the individual and independent aspect of the lesson is ignored as the focus lies on the group work that the teacher is facilitating. In such situations, the teacher is only involved in direct instruction with the group while there is no instruction with other individual students who are expected to work independently.

This format of lesson organisation is similar to those commonly observed by Pressley et al. (1998) where the teacher may conduct a whole-class lesson, followed by assigning independent writing assignments, during which the teacher will work with small groups to discuss the given text. Nonetheless, individual instruction, if present, may only be limited to periods of assessments where teachers are required to listen to individual students read or during intervention instruction for the students with the lowest attainment levels although the responsibility to support these students in the U.K. context may appear to lie on teaching assistants rather than the teachers (e.g. Blatchford, Russell, Bassett, Brown & Martin, 2004).

### **Variation of teacher input.**

Classroom observation data in the current study shows that scaffolding is the most frequent level of teacher input, followed by students working independently without any teacher input while explicit direct instruction or modelling by the teachers is used least frequently during RC instruction. Within the scaffolding subcategory of the classroom observation coding system, the teacher provides varying amounts of input to guide students to use various RC strategies to enhance their understanding of a given text. Similar to Ness' (2011) study, the teachers in the current study appear to favour the use of teacher-student dialogic discussions that are heavily dependent on the teachers constantly asking guiding questions to get students to reflect on texts that they read in order to gain a deeper understanding of the content. Such an approach used by the teachers would suggest that their instruction is often implicit. Anmarkrud and Bråten (2012) have specifically coded for explicitness of teacher instruction of comprehension strategies in their observation study of Norwegian ninth-grade language arts classrooms and they found that as much as 62.0% of the time used for comprehension strategies instruction was coded as implicit instruction. This suggests that similar to the Norwegian teachers, U.K. teachers also appear to mainly teach RC strategies in an implicit manner.

The apparent lack of explicit teaching of RC strategies in the current study is of concern. Numerous studies have consistently highlighted the benefits of teaching strategies explicitly in order to ensure that all children have the opportunity to gain knowledge of a particular strategy and to understand the process of using it before they can be expected to apply and practise these strategies with different texts in different settings (e.g. Keer, 2004; Pressley et al., 1989). The need to set up this explicit learning opportunity is especially important when studies have also suggested that not all children are able to instinctively discover and use cognitive or metacognitive strategies when attempting to comprehend a difficult text if they have not previously been taught the strategies explicitly (e.g. Pressley & Allington, 1999). It will definitely be unrealistic to expect all lessons to entirely consist of explicit instruction in comprehension strategies. However, lessons can be set up to consist of more explicit instruction when students are first introduced to new strategies and the extent of explicitness can decrease as the students gain confidence and

competency in using the strategies. Teachers can then give reminders when necessary as the student progress to using the strategies more independently. This will be aligned with Duke and Pearson's (2002) model of comprehension instruction. For the teachers, they appear to be too ingrained in using the traditional method of instruction where they ask questions about a text after reading as a way of facilitating RC development rather than teaching students why, where, when and how to use a particular strategy. This may suggest that they lack the professional knowledge about teaching RC.

Nonetheless, it may be acceptable that discussion-based or question-answer dialogic instruction is used when teaching RC. The importance of answering questions, whether for assessing comprehension, facilitating the practice of learnt RC strategies or encouraging deeper engagement with a text, can be seen by its inclusion in many instructional approaches, including Guided Reading (Fountas & Pinnell, 1996) and Reciprocal Teaching (Palinscar & Brown, 1984). Many teachers also perceive direct teacher questioning as important when teaching RC (Parker & Hurry, 2007). However, phrasing and asking questions may be seen as an art by itself and ensuring that the questions asked also support children in practising various strategies to enhance RC may not be simple.

Numerous researchers have attempted to distinguish between different question types and to determine their effectiveness in facilitating RC development (Brown, 2004). However, the evidence appears ambiguous depending on what assessment has been used, what types of questions have been used, and how different question types are defined in different studies. Nonetheless, it is accepted that both lower- and higher-order questions are important so teachers who rely on this traditional method of teaching need to ensure that they use a wide range of questions. Similar to Parker and Hurry's (2007) study, the interview data in the current study suggests that teachers appear well aware of the importance of asking both inferential and factual or propositional thinking questions although a further study focusing on the classroom discourse during RC will be necessary to understand the range of questions that teachers actually ask in classrooms to facilitate RC.

## **Research question 2: How confident do teachers feel about incorporating these evidence-based practices when teaching RC?**

The questionnaire data suggest that the teachers generally feel confident about teaching a wide range of RC strategies and basic literacy skills, as well as in using Guided Reading as a teaching approach and using different classroom instructional formats. These are encouraging results as feeling confident may be the first step in motivating teachers to incorporate more evidence-based practices when teaching RC especially if their high confidence levels in teaching RC is due to a heightened sense of internal locus of control that enables teachers to feel more in control of teaching and learning situations (Guskey & Passaro, 1994). However, this proposition of teachers feeling a greater sense of control is beyond the remit of the current study and a subsequent study using a self-efficacy questionnaire such as that developed by Guskey and Passaro (1994) may be useful to explore this further.

Nonetheless, a correlational analysis using the information about teacher background gathered from the questionnaire shows that teacher confidence level in teaching RC is positively related to the amount of recent CPD that they recently had in related areas of literacy and the extent that the CPD has focused specifically in RC. These are important relationships despite their small associations. However, teacher confidence level in teaching comprehension does not appear to be related to the extent that initial teacher training has focused on either early literacy skills or RC instruction. In addition, teacher confidence level in teaching RC strategies also does not necessarily correlate with how long the teachers have been in teaching or specifically in teaching KS2. This indicates that teacher confidence level in teaching RC is most directly related to recent CPD in relevant areas instead of previous training and teaching experiences.

