Newcastle University

Doctorate in Applied Educational Psychology

Teaching children to read: an investigation of teachers' self-efficacy beliefs

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Over Arching Abstract

The systematic review and empirical research presented in this thesis investigates the development of teachers' self-efficacy beliefs in teaching children to read. The Systematic Review examines the effectiveness of professional development on increasing teachers' self-efficacy (TSE) in teaching children to read whereas the empirical research focusses on exploring the development of high teacher self-efficacy beliefs about teaching reading, specifically in relation to struggling readers. Both pieces are concerned with how to support the development of TSE beliefs about reading instruction.

The systematic review investigates professional development in relation to methods of teaching children to read and the impact of this on teachers' self-efficacy. The study focuses on eight empirical studies whereby the effectiveness of professional development on in-service and pre-service teachers' self-efficacy is considered. Findings suggest that overall there is evidence to suggest that professional development on teaching children to read has a positive impact on teachers' self-efficacy beliefs in teaching children to read.

The Bridging Document discusses the conceptual framework which links the Systematic Review with the Empirical Research. It also explores and reflects upon methodological issues.

The empirical research considers the development of teachers' self-efficacy beliefs, in teaching children who are struggling to read. Audio-recorded, individual, interviews were conducted with six Key Stage one teachers with Critical Realist grounded theory used to analyse the transcripts. Teachers described and reflected upon their experiences of teaching children to read, who were struggling. The emergent theory tells us that teachers' perception of success and failure, developing subject knowledge within a supportive school ethos are factors which contribute to the development of positive teacher self-efficacy beliefs.

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Disclaimer

I certify that this thesis is my own and has not been submitted as part of any other work.

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Chapter 1: A systematic review: what are the effects of professional development on teacher self- efficacy beliefs in reading instruction?

1.1 Abstract

A significant number of children continue to struggle with learning to read in the UK (Department for Education (DfE), 2015). Teacher self-efficacy (TSE) has been found to relate to teachers' motivation, persistence in the face of failure, as well as children's achievement (Guo, Piasta, Justice, & Kaderavek, 2010). Therefore, exploring ways in which teachers' self-efficacy beliefs, about teaching children to read, develop is important in order to further support children with their reading. Professional development (PD) may provide a means of developing TSE beliefs. This systematic review (SR) aims to explore the effect of PD in the domain of reading instruction on TSE beliefs. A 7 stage method was used as outlined by Petticrew and Roberts (2006) whereby 8 studies were identified. This review concludes that PD appears to be effective in impacting positively on TSE beliefs. In regards to in-service teachers, the studies' effect sizes suggest PD that incorporated opportunities to gain subject content knowledge, modelling of instruction, tutoring experiences and coaching by a mentor as the most effective form of PD. PD aimed at preservice teachers which contained elements of both subject knowledge and tutoring opportunities appeared to be the most effective type of PD in increasing pre-service teachers' TSE. The findings suggest that the development of self-efficacy beliefs is complex. Suggestions for further research are also considered.

1.2 Introduction

1.2.1 The importance of Reading

The importance of reading as the basis for learning and social and economic progression through life has been acknowledged (Snow, Burns, & Griffin, 1998). Research has shown that adults with poor literacy skills are more likely to be unemployed, be in low-paid jobs (Department for Business Innovation and Skills, 2011), have an increased chance of health problems and less likely to participate within the community (Parsons & Bynner, 2007). It is therefore a cause for concern that a significant number of students within the UK are not making sufficient progress when learning to read. Recent government statistics suggest that 11 percent of children are still not achieving the age expectation of Level 4 in reading (Department for Education (DfE), 2015) . The persistent number of children continuing to struggle with reading has called for a new approach to tackling this problem. Government supported schemes such as Vision for Literacy (National Trust Forum, 2014) make a number of recommendations such as calls for more effective teaching. Teachers' practice is an important factor in influencing students' reading skills (Gambrell, Malloy, & Mazzoni, 2007). In order for teachers to deliver a balanced approach to the instruction of reading, there are a number of elements in which teachers should feel capable of teaching (e.g. comprehension, phonics, phonological awareness) (Vaughn & Roberts, 2007). However, research suggests that there are widespread deficits in teachers' knowledge (Joshi, Binks, Hougen, & Smith, 2009) with teachers believing they lack the knowledge, tools and support to teach reading effectively (Save the Children, 2014). This is concerning considering an environment conductive to learning rests greatly on TSE beliefs (Bandura, 1997).

1.2.2 TSE Beliefs: theoretical foundations and measurements

Bandura's social cognitive theory is concerned with the explanation of how people acquire and maintain behavioural patterns (Bandura, 1997). Bandura (1997) saw behaviour as a result of relationships of reciprocal causation between behaviour, cognition and personal factors, and environmental influences. Bandura (1997)

argued we are, therefore, ‘contributors to life circumstances, not just products of them’ (p.164).

From this theory came the concept of ‘self-efficacy’ (SE). Perceived SE is an individual’s future orientated, task specific belief in their ability to organise and execute courses of action required to produce desired effects (Bandura, 1997). Bandura (1997) asserted that one’s cognitive, motivational, affective and selection processes are based more on what one believes than on what is objectively true. Once formed, those with higher SE beliefs mobilise and maintain effort on actions, regulate affective reactions, persist longer when faced with obstacles and are more resilient in dealing with setbacks (Bandura, 1997).

In an educational context, teacher self-efficacy (TSE) beliefs refer to a ‘teacher’s belief in his or her capability to organise and execute courses of action required to accomplish a specific teaching task in a particular context’ (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 233). Recent research on TSE beliefs has shown that high TSE is related to: positive end of year goals for students, positive teacher practices, the quality of literacy instruction, innovative classroom techniques, the implementation of instructional change, providing assistance to low achieving students and persistence when faced with student failure, motivation and achievement, and impact on their job satisfaction (Aloe, Emo, & Shanahan, 2014; Caprara, Barbaranelli, Steca, & Malone, 2006; Justice, Mashburn, Hamre, & Pianta, 2008; Skaalvik & Skaalvik, 2010; Wolters & Daugherty, 2007). Studies of student teachers have also found a relationship between high student TSE and positive teacher practices and knowledge (Fives, Hamman, & Olivarez, 2007). Further, student teachers with a higher sense of TSE have been rated more positively by their supervising teachers on lesson presentations and classroom management (Fives et al., 2007).

Much research into TSE has been carried out in the past. However, it appears that research in this area has been fraught with conceptual difficulties. Wyatt (2014) argued that an issue with research into TSE is that in the past this research has drawn on two very different theoretical perspectives on teacher efficacy: Bandura’s (1997) Social Cognitive Theory and perceived SE, and Rotter’s Social Learning Theory (locus of control) (Rotter, 1966) and teacher efficacy, making it confusing for

researchers. Bandura (2006) clarified that SE should be distinguished from locus of control (LoC) as LoC is not concerned with beliefs of perceived capability, but whether outcomes are reached by one's actions or by external factors outside one's control. Research and theory have shown that perceived SE and LoC are unrelated to one another with perceived SE a stronger predictor of behaviour than LoC (Bandura, 1997; Skaalvik & Skaalvik, 2010).

Despite efforts by Bandura to distinguish SE from LoC, certain measurements of TSE remain conceptually confused. For example, the Teacher Efficacy Scale for the Teaching of Reading (TESTR) developed by Gibson and Dembo (1984). This measure has been viewed by others (Tschannen-Moran & Woolfolk Hoy, 2001) as conceptually challenged as it is believed to be based upon Bandura's theoretical standpoint but drawn from measures developed from Rotter's theoretical standpoint.

1.2.3 The Cultivation of TSE beliefs

Research into TSE and its educational implications provides an evidence base for warranting measures to be taken in order to increase TSE. Bandura (1997) postulates that the development of SE beliefs is affected by four psychological sources of efficacy building information: enactive attainment (based on authentic mastery experiences), vicarious experiences (observing others performing a task), verbal persuasion (being told by others how you did or will perform), and physiological and affective state (gaining information from one's level of arousal).

Although teachers will have had experiences which will have impacted on their TSE throughout their careers, one method for pro-actively developing TSE may be organised through PD. Participation in PD and aspects of teacher preparation programmes have been found to be positively associated with TSE (Mulholland & Wallace, 2001; Ross & Bruce, 2007). On the other hand, Bandura (1997) argues that over time, the cyclical process of the formation of TSE stabilises whereby a relatively lasting set of TSE beliefs develops, that tends to be resistant to change. This suggests that more experienced teachers' TSE beliefs may be difficult to change through PD. Notwithstanding, a year-long development programme based on needs

assessment, seminars and workshops was related to an increase in TSE of experienced teachers (Bümen, 2009).

Respectively, the aim of this paper is to take a systematic and critical approach to reviewing previous research that has studied the extent to which domain specific PD impacts on in-service and pre-service TSE beliefs in teaching reading. Researching teachers' beliefs about their ability to teach pupils to read and how this may be developed is essential in order to both further support those who believe they are able to do this and to begin to develop the TSE of those who currently believe they are unable to. This may lead to a positive impact on children's ability to read.