There may be several reasons for these results. Firstly, professional development gained through ongoing CPD is usually experienced more recently than initial teacher training. Hence, there is a higher chance that the teachers remember learnt concepts from recent CPD and apply them immediately in the classes that they are already teaching unlike the possible loss of knowledge due to long time gaps between graduating from initial teacher training, finding a job, and actually teaching

in a class. Another reason may be that initial teacher training tends to focus more on content knowledge rather than instructional practices while CPD courses may be more closely linked to classroom applications of evidence-based practices. Similar to the Ofsted report 'The Teaching of Reading in 45 Inner London Primary Schools' (1996), interview data from the current study indicates that teachers do not feel that initial teacher training has sufficiently prepared them to teach RC.

The lack of a significant relationship between teacher confidence levels in teaching RC strategies and the number of years the teachers have been in teaching or specifically in teaching KS2 is incongruent with the key point raised in the interviews that teachers felt that their confidence levels in teaching RC strategies are linked to their previous teaching experiences. This difference may be due to the simplistic nature of using only number of years in teaching to quantify the extent of a teacher's teaching experience. Furthermore, a detailed exploration of the teachers' comments in the interviews suggests that the quality of the previous teaching experiences may be more crucial than a mere count of the number of years in teaching. For example, a teacher who has only a few years of teaching may have had the opportunity to learn from an experienced teacher mentor and to perhaps be given the autonomy to experiment with different ways of teaching. Conversely, a teacher with many more years of teaching may not have been given much guidance from another more experienced teacher throughout the teaching career and has possibly stuck rigidly to using a non-evidence-based resource. By comparing these two teachers, it will be easy to understand why the first teacher may feel more confident about teaching RC even though she has only taught for a few years unlike the second teacher who has taught for more years but with little interaction with other colleagues and little change in teaching practices.

### **Research question 3: Is there a relationship between teacher self-efficacy and the extent that evidence-based practices are incorporated when teaching RC?**

A significant positive correlation was found between teacher reported frequencies of teaching RC strategies in their classrooms and teacher confidence levels in teaching them. This is an important relationship despite its small association. In addition, a descriptive exploration of the teacher reports of how frequently they taught basic

literacy skills and used various teaching approaches or instructional formats when teaching RC together with their respective confidence levels in using them suggests that higher frequency of using these evidence-based practices is linked to higher self-efficacy. In other words, teachers who feel more confident about incorporating evidence-based practices in their classrooms may actually use them more often, although the direction of causality is only speculative. This may be further evidenced by the interview results highlighting that some teachers tend to prefer or choose to incorporate more of certain instructional practices if they feel confident in using them.

This interpretation of the results is clearly aligned to research in teacher self-efficacy and its influence on classroom practices (e.g. Goddard, Hoy & Hoy, 2000; Wheatley, 2005). However, self-efficacy may not be the only factor influencing teachers to use more evidence-based practices. The questionnaire results have shown that teachers who have more teaching experience or more recent CPD in relevant areas do not necessarily report higher frequencies of teaching RC strategies in their classrooms. This is surprising especially since the results have shown that a greater amount of recent CPD in relevant areas is linked to higher teacher confidence levels in teaching RC strategies. Hence, this suggests that the link between teacher self-efficacy and use of evidence-based practices may not be straight-forward.

Firstly, the teachers may be resistant to the fast-evolving changes in recommended RC instruction from research. It may be possible that teachers who have many years of teaching experience may have been teaching in a consistent manner with little change in their practice to incorporate evidence-based practices because they have gradually become comfortable with their ingrained methods of teaching. This may be especially so if they see their students, or at least most of their students attaining reasonable levels of attainment. Furthermore, with more years of teaching, the teachers may naturally report higher confidence in teaching RC but this high self-efficacy does not necessarily translate into actual effective classroom practice. This may be evidenced by research showing that resistance to organisational changes in a school may be due to a fear of the unknown as well as a need to maintain habits that feel most comfortable (e.g. Yılmaz & Kılıçoğlu, 2013). With recent research in RC instruction, there have been many shifts in defining 'best' or 'evidence-based'

ways to teach RC. Hence, it is plausible that some teachers are not ready for this change.

Secondly, in order to ensure that teachers are ready to embrace the changes in RC instruction and adjust their classroom practices, their belief systems will also need to be understood and changed. There is a wide body of research in teacher self-beliefs and its impact on classroom practice but an in-depth exploration of this literature is beyond the scope of this study. However, there is some research that suggests that teacher beliefs can influence general classroom instruction (e.g. Nespor, 1987) as well as specifically in RC instruction (Richardson, Anders, Tidwell & Lloyd, 1991). Hence, if teachers currently have particular beliefs about RC instruction that is not aligned to the evidence base, they may not accept the evidence base and incorporate the evidence-based practices into their classrooms even if they feel confident about using the evidence-based practices.

Thirdly, teachers may not demonstrate frequent use of evidence-based practices in their classrooms despite reporting high confidence levels in implementing them because of the implicit or explicit constraints exerted by national and school policies. Due to the need to be accountable in meeting national standards, it is reasonable to expect schools and teachers to adhere to national guidelines and recommendations. Unfortunately, very little research has been conducted to directly investigate the effects of national or school policies on student outcomes. However, a review of studies that looked into policy implementation in the U.S. suggests that policy mandates rarely produce intended instructional changes although the researcher points out that there may be a time lag between when policies are made and when it reaches schools and classrooms (Allington, 2000). With regards to school policies, the evidence from the interview data gathered in the current study, in particular comments made by Teacher Debbie, suggests that teachers may not necessarily have the autonomy to teach using evidence-based methods because they are accountable to the school and are required to adhere to school policies.