The research questions explored were:

1. What is the effect of PD on TSE beliefs of teaching children to read?
2. What types of PD have the biggest impact on TSE beliefs of teaching children to read?

1.3 Method

This review follows the systematic method described by Petticrew and Roberts (2006), summarised below in Table 1.

Table 1: Systematic review stages

1. Clearly define the review question
2. Determine the types of studies needed to answer the question
3. Carry out a comprehensive literature search
4. Screen studies using the inclusion criteria
5. Describe the studies to 'map' the field and critically appraise them for quality and relevance
6. Synthesise studies' findings
7. Communicate outcomes of the review

The following sections will outline the process of the review using the SR stages of Petticrew and Roberts (2006).

1.3.1 Determine the types of studies needed to answer the question

To locate relevant studies, the terms shown in Table 2 were used to search electronic databases. With these search terms the target population is defined (educators), the issue is defined (TSE), and the issue is focused (reading instruction within the context of PD).

Table 2: Database search terms

Outcome terms	Target population term	Professional development term
Self-efficacy OR efficacy	Teach* OR educat* OR instruct* OR tutor* OR deliver*	Literacy OR read* OR writ*OR word recognition OR phoneme OR grapheme

Initial screening of all study titles and abstracts identified by literature searches was conducted to identify studies relevant to the SR's focus. Only those studies that met the initial inclusion criteria were deemed pertinent to the SR question (See Table 3).

Table 3: Inclusion and exclusion criteria applied to studies during first stage screening

First stage screening
Criteria for inclusion in review
Research containing the search term words in the title and/or abstract.
Any form of research documentation, published or unpublished, peer-reviewed or otherwise.
Research relating to literacy and TSE in the context of school and/or education

1.3.2 Carry out a literature search for relevant studies

The following electronic databases were searched between September and December 2014: PsychINFO, ERIC (Educational Resource Index and Abstracts), British Education Index, and Scopus. Retrieved studies still required evaluation for relevance as search criteria can narrow the field but don't overtly detect relevant studies (Torgerson, 2003). See Figure 1 for details of these searches. Several other methods were utilised to obtain a sample of studies for this review: hand-searches and reference harvesting.

1.3.2.1 Hand searches of relevant journals

Table 4 shows which journals were selected to be hand searched for further studies of relevance.

Table 4: Journals which produced studies of interest at first stage screening.

Journal title	**Number of studies retrieved from each journal** ***(from the 87 identified)***
• Teaching and Teacher Education	11
• English in Education • Voices from the Middle • Teacher Education Quarterly • Literacy Research and Instruction • Reading Improvement • Electronic Journal of Research in Educational Psychology • Literacy • Reading Research Quarterly • College Reading Association Yearbook • The Sciences and Engineering • Reading Horizons • Psychology in the Schools • Journal of Special Education Technology • Teaching Education • New Educator • Teacher Education Quarterly • Literacy Research and Instruction • Journal of Research in Special Educational Needs • Australian and International Journal of Rural Education • Current Issues in Education • Mentoring & Tutoring: Partnership in Learning • Reading and writing • Educational Psychology Review • Learning Environments Research • Journal of Educational Psychology • International Journal of Research and Method in Education • Asia-Pacific Education Researcher • Early Childhood Education Journal • Campus-Wide Information Systems • Assessing Writing • Developments in Higher Education	1

• Studia Psychologia • English Teaching • Canadian Journal of Education • International Journal of Scientific Research in Education • International Journal of Learning • Procedia - Social and Behavioral Sciences • English in Education • English in Australia • Journal of Early Intervention	
• International Section A: Humanities and Social Sciences • Reading Teacher • Action in Teacher Education • Australian Journal of Teacher Education • Journal of Early Childhood Teacher education • Elementary school Journal • Literacy Research and Instruction • Reading and Writing Quarterly	2
• Reading psychology	3

The two journals which produced the largest number of studies at first stage screening (Teaching and Teacher Education and Reading Psychology) were hand searched to identify any other relevant studies omitted by the electronic database searches. Studies were screened using their title and abstract (see Table 5). No additional studies were identified for review.

Table 5: Studies identified via hand searches of relevant journals.

Journal title	**Number of studies identified at first stage screening via electronic database searches**	**Number of additional studies identified at first stage screening via hand searches**
Reading Psychology	3	0
Teaching and Teacher Education	11	0

1.3.2.2 Reference harvesting

'Reference harvesting' is the method of examining the reference list of key studies to find other studies which may be pertinent to the SR (Littell, Corcoran, & Pillai, 2008). The two key studies identified were by Rogers Haverback and Parault (2008) and Klassen, Tze, Betts and Gordon (2011). Rogers Haverback and Parault (2008) was

selected as it was the only SR found in the context of reading and TSE. Klassen et al., (2011) was chosen as it reviewed recent TSE research. Their references were assessed for suitability. However, no additional studies were selected for the SR.

Table 6: Studies identified via reference harvesting.

Article	Number of references	Number of references suitable for review
Rogers Haverback & Parault (2008)	62	0
Klassen et al., (2011)	69	0

Following the literature search, eighty-seven studies met the first stage screening criteria. Seventeen items were unpublished theses and seventy were journal articles.

1.3.3 Screen relevant studies using inclusion criteria to identify those suitable for in-depth analysis

Second stage screening of the eighty-seven papers generated by the literature search involved the application of detailed inclusion/exclusion criteria to studies in order to identify eligibility of studies to review.

Table 7: Inclusion and exclusion criteria applied to studies during first and second stage screening

First stage screening	Second stage screening	
Criteria for Inclusion in review	**Inclusion criteria**	**Exclusion criteria**
Research containing the search term words in the title and/or abstract.	The initial intention was to sample research based within the English education system. However, no relevant studies were retrieved. Therefore the scope of the search was broadened to include research conducted in countries with similar education systems to that of England (i.e. the rest of the UK, USA, Canada, Australia, and New Zealand).	Research developing a measure of teacher self-efficacy as opposed to employing one.
Any form of research documentation, published or	The initial intention was to focus on in-service teachers. However, few studies were	Research related to self-efficacy but not specific to professional development in the context of

unpublished, peer-reviewed or otherwise.	retrieved and therefore scope of the search was broadened to include pre-service teachers.	literacy instruction
Research relating to literacy and TSE in the context of education	The initial intention was to focus on professional development in the context of struggling readers. However, few studies were retrieved which focussed specifically on this and therefore the scope of the search was broadened to research relating to teachers' professional development within the context of literacy and the impact of this on their self-efficacy for teaching reading.	No specific quantitative measure of self-efficacy
	Studies were published/had been accepted for publication.	Research relating to the measure of students self-efficacy or students in general as opposed to the main focus being on teachers.
		Research from Non-English speaking countries
		Research relating to private tutors (after school) as opposed to within school
		Research relating to professional development around the assessment of literacy as opposed to instruction of literacy

After the process of second stage screening eight out of the eighty-seven studies identified were deemed eligible for review (see figure 1). Citation searches were carried out based on the reference lists of each of the eight eligible studies identified.

Figure 1: Flow chart detailing the electronic database searches (Grace, 2014)

**First stage screening consisted of studies of potential relevance being identified on the basis of their title and/or abstract*

***Second stage screening involved the application of detailed inclusion and exclusion criteria to studies in order to identify those relevant for inclusion within this review (see Table 7).*

Search terms (see Table 2)

Database	Number of search results	Number of relevant studies after first stage screening*
Scopus	1663	39
Psych Info	3281	35
ERIC	2451	50
British Education Index	183	9
Total	7578	133

Database	Number of relevant studies after first stage screening*	Number of studies found in this database only	Number of studies found in this database and also replicated in others
Scopus	39	18	21
Psych Info	35	15	20
ERIC	50	27	23
British Education Index	9	2	7
Total before de-duplication	133	62	71
Total after de-duplication		62	25
		87	

De-duplication is the removal of duplicate results. 71 of the 133 studies retrieved at first stage screening were duplicates of studies within other databases. When each study was counted only once (i.e. de-duplicated), 25 studies remained.

Application of second stage screening process**

Number of relevant studies for review
8

1.3.4 Describe the studies to 'map' the field and critically appraise them for quality and relevance

In order to synthesise the findings of the eight studies it was necessary to describe each of them. This description can be found in Table 8. The coding table describes each study in terms of the following information (where available):

- Participants: number, demographics
- Study context: educational context and country
- Independent measure: the focus of PD and duration
- Dependent measure: TSE
- Method of data collection: tools used to collect data for analysis

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Table 8 also contains the effect size (Cohen's d; (Cohen, 1992) for each study's outcome variable. Confidence intervals (CI) are presented to allow more accurate interpretation of effect. For some studies (N=3) insufficient information was available to calculate effect size. This information was requested via email correspondence to the first and second authors however they were unable to provide any additional data. According to Cohen (1992) an effect size is small if near 0.2,
0.5 represents a medium effect size, and an effect sign is deemed large if near or larger than 0.8.