## **Limitations of the Study**

One main limitation of the study would be the small sample size due to a very low response rate for the questionnaire and the corresponding low numbers and varying profiles of the teachers who volunteered for the classroom observations. Hence, the questionnaire responses and the classroom observation data could not be compared directly in order to triangulate findings. Hence, triangulation of data had to be done informally through the third phase of the study where only a small number of teachers could be interviewed as case studies within a limited amount of time in order to better understand their thoughts when completing the questionnaire as well as their views about teaching RC. The small sample size also meant that the results should be interpreted with caution and any generalisations to the teaching community should not be considered confirmatory.

Due to the method of distributing the questionnaire through 'middlemen' such as EP colleagues, school senior management staff and school administrative officers, it was difficult to keep track of the exact number or profile of teachers who did receive the questionnaire and opted to not participate in the study. Hence, without being able to consider the profile of the teachers who did not respond to the questionnaire, it would also be difficult to see if there was any particular difference between respondents and non-respondents. However, it might be reasonable to suggest that the teachers who did respond to the questionnaire and volunteered for the classroom observations might have particular interests in understanding RC instruction and it was encouraging to note that they were keen to improve on their current classroom practice in RC instruction.

Although care was taken to design the questionnaire items based on an extensive review of relevant literature to elicit teacher self-reports on their frequency and self-efficacy in using evidence-based instructional practices when teaching RC in their classrooms, the interview data suggested that some respondents might have misunderstood some of the items (e.g. mistaking Reciprocal Teaching as referring to the didactic nature of teacher-student interactions during RC instruction instead of a specific RC instructional approach). Similarly, it might also be unclear if all respondents interpreted the queried RC strategies as intended (e.g. item 25 "analyse

the structure of the text” as referring to the understanding of how ideas in the text are interrelated to convey meaning instead of an analysis of different text types). These limitations might impact on the construct validity of the questionnaire items.

With regards to the questionnaire, it was also recognised that by suggesting that teachers only considered their teaching practice within the previous two weeks when responding to the questionnaire, variations and adaptations of practice across the entire academic year might have been overlooked. This would not be an issue if a large sample of teachers had responded to the questionnaire as individual differences would have balanced out. However, this would become one of the limitations in the present study because of the small sample size. Nonetheless, it would be reasonable to suggest that the questionnaire had at least provided a snapshot of teacher practice within a two-week period when answering the first research question (i.e. To what extent do teachers incorporate evidence-based practices when teaching RC?).

Another limitation might lie within the procedure of conducting the classroom observations. Although care was taken to ensure that the observations were negotiated with the teachers in order to cover a range of classroom situations where RC was being taught, it would be difficult to ensure that all RC lessons were observed, especially if the teachers also incorporated RC instruction into the teaching of other content areas. It was also possible that the focus of classroom lessons changed throughout the course of the year as indicated by the interview data. Hence, conducting the observations periodically over the course of a full academic year might give a clearer picture of the nature of RC instruction as well as provide some indications of how the instruction might change throughout the year. It should also be highlighted that although several pilot studies were conducted before finalising the observation coding system and the intra-rater reliability was shown to be acceptable, it would still be possible that the presence of an external researcher or the very nature of observations itself might influence teacher instruction such that the observations did not truly reflect a typical lesson conducted without the presence of an external observer.

Lastly, it was recognised that the use of only four subcategories (i.e. memorisation strategies, organisation strategies, elaboration strategies, and monitoring strategies) within the main category of RC strategy in the systematic observation coding system might have resulted in some loss of information about the teaching of important RC strategies such as creating visual representations of a text. This was inevitable as the researcher has to create a balance between having a manageable number of subcategories for coding during a 'live' observation and ensuring that the data gathered was comprehensive. An extensive list of RC strategy subcategories was initially considered but the pilot studies suggest that it was unrealistic. Nonetheless, the classroom observation data would have been more informative if 'large' subcategories (e.g. the "elaboration strategies" subcategory within the main category of RC strategy encompassed several important strategies including making inferences, linking to prior knowledge/self, predicting, visualising) were broken down into separate subcategories to ensure that all of the subcategories were roughly similar in comprehensiveness of the strategies that they represented.

## **Conclusions**

Despite the limitations, the findings of the current study tentatively suggest that some KS2 teachers in schools in England are incorporating a fair amount of evidence-based practices in their RC instruction and they generally feel confident about utilising them. In particular, the teachers are teaching a number of RC strategies and other basic literacy skills, as well as using the Guided Reading approach, whole-class and small-group instructional formats, and the extensive use of teacher scaffolding to facilitate RC development in students. However, the range of RC strategies and basic literacy skills being taught is rather narrow (i.e. little focus on teaching organisation and monitoring RC strategies, and basic literacy skills such as word recognition, vocabulary and language comprehension) and Reciprocal Teaching, a teaching approach with a stronger evidence base, remains relatively unknown and unused by the teachers. In addition, the level of teacher input rarely includes explicit teacher-directed teaching which is critical especially when introducing new RC strategies before teacher scaffolding is used to gradually guide students towards independence in using the strategies.

The study results also indicate that the frequency of using evidence-based practices during RC instruction is linked to teacher confidence levels in using them and this may explain the teachers' limited use of a range of instructional approaches and teaching of particular RC strategies. However, the relationship between teacher self-efficacy and actual classroom practice may not be straight-forward as the results suggest that the extent of incorporating evidence-based practices within classrooms will likely be influenced by teachers' awareness of specific and alternative instructional practices, as well as the extent of reliance on government documents, school teaching policies, and available instructional resources. This relationship may also become clearer if teacher RC instructional practice is surveyed at various points throughout the academic year.