Table 8: Details of studies included in the synthesis [1]

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
In service teachers							
Tschannen-Moran & McMaster (2009) **USA**	Quantitative study Quasi-experiment, pre and post test (4 conditions)	N=93 Early years and primary school teachers (K-2) Cluster Sampling employed: 9 schools from 5 different school districts in varied settings. Participating schools were socio - economically diverse	Exploring the impact that four professional development formats with varying levels of self-efficacy relevant input would have on teachers' self-efficacy for teaching reading instruction.	Respondents took part in 1 of 4 formats of professional development treatment groups. The Tucker Signing Strategies for Reading was selected as the teaching strategy to be taught. **Treatment 1** (information). All schools received a 3 hour workshop using a lecture format on the Tucker Signing Strategies for Reading. Each of the 44 hand gestures were presented and demonstrated (instructional strategies) as participants followed in their own manuals. Any questions were answered and verbal descriptions were given of the presenters' previous use of the strategies. **Treatment 2** (information and modelling). Approximately 20 minutes of the 3 hour workshop were devoted to a demonstration in which the presenter taught struggling readers to use the hand cues, and participants watched as these students successfully decoded new words. **Treatment 3** (information + modelling+ practice) A protected mastery	An adaption of the Teacher Sense of Efficacy for Literacy Instruction (Johnson & Tschannen-Moran 2004)	Significant effect across time for all groups ($F(3,89)=19.69$, $p<.01$)	Treatment 1 **0.65 (CI: lower 0.11 – upper 1.18)** Treatment 2 **0.02 (CI: lower - 0.58 – upper 0.63)** Treatment 3 **0.03 (CI: lower -0.60 – upper 0.64)** Treatment 4 **1.14 (CI: lower 0.51 – upper 1.73)**

[1] (Underlining highlights the various key elements of the Professional Development)

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
				experiences was added with the inclusion of a one and a half hour practice session. During the practice session, participants worked in groups to make decisions regarding how they would use the strategies, plan appropriate lessons for their students and practice implementation of the strategies **Treatment 4** (information + modelling + practice + coaching). A stronger mastery experience was added with the inclusion of follow up coaching in the use of the new skill. Coaching took place in the weeks following the workshop and included 3 components (1) a 30 minute small group review of hand gestures (2) a 15 minute one on one coaching session in dialogue with the presenter and (3) a 30 minute coaching session with the presenter in the teacher's classroom.			
Amendum (2014) **USA**	Mixed methods – 1 condition Pre and post-test quantitative measure Qualitative interviews-post PD	N=10 Purposively selected: 1st grade teachers	To investigate a model of professional development and classroom based early reading intervention and its impact on SE.	Two key professional development activities over a period of 1 year: **1.5 day summer institute** – Introduced the first grade teaching team to the content of the ENRICH framework and instructional strategies through interactive large and small group sessions. These sessions included viewing clips from training DVDs, modelling the instructional routines, practising the instructional strategies through role play and using problem solving strategies with case studies of struggling readers and small	Short form of the Teacher Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001) (12 item scale)	Non-significant	**0.19 (CI: lower -0.70 – upper 1.06)**

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
				group discussions. **Weekly literacy coaching visits:** the ENRICH literacy coach observed classroom teachers working with a struggling reader in an ENRICH session and gave individualized feedback and coaching. Depending on the needs of the teacher the coaches either (a) provided coaching and feedback during the lesson (b) observed the lesson and gave feedback immediately following the lesson or (c) did both.			
Timperley and Phillips (2003) **New Zealand**	Mixed methods Pre and Post test 1 condition	N=31 8 schools and their teachers of year one students. Two low income communities in Auckland	To examine the ways in which teachers' expectations of student achievement changed after PD in literacy. The extent to which professional development impacted on their own self efficacy was measured.	Ten, 3 hour sessions, over 6 months. The components of: children's achievement (Teachers were shown how to assess record and monitor the children's progress in text reading and were asked to bring results to the professional development sessions for discussion), new domain content knowledge and teaching of instructional strategies were interwoven into the PD.	Own designed questionnaire	Significantly shorter length of line for parental influence: $t(26) = 3.870$, $p < 0.01$ No significant change for the influence of the teachers' lines: $t(26) = 0.211$, $p > 0.01$	Pre and post professional development: Influence of parents **1.08** Pre and post professional development: Influence of teachers **0.06**
Brady et al., (2009) **USA**	Quantitative Pre and Post test 1 condition	N=65 First grade teachers	Main goal was to evaluate whether substantial gains in first grade teachers' knowledge would be obtained with an intensive professional	Professional development focussed primarily on phonological awareness and code concepts relevant to literacy instruction in the first grade (domain content knowledge) PD began with a 2 day summer institute where the participants were	The Teacher Attitude Survey: A survey which addressed self-efficacy about teaching children to read in terms of basic reading skills.	Significant effect across time ($F(1,57)=21.00$, $p<.001$)	**0.60 (CI: lower 0.22 – upper 0.97)**

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
			development program. Self-efficacy measured within this exploration.	given an overview of research findings on reading development and an introduction to the content of the professional development they would receive. Subsequent monthly workshops (over one year) were based on modules developed for each of the main content modules. In addition to the content knowledge, training included teaching methods for direct instruction, how to conduct and use assessment procedures, ways to engage students in discovery and practice activities and how to differentiate instruction. The emphasis in the Professional development was to foster the necessary knowledge and skills for reading instruction, involve the teacher as an active participant in learning and provide opportunities for practice and feedback through coaching. The individual coaching support was provided in the teacher's classroom adapted to wishes and needs of teacher. Mentor might model the lesson in the teacher's classroom with the teacher observing the process and student's responses. Subsequently the mentor might co plan with the teacher regarding the implementation of the lesson plan and later observe the teacher conducting the lesson herself. Afterwards the teacher could discuss concerns, questions and advice and	Similar to questions in other studies of literacy/self-efficacy (17 items) based on Tschannen-Moran and Woolfolk Hoy, (2001) Teacher sense of Efficacy scale		

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
				mentor can provide feedback.			
Carlisle, Cortina and Katz (2011) **USA**	Quantitative Pre and Post test (3 conditions)	Participants were 111 first-grade teachers who came from 62 schools in 9 districts.	The major question addressed by the study is the extent to which a PD program with all three components leads to better outcomes for teachers than a PD program that offers two components (seminars and evaluation of teaching) or only one component (seminars only). Self-Efficacy measured within this context.	The Professional development lasted for one year with 9 Professional development seminars each lasting 3hrs. In all three conditions, the teachers received high-quality seminars in improving their knowledge of reading and reading instruction; in the first condition, that was all that the teachers received. In the second condition, teachers learned to assess students' progress and evaluate the effectiveness of their own instruction through this. In the third condition, teachers were additionally given opportunities to discuss reading instruction with one another and to receive support from a literacy coach.	Satisfaction with my work survey: A survey designed to gather information about teachers' evaluation of their teaching.	Significant effect for time: $F(6,364)=5.48$, $p<.001$	**Unable to calculate**
Pre service teachers							
Leader-Janssen and Rankin-Erickson (2013) **USA**	Mixed Design 2 conditions (Control group) Pre and post-test quantitative measure	N=21 pre service teachers, control group n=13 All undergraduate university students who are majoring in	Intent was to better understand the relationship between pre-service teachers' content knowledge and TSE for teaching reading (struggling reading). Change in TSE for teaching	16 week literacy course with a practicum with one on one tutoring in an on campus reading clinic. This literacy course and reading clinic practicum was designed to teach pre-service teachers instructional reading and writing strategies for working with first through 5th grade students for struggling readers. The literacy course portion of the	Teacher efficacy scale for the teaching of reading (TESTR) was developed by using the teacher efficacy scale (Gibson & Dembo, 1984) as a model, and following recommendations by other researchers on	Significant increase in Self efficacy for teaching reading over the course of the semester for treatment group but not for control group:	**Unable to calculate**

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
	Qualitative interviews-post Professional development	education. Those who had completed the spring semester Reading /Language methods course had been recruited to participate in the study.	reading is seen over time as pre service teachers apply new skills and knowledge in a reading practicum	experience met once a week for 3 hours and focussed on theories of reading development, assessment and instructional methods. The reading workshop involved one on one tutoring twice per week for 12 weeks in a supervised setting which allowed the pre service teachers to apply some of the strategies learned in the literacy course. The pre service teachers developed lesson plans and wrote reflective notes. A supervisor provided written observation notes at each session. In addition pre-service teachers received written bi weekly feedback/coaching from their primary supervisor on their teaching.	item format. Items were designed to assess se for critical skills needed to teach reading. Completed the TESTR at three points, before tutoring, three weeks after starting, and once completed.	F(2,62)= 34.71, MSE=4003.68, p<0.0001	
Rogers Haverback and Parault (2011) **USA**	Mixed Design Pre and post-test quantitative measure (2 conditions) Qualitative interviews-post PD	N=86 40 participants randomly assigned to the tutoring group, and 46 participants randomly assigned to the observation group. All of the participants were enrolled in a semester long,	To compare two existing but different field experiences for pre-service teachers enrolled in a language development and reading acquisition course. To measure whether a one-on-one tutoring experience would result in differences in pre-service teachers' reading specific efficacy and pedagogical knowledge when compared to a	In this semester long course, students were given content knowledge and instructional strategies; learned about reading acquisition. All participants in the study were exposed to the core topics through course materials, readings, classroom discussions, group activities, and lectures. Tutoring Those participants who engaged in the tutoring field experience performed one-on-one tutoring sessions at a local elementary school for 30 min a week for 10 weeks. One of the goals of the course was to help pre-service teachers learn to identify children's needs in the domain of reading. To begin, tutors were given	Reading Teacher Sense of Efficacy Scale was adapted from the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) in order for it to measure a specific domain.	Significant effect for time in both groups	Tutoring field experience **2.21** **(CI: lower 2.07 – upper 2.87)** Observation field experience **2.48** **(CI: lower 1.82 – upper 2.58)**