The incorporation of evidence-based practices in the teaching of RC is crucial because instructional time in the classroom is very limited. Teachers need to be aware of a range of effective teaching approaches and strategies before they can select and implement them in a discerning manner that is calculated yet adaptable to dynamic classroom situations and to cater for individual differences in the classroom to produce the best student outcomes. However, the extent that teachers implement evidence-based practices during their RC instruction appears complex with many contributing factors and potential barriers to overcome.

### **Implications for Professional Practice**

Although the teachers in this study appear to incorporate a number of evidenced-based practices during RC instruction and they generally feel confident in implementing them, the range of evidence-based practices being used is rather narrow. Hence, more can be done to create conducive environments for teachers to incorporate a larger range of evidence-based practices in their classrooms.

Before teachers can even begin to consider incorporating a range of evidence-based practices into their RC instruction, they need to firstly be informed and made aware about the existing variety of evidence-based instructional practices. As recommended by the House of Commons' report 'Teaching Children to Read' (2005), teacher training, whether in the form of initial teacher training or in-service

CPD should not only focus on imparting content knowledge about RC but to also focus on informing teachers about evidence-based practices in RC instruction. In other words, the links between theory and practice in RC instruction has to be made explicitly.

As teacher self-efficacy is closely linked to their actual classroom practice, it will be important to develop ways to increase teacher confidence in using evidence-based practices when teaching RC. One possibility will be for initial teacher training courses to ensure that the time gap between theoretical knowledge training in RC instruction and actual classroom teaching during the school experience component is kept as short as possible. In addition, coursework about RC instruction during the initial teacher training should also be coordinated better with the school experience component in order to allow student teachers opportunities to reflect on their application of learnt theories and teaching approaches. Even after the teachers graduate from initial teacher training, it will also be beneficial for them to consolidate their knowledge base by shadowing an experienced teacher and to have frequent discussions about their instructional practices in teaching RC.

As the teachers gradually gain confidence in teaching RC, they should then participate in frequent and regular CPD. The purpose of the CPD may be to provide the teachers with time outside the classroom to reflect on their practices as they develop greater awareness of ongoing research in RC and learn new evidence-based instructional practices. Hence, when EPs are commissioned to conduct workshops or in-service training for teachers in RC instruction, time should be set aside for teachers to reflect on their current practice and positive aspects of their lessons should be celebrated in order to boost their self-efficacy and to motivate them to try out new instructional approaches.

In addition, CPD can also provide opportunities for teachers to network with other teachers and to share practices that have been successful in their classrooms. This is especially crucial as teachers generally work in isolation within their classrooms and there may be very little space and time in the school day for them to discuss their instructional practices with teacher colleagues in the same school, not to mention cross-sharing of effective practices with teachers from other schools. In

order to increase the chances of teachers adopting new instructional practices learnt in CPD and to sustain the implementation, it will be helpful if more than one teacher in the same school undergoes the same training as this will likely reduce the chances of “teacher isolation” (Polly & Hanafin, 2011). Hence, frequent collaborations between professionals in the same school or in different schools, perhaps through peer observation and feedback, will likely promote greater implementation of evidence-based practices that can be sustained for longer. Due to the job nature of EPs working in a variety of schools usually within a small locality, it may be possible for EPs to facilitate the cross-sharing of effective practices amongst teachers in different schools. As the schools are within the same locality, collaborations may also be more feasible.

Even though CPD has many benefits in increasing teachers’ awareness of the latest research in RC instruction and to develop their skills in implementing these evidence-based practices in their classrooms, the potential impact on enhancing the quality of classroom instruction will not be realised unless schools are willing to support the teachers in participating in CPD. As the McKinsey and Company (2007) report “How the World’s Best Schools Come Out On Top” suggests, “the main driver of the variation in student learning at school is the quality of the teachers” (p. 12). In addition, the report also consistently found that high-performing school systems across the world are prepared to “develop these people into effective instructors” (p. 13) and “put in place systems and targeted support to ensure that every child is able to benefit from excellent instruction” (p. 13).

In addition to establishing a conducive and supportive environment to encourage teachers to widen their knowledge base and incorporate a wide range of evidence-based practices when teaching RC, the teachers themselves need to be ready to embrace new knowledge in RC instruction and adjust their classroom practices accordingly. An important factor to address before teachers are ready for change would be to consider their belief systems and to possibly alter them if they conflict with the new paradigms. Hence, in order to change their instructional practices, teachers must encounter some form of experience or knowledge that is related to their existing beliefs (Fenstermacher, 1978). Richardson (1996) further suggests that teachers’ beliefs can be influenced by three types of experiences: personal

experience, experience with schooling and instruction, and experience with formal knowledge. Hence, it is important that teacher belief systems are acknowledged by allowing them to discuss their personal experiences with respect to the new ways of thinking and to witness the effectiveness of new instructional practices during initial teacher training and ongoing training opportunities.

As Richardson et al. (1991) suggests, teacher training should intertwine “teachers’ background theories, beliefs and understandings of the teaching and reading process; theoretical frameworks and empirical premises as derived from current research; and alternative practices that instantiate both teachers’ beliefs and research knowledge” (p. 579). The EP may have a role to play in understanding and changing teacher belief systems due to the unique training that they have received. EPs are trained to play supportive roles to students, teachers and parents (Love, 2009) and in order to successfully carry out these supportive roles, many EPs in the U.K. have adopted the use of various consultation models. In general, the objective of consultation is to produce positive change either at the individual, group or organisational level through a collaborative and recursive process that combines exploration, assessment, intervention and review (Wagner, 2000). Hence, EPs can be employed to work closely with teachers through a consultation process to explore their belief systems, challenge them and possibly change them in order to promote teacher acceptance and implementation of alternative evidence-based practices that they may not have previously been aware of.

### **Suggestions for Further Research**

In view of the exploratory nature of the current study as a starting point of such research into teacher self-efficacy and instructional practices when teaching RC in the U.K., there are definitely many other related areas that can and should be studied within the U.K. context in order to improve teaching standards that lead to positive student outcomes. Based on the initial findings from this study, the following are suggestions to be considered for further research.

Due to the low number of respondents to the questionnaire used in the current study, teacher background data, although collected, could not be analysed using valid

statistical approaches to determine their influence on teacher instructional practices when teaching RC. Hence, a possible area for future research would be to enlarge the sample population based on a set of predetermined criteria in order to recruit a larger number of participants for a similar study. A larger sample size would also ensure that valid generalisations of the findings could be made.

The current study has been set up to begin exploratory work into understanding RC instruction specifically in KS2 classes. However, RC may also be taught in KS1 or even in the early years, as well as in the later part of the education system in KS3 and KS4. Hence, it will be logical to suggest that similar exploratory studies are also conducted at each of these levels. It may then be interesting to see how RC instruction is similar or different at each stage of the U.K. education system. Recommendations may then be made to ensure that RC instruction is weaved seamlessly into each educational stage in a coherent and logical fashion.

In addition, the findings from the current exploratory study may be used to develop future research into how teacher characteristics and classroom practices are linked to student outcomes. This is an area that has been attempted but it appears that such research has mainly been conducted outside the U.K. This dearth of research in the U.K. is of concern especially since a number of government officials have recently made comments about the importance of having high quality teachers in schools and some even hinted that the current quality of teachers have room for further improvement (Evans, 2012; Mulholland, 2012). These comments could be in response to recent reports that literacy standards in the U.K. may have remained generally constant from 2007 to 2012 (DfEa, 2012), and yet the U.K. has recently slipped from 17th to 25th place in the international literacy league table published by the Programme for International Student Assessment (PISA), despite spending more per student on education (OECD, 2010).

An alternative to conducting 'live' observations may be to use video with audio recordings of lessons. This will provide permanent records of the lessons which will then allow researchers to repeatedly go back to the recordings for further analyses when required or to validate resulting themes and phenomena. However, it should be recognised that watching and re-watching video recordings is very time-

consuming and researchers need to be prepared to devote extensive amounts of time to the study. Nonetheless, video and audio recordings may also allow other methods of analyses to be conducted in addition to systematic coding of events in the classrooms. An example of these other analyses may be to carry out a discourse analysis in order to understand teacher-student interactions or as suggested previously, to determine the types of questions that teachers use when teaching RC.

As the classroom observation coding system used in the current study has been based on an extensive research base and it is shown to have a high level of intra-rater reliability, further studies may be conducted to establish its validity in coding for the identified RC instructional practices across a larger number of classroom observations within a wider range of settings. Once different researchers have tried using it in a larger number of classrooms with different teachers, inter-rater reliability may also be established easily. If satisfactory validity and reliability is established, it may be possible that the coding system is used as an informative measure of RC instruction in order to address gaps in schools or as pre- and post-test measures for changes in instructional practices due to teacher training.

As described earlier, it is optimistic that the teachers generally feel confident about teaching RC using evidence-based practices. However, determining the influential factors behind their high self-efficacy is beyond the remit of the current study although understanding these factors can potentially have implications for teacher training and ongoing CPD in light of the positive relationship found between teacher self-efficacy and frequency of incorporating evidence-based practices in their RC instruction. Hence, it will be beneficial if future research can investigate factors that contribute to higher self-efficacy or factors that act as barriers to teacher confidence levels in teaching RC. A combination of using a self-efficacy questionnaire such as that developed by Guskey and Passaro (1994) and qualitative interviews with a range of teachers may be useful to explore this further.

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## **Appendix A: Research Information Sheet**

**Date:** 30 October 2013

**Student Researcher:** Diona Zheng, Institute of Education, London

**Research Supervisors:** Dr Yvonne Griffiths and Dr Greta Sykes, Institute of Education, London

**Course:** Doctorate in Educational, Child and Adolescent Psychology

**Research Project Title:** Teacher self-perceived competencies and instructional practices in teaching RC

**Purpose:** The main purpose of the study is to explore the extent that KS2 teachers use effective practices when teaching RC in their classrooms and to assess their confidence levels in using them.

**Method:** The study will be carried out in 2 phases. In Phase 1, participants will be required to complete a questionnaire independently either online or on hardcopy. This questionnaire will elicit demographic information about the respondents and the students they work with, information about the respondents' teaching and training experiences, instructional practices and self-perceived competencies in using the instructional practices to teach RC. In Phase 2 of the study, participants who wish to will allow the researcher to carry out an observation of their literacy lesson during an agreed time. A systematic observation schedule will be used to record information about the instructional format, literacy focus and level of teacher input during the lesson. A debrief may be carried out at the end of the observation so that the researcher can clarify about any aspects of the lesson that are unclear.

**Participants:** All KS2 teachers in the borough will be invited to participate in the research study.

**Research Timeline:** The questionnaire should be completed by December 2013 while the observations will be carried out between November 2013 and January 2014.

**Confidentiality and Anonymity:** Participation in the study is voluntary and participants can choose to withdraw from it at any point without any negative consequences. All identities, including your school, will be kept strictly confidential in all reports or publications that may result from this study.