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
		language development and reading acquisition course. The majority of participants were undergraduate education majors	control group who observed children being taught reading related skills.	a few sessions to assess the students' needs with assistance from the professor. Once the tutors determined the needs of their individual students, they were asked to put them into practice and devise instructional activities to meet those needs. Observing/modelling Participants in the observation group observed students at the university child development centre for an equal amount of time as the tutors engaged in one-on-one tutoring (300 min).			
Shaw, Dvorak and Bates (2007) **USA**	Quantitative Pre and Post test	N=52 Undergraduate university students majoring in education.	To identify the literacy knowledge and self-efficacy beliefs prior to and at the time of a reading methods course.	The professional development class was entitled 'teaching reading methods' of which the focus was to teach reading instruction and assessment. Instructional strategies were explored. The pre-service teachers were taught to administer and interpret numerous assessments. They then were taught how to plan instructional activities based on assessment results. The course ran for 13 weeks and met two times per week for two hours. The first two weeks of the semester the class covered content that dealt with the big picture of literacy, such as the reading wars, models of reading, the reading environment and an overview of stages of development. During the next ten weeks, one day per week, students worked in an elementary school setting for their practicum experience. The instructor of the	Teachers' Sense of Efficacy for Literacy Instruction Scale (TSELS) (Johnson & Tschannen-Moran, 2004)	Significant increase (t (51)=6.21, p<.00)	**2.52 (CI: lower 1.99 – upper 3.01)**

Study/ Country	Method	Sample	Purpose/aim of study in relation to teachers' TSE	Type of Professional Development/duration	Measure of teacher self-efficacy utilised	Significance: Changes in TSE	Effect size – Cohen's d
				course was present at the elementary school. During this time the pre-service teachers were provided with opportunities to apply course material to elementary students through tutoring			

1.3.4.1 Weight of evidence

All studies were analysed to determine their quality and relevance to the SR using the Evidence for Policy and Practice Information Centre Weight of Evidence tool (EPPI – Centre; (The Evidence for Policy and Practice Information and Coordinating Centre, 2007). Details of stages in applying a weight of evidence (WoE) judgement are presented in Appendix 1. It is acknowledged that despite following EPPI-Centre guidance, WoE ratings are subjective in interpretation and therefore open to personal bias.

Table 9: Weight of Evidence

Study	**A – Trustworthy in answering own question**	**B – Appropriate design and analysis for this review**	**C – Relevance of focus to this review**	**D - Overall weight of evidence**
Tschannen-Moran and McMaster (2009)	High	Medium/High	Medium/High	Medium/High
Timperley and Phillips (2003)	Low	Low	Low/Medium	Low
Leader-Janssen and Rankin-Erickson (2013)	Medium	High	Medium	Medium
Amendum (2014)	Medium	Low/Medium	Low/Medium	Low/Medium
Brady et al., (2009)	Medium	Medium/High	Medium	Medium
Shaw, Dvorak and Bates (2010)	Medium	Medium/High	Medium	Medium
Carlisle, Cortina and Katz, (2011)	Medium	Medium/high	Medium	Medium
Rogers Haverback and Parault (2011)	Medium/High	Medium/high	Medium	Medium

Table 9 indicates that one of the studies, Tschannen and McMaster (2009) was seen as providing overall medium/high weighting. This study had a greater focus on TSE within their study and was the most transparent in their research design and procedures, thus allowing greater analysis of its quality. Five studies provided overall medium weighted evidence. These tended to be good quality studies approaching the topic from a similar theoretical standpoint to this SR as well as recognising the

limitations of their design. However, these five studies lacked transparency in aspects of the sample used as well as their sampling technique. Given the overall quality and relevance of these studies (high to medium), the findings from these studies should therefore be seen as being highly influential to the synthesis and findings of this systematic review.

Two studies (Amendum, 2014; Timperley & Phillips, 2003) provided low/medium weighted evidence. These studies were questionable in their ability to answer their own questions due to inconsistency between their espoused theoretical perspectives and TSE measures employed. Further, Timperley and Phillips (2003) did not indicate the limitations of their study. Although included in the systematic review, in view of the low quality and relevance of these two studies, their findings will be given less emphasis when considering the findings of this review.

1.3.5 Synthesise findings

Many studies focused upon issues/topics other than TSE in relation to professional development. However, as they included measures of TSE in relation to PD in the domain of reading they were eligible for review. It is their data regarding the impact of the PD on TSE which was extracted for review.

1.3.5.1 Sample

Six studies did not make reference to the type of sampling strategy that they employed, with the pre-service studies not making any reference. Of the two in-service studies that did explicitly state their sampling strategy, one employed cluster sampling (Tschannen-Moran & McMaster, 2009) and the other employed a purposive sampling technique (Amendum, 2014). Due to the lack of clarification on selection process of schools, this leaves open a question of bias.

Seven studies included in the SR were carried out in the USA with one study being conducted in New Zealand. The sample size of the studies varied from 10 to 111, with a mean of 60.25 (SD 34.79). Of the six studies that were transparent about the demographics all had a higher number of females than males within their sample. This however reflects the ratios of people having entered or entering the teaching profession (Ingersoll & Merrill, 2010).

The five studies whose focus was on in-service teachers were conducted with primary mainstream education teachers who all taught at the UK equivalent of Key stage 1. Four of these studies used participants from several schools whereas Amendum's (2014) study used participants from one school.

The three studies that focussed on pre-service reading teachers' PD courses were conducted with the majority of students enrolled on undergraduate university programmes and majoring in elementary education. All three of these studies used participants who attended the same university. Only one pre-service study (Rogers Haverback & Parault, 2011) made explicit the context of the school that the educationalists were working in. This may be an area of contention as Knoblauch and Woolfolk Hoy (2008) found that pre-service teachers' TSE varied across a range of school types (urban, suburban or rural). They concluded that a challenging environment may stimulate growth.

The small range of countries drawn on, and the differences likely to exist between the in-service teachers' schools and the pre-service teachers' universities in terms of culture (context), raises concern. Although TSE may be a universal construct, findings may not generalise across countries and culture.

1.3.5.2 Design

All studies included samples of teachers who took part in some form of PD within the domain of reading instruction. However, there are considerable differences between the studies. Elements of these studies focussed on increasing teachers' domain content knowledge, offering instructional strategies (N=8), developing teachers' ability to assess and evaluate children's work (N=6), and also offering tutoring (N=3)

and coaching opportunities (N=5). There was a wide range in the duration of PD delivered, from a one day, 3 hour workshop, to ongoing (one year) programmes of PD.

Five of the eight studies in this review used mixed methods: In-service (N= 2), pre-service (N= 3). All of the studies undertook a pre-post-test, independent measures, study design. Half of the studies had more than one condition of which participants could be assigned, with only one study employing a control group (Leader-Janssen & Rankin-Erickson, 2013). The lack of control groups used within these studies meant that confounding variables were not controlled for through comparing pre and post intervention scores with non PD comparisons.

Notwithstanding, some studies were more rigorous than others. For example, of the four studies which had more than one condition to assign participants, two of these studies (Rogers Haverback & Parault, 2011; Tschannen-Moran & McMaster, 2009) randomly assigned their participants to each condition.

The lack of random assignment and control groups within studies is a major weakness as it means that the researchers are unable to sufficiently control for confounding variables. Therefore, conclusions of causal relationships are difficult to establish due to a range of confounding alongside the extraneous variables present in the social environment (Robson, 2002).

1.3.5.3 Data collection and analysis

All studies used self-report questionnaires for data collection with five also utilising qualitative interviews. However, due to TSE not being the sole focus of research within these studies, only three of these five studies (Leader-Janssen & Erickson, 2013; Rogers Haverback & Parault, 2011; Amendum, 2014) produced qualitative data that was relevant to this review. Further, the qualitative data in these three studies is limited and therefore the researcher did not think it would be meaningful to employ qualitative analysis on this data. However, the data is used as a means of offering depth and insight in to some of the quantitative findings reported later on in this review. This heavy reliance on quantitative methodologies was unsurprising,

Wyatt (2014) highlights that triangulation through semi-structured interviews or observational evidence rarely occurs within TSE research.

Whilst self-report methods are wholly appropriate and valid to explore TSE, there are limitations to using self-report questionnaires. For example, teachers may over or under estimate their TSE due to 'naive optimism' (Wheatley, 