**Research Report:** In order for you and your school to benefit from participating in this research study, you will receive an executive summary report at the end of the research period. This report will outline the research process, the main findings and any implications for professional practice.

If you have any doubts or require further clarification about the information above, please contact me before we proceed further.

**Participant Consent Form**

**Research Project Title:** Teacher self-perceived competencies and instructional practices in teaching reading comprehension

**Student Researcher:** Diona Zheng, Institute of Education, London

1. I confirm that I have read and understood the attached Research Information Sheet that explains the research project.
2. I understand that my participation in this study is completely voluntary and I can choose to withdraw participation for any reason at any time.
3. I understand that my identity, including my school, will be kept confidential and remain anonymous in all reports.
4. I agree to participate in the above research project.

Teacher's Signature ..... Date .....

Teacher's Name ..... Email .....

Thank you for agreeing to participate in the study.

## Appendix B: Teaching Reading Comprehension Questionnaire

**All responses to this questionnaire are absolutely confidential. Information will not be used to identify you or your school. Please complete all items as fully as possible.**

### Section A: Background Information and Class Profile

This section elicits information about your background and training as well as information about your class. Please answer all items as they will be important for the research. You may also require access to demographic data about your class.

1. What is your gender?  Male  Female
  
2. Which age group do you belong to?  
 16-25  26-35  36-45  46-55  55+
  
3. What is your ethnicity?  
 White  Black  Asian  Hispanic  Chinese  
 Other (please specify: \_\_\_\_\_)
  
4. In which country did you undergo your initial teacher training?  
 U.K.  Europe not including U.K.  Outside Europe
  
5. To what extent did your initial teacher training focus on the teaching of early literacy skills (e.g. word recognition, decoding, vocabulary, grammar and sentence structure)? (Please respond using the scale below)  

	1	2	3	4	5	6	7	8	9	10	
None	<input type="checkbox"/>	A lot									
  
6. To what extent did your initial teacher training focus specifically on the teaching of RC? (Please respond using the scale below)  

	1	2	3	4	5	6	7	8	9	10	
None	<input type="checkbox"/>	A lot									
  
7. How long have you worked as a teacher? (Round up to nearest whole number)  
\_\_\_\_\_ years
  
8. How long have you taught Key Stage 2 classes? (Round up to nearest whole number)  
\_\_\_\_\_ years
  
9. What other levels have you taught? (Select all that apply)  
 Early Years Foundation Stage  Key Stage 1  Key Stage 3  Key Stage 4
  
10. In which year group do you currently teach literacy? (Select all that apply)  
 Year 3  Year 4  Year 5  Year 6

11. Over the past 5 years, about how many days of Continuous Professional Development (e.g. INSETS, seminars, workshops, and conferences) have you had that covered curriculum, assessment, teaching strategies, and ways students learn in the field of Literacy?

(Round up to nearest whole number)

\_\_\_\_\_ days

12. To what extent did the Continuous Professional Development you had in Literacy over the past 5 years focus specifically on RC?

(Please respond using the scale below)

1 2 3 4 5 6 7 8 9 10  
None           A lot

13. Please give further details about the CPD that you had in the past 5 years which covered RC.

\_\_\_\_\_

\_\_\_\_\_

The following questions are related to the profile of students in your class.

14. How many students are currently enrolled in your literacy/English class?

\_\_\_\_\_ students

15. How many students are learning English as an Additional Language in your class?

\_\_\_\_\_ students

16. How many students in your class belong to minority ethnicities (i.e. non White British)?

\_\_\_\_\_ students

17. How many students in your class have Statements of Special Educational Needs?

\_\_\_\_\_ students

18. How many students in your class are eligible for free school dinners?

\_\_\_\_\_ students

19. How many students in your class have attained National Curriculum Level 2 or above for Reading?

\_\_\_\_\_ students

**Section B: Instructional Practices**

This section elicits information about your instructional practices when teaching RC in your classroom. Do consider each item carefully before responding.

Based on the past 2 weeks as a time frame, please indicate how often you carry out each of the instructional practices below by selecting the relevant option. It may be helpful if you consider the following descriptors when responding to each item.

Never 0% of the time	Rarely 20% of the time	Sometimes 40% of the time	Often 60% of the time	Always >80% of the time
-------------------------	---------------------------	------------------------------	--------------------------	----------------------------

I teach my students to:		Frequency				
		Never	Rarely	Sometimes	Often	Always
20.	generate their own questions about a text.	<input type="checkbox"/>				
21.	summarise information from a text.	<input type="checkbox"/>				
22.	identify the main ideas of a text.	<input type="checkbox"/>				
23.	make sense of a text by relating to their past experiences.	<input type="checkbox"/>				
24.	make predictions about a text.	<input type="checkbox"/>				
25.	make inferences based on a text.	<input type="checkbox"/>				
26.	create visual representations of a text.	<input type="checkbox"/>				
27.	monitor their understanding of a text.	<input type="checkbox"/>				
28.	analyse the structure of a text.	<input type="checkbox"/>				
29.	set the purpose for reading a text.	<input type="checkbox"/>				
30.	build vocabulary knowledge.	<input type="checkbox"/>				
31.	recognise and decode single words.	<input type="checkbox"/>				
32.	build knowledge in grammar and sentence structure.	<input type="checkbox"/>				
33.	Further comments about the above or other skills/strategies that you teach in your literacy lessons.					

I teach RC using:		Frequency				
		Never	Rarely	Sometimes	Often	Always
34.	Guided Reading.	<input type="checkbox"/>				
35.	Reciprocal Teaching.	<input type="checkbox"/>				
36.	whole-class instruction	<input type="checkbox"/>				
37.	small-group instruction	<input type="checkbox"/>				
38.	individual instruction	<input type="checkbox"/>				
39.	Further comments about the above or other teaching approaches/formats that you use in your literacy lessons.					

**Section C: Perceived Competencies**

This section elicits information regarding how confident you feel about using various instructional practices when teaching RC in your classroom. Do consider each item carefully before responding.

Please rate how confident you feel about incorporating each of the instructional practices below by selecting the relevant option.

I feel confident in teaching my students to:		Confidence Level					
		Very low	Rather low	Low	High	Rather high	Very high
40.	generate their own questions about a text.	<input type="checkbox"/>					
41.	summarise information from a text.	<input type="checkbox"/>					
42.	identify the main ideas of a text.	<input type="checkbox"/>					
43.	make sense of a text by relating to their past experiences.	<input type="checkbox"/>					
44.	make predictions about a text.	<input type="checkbox"/>					
45.	make inferences based on a text.	<input type="checkbox"/>					
46.	create visual representations of a text.	<input type="checkbox"/>					
47.	monitor their understanding of a text.	<input type="checkbox"/>					
48.	analyse the structure of a text.	<input type="checkbox"/>					
49.	set the purpose for reading a text.	<input type="checkbox"/>					
50.	build vocabulary knowledge.	<input type="checkbox"/>					
51.	recognise and decode single words.	<input type="checkbox"/>					
52.	build knowledge in grammar and sentence structure.	<input type="checkbox"/>					

I feel confident to teach RC using:		Confidence Level					
		Very low	Rather low	Low	High	Rather high	Very high
53.	Guided Reading.	<input type="checkbox"/>					
54.	Reciprocal Teaching.	<input type="checkbox"/>					
55.	whole-class instruction.	<input type="checkbox"/>					
56.	small-group instruction.	<input type="checkbox"/>					
57.	individual instruction.	<input type="checkbox"/>					

Thank you for taking the time to complete this questionnaire. Your responses will contribute to research on the instructional practices of LA X Key Stage 2 teachers in teaching RC. All data will remain anonymous.

Please ensure that you detach the Participant Consent Form (to ensure the anonymity of the questionnaire) and submit it together with the questionnaire by 6 December 2013. You can either post it using the LA X internal post service via your school admin team (please address to Diona Zheng, LA X Educational Psychology Service) or hand it to your school EP via your SENCO.

Thank you once again.

Diona Zheng

Trainee Educational Psychologist

### Appendix C: Systematic Observations Coding System (Pilot 1)

Main categories	Sub-categories	Description
Literacy focus	1. Word recognition	Teaching activities to enhance word recognition through phonics decoding or sight word reading.
	2. Vocabulary	Teaching activities to enhance knowledge and understanding of individual words.
	3. RC	Teaching activities to enhance comprehension and interpretation of written text.
	4. Writing	Teaching activities to enhance skills in grammar, sentence formation and written presentation of ideas.
	5. Others	Activities that do not fit into any of the subcategories (e.g. classroom management, class reading aloud, teacher dissemination of non-academic information, student work presentation).
Instructional format	1. Whole-class instruction (teacher monologue)	Teacher addresses the whole class and is uninterrupted.
	2. Whole-class instruction (teacher-student dialogue)	Teacher addresses the whole class and encourages student participation.
	3. Whole-class instruction (student presentation)	Teacher facilitates whole class participation such as student presentation of work or reading aloud.
	4. Group work	Students are placed into groups of more than 2 to work together on a common task. Teacher is actively supporting groups/individual students.
	5. Pair work	Students are placed into pairs to work together on a common task. Teacher is actively supporting groups/individual students.
	6. Individual work	Students work on assigned tasks individually without any need for peer interactions. Teacher is actively supporting individual students.
	7. Classroom management	Teacher gives instructions to organise activities, deal with misbehaviour or disseminate non-academic information.
	8. No interaction	Teacher does not interact with any student or leaves the classroom.
Text type used	1. Literature	Includes: <ul style="list-style-type: none"> <li>a. a range of modern fiction by significant children's authors</li> <li>b. long-established children's fiction</li> <li>c. a range of good-quality modern poetry</li> <li>d. classic poetry</li> <li>e. texts drawn from a variety of cultures and traditions</li> <li>f. myths, legends and traditional stories</li> <li>g. playscripts.</li> </ul>
	2. Non-fiction, non-literary	Includes: <ul style="list-style-type: none"> <li>a. diaries, autobiographies, biographies, letters</li> <li>b. print and ICT-based reference and information materials [for example, textbooks, reports, encyclopedias, handbooks, dictionaries, thesauruses, glossaries, CD-ROMs, internet]</li> <li>c. newspapers, magazines, articles, leaflets, brochures, advertisements.</li> </ul>
	3. Others	Text types that do not fit into any of the subcategories.
Level of teacher guidance	1. Direct instruction	Teacher provides an explicit description of the strategy and when and how it should be used.
	2. Modelling	Teacher and/or student model the strategy.
	3. Scaffolding	Teacher provides varying amounts of guidance for students to use the strategy.
	4. Independent	Teacher allows students to use the strategy independently
Type of comprehension strategy instruction	1. Summarising	Activities that help students put together the essential elements of a longer text.
	2. Generating and answering questions	Activities that help students generate own questions based on their integration of information and thoughts while reading, and answering their own questions or questions generated by others.
	3. Activating prior knowledge	Activities that increase students' subject knowledge and help them relate existing subject knowledge to the text.
	4. Drawing inferences	Activities that help students reason, make judgements and conclusions from prior knowledge and the given text.
	5. Visualising	Activities that encourage students to make mental pictures while reading.

	6. Monitoring comprehension	Activities to help students check if what they are reading makes sense and to employ strategies to repair comprehension when required.
	7. Analysing text structure	Activities that help students understand and negotiate around underlying text organisation.
	8. Predicting	Activities that help students make reasonable guesses about what they do not know or what will happen in the future.
	9. Determining importance	Activities that help students identify the important information in what they read.
	10. Setting reading purpose	Activities that encourage students to decide on the goals of reading a text.
	11. Others	Activities that encourage students to use other comprehension strategies.

**Appendix D: Systematic Observations Coding System (Pilot 2)**

<b>Main categories</b>	<b>Sub-categories</b>	<b>Description</b>
Instructional format	1. Whole class	All students are working on the same activity and they share a common goal or idea (e.g. all students listening to the teacher or presentation by a student).
	2. Group work	Students are placed into groups of 2 or more to work together on a common task (e.g. in a reading group, working on a group project).
	3. Individual work	Students work on assigned tasks individually without any need for peer interactions (e.g. the student is alone at the desk).
	4. Classroom management	Teacher gives instructions to organise activities, deal with misbehaviour or disseminate non-academic information (e.g. calling for attention, asking students to keep away stationery).
	5. No interaction	Teacher does not interact with any student or leaves the classroom.
	6. Transition	No instruction is taking place because the class is transiting between activities or lessons.
Literacy focus	1. Word recognition	Teaching activities to enhance individual word recognition (e.g. phonics decoding or sight word reading).
	2. Reading fluency	Teaching activities to enhance the ability to read accurately and quickly (e.g. students taking turns to read a story or their written work aloud).
	3. Vocabulary	Teaching activities to enhance knowledge and understanding of individual words (e.g. discussion about the meaning of a word, using a dictionary to define a word).
	4. RC	Teaching activities to enhance comprehension and interpretation of written text (e.g. teacher asking questions to guide students' thinking about a text).
	5. Writing	Teaching activities to enhance skills in grammar, sentence formation and written presentation of ideas (e.g. discussion about how to organise ideas in a written task, use of appropriate punctuation marks).
	6. Others	Literacy activities that do not fit into any of the subcategories (e.g. watching a video, oral language comprehension activities).
Level of teacher input	1. Direct instruction or modelling	Teacher provides an explicit description of the skill/strategy and when and how it should be used. Teacher may provide a demonstration or model the skill/strategy. There is no student input.
	2. Scaffolding	Teacher provides varying amounts of input to guide students to use the skill/strategy. The student(s) also give inputs. (e.g. 2-way discussion between the teacher and students, teacher asks guiding questions and students respond accordingly, teacher giving feedback).
	3. Independent	Teacher allows students to use the skill/strategy independently. There is no teacher input.
Type of comprehension strategy instruction	1. Summarising	Activities that help students put together the essential elements of a longer text.
	2. Generating and answering questions	Activities that help students generate own questions based on their integration of information and thoughts while reading, and answering their own questions or questions generated by others.
	3. Activating prior knowledge	Activities that increase students' subject knowledge and help them relate existing subject knowledge to the text.
	4. Drawing inferences	Activities that help students reason, make judgements and conclusions from prior knowledge and the given text.
	5. Visualising	Activities that encourage students to make mental pictures while reading.
	6. Monitoring comprehension	Activities to help students check if what they are reading makes sense and to employ strategies to repair comprehension when required.
	7. Analysing text structure	Activities that help students understand and negotiate around underlying text organisation.
	8. Predicting	Activities that help students make reasonable guesses about what they do not know or what will happen in the future.
	9. Determining importance	Activities that help students identify the important information in what they read.
	10. Setting reading purpose	Activities that encourage students to decide on the goals of reading a text.
	11. Others	Activities that encourage students to use other comprehension strategies.

**Appendix E: Interview Objectives, Key questions and Example Probing Questions**

Objective	Key Question / Comment	Example Probing Questions
Quickly building rapport	1) As you recall, you have completed a questionnaire and kindly allowed me to observe your RC lessons. The purpose of the interview today is to gather further data to triangulate and make sense of the data gathered thus far.	
Understanding teacher thought processes when participating in the study	2) What were your thoughts when you were filling up the questionnaire? 3) Did you have different thoughts while responding to different sections of the questionnaire?	<ul style="list-style-type: none"> <li>• Were there particular items or sections in the questionnaire that made you think harder?</li> <li>• Are there any items in Section A that might influence how you teach RC?</li> </ul>
Deepening teacher reflection on teaching RC	4) How does it feel like for you to teach RC?	<ul style="list-style-type: none"> <li>• What are some challenges you face when teaching RC?</li> </ul>

**Appendix F: Normality Tests of Variable Used in Correlational Analysis**

Variable	Tests of Normality						
	Shapiro-Wilk			Skewness		Kurtosis	
	Statistic	df	Sig.	Statistic	Std. error	Statistic	Std. error
Total overall score for reported frequencies in teaching RC strategies	.956	29	.260	-.629	.434	.088	.845
Total overall score for reported confidence levels in teaching RC strategies	.938	29	.087	-.745	.434	.397	.845
Extent that initial teacher training focused on teaching early literacy skills	.937	29	.085	-.293	.434	-.522	.845
Extent that initial teacher training focused on teaching RC	.939	29	.095	.285	.434	-.554	.845
No. years in teaching KS2	.784	29	.000	1.965	.434	4.275	.845
No. years in teaching	.742	29	.000	2.319	.434	6.137	.845
No. days of recent CPD in Literacy	.747	29	.000	2.526	.434	8.530	.845
Extent that recent CPD in Literacy focused specifically on RC	.895	29	.007	.595	.434	-.753	.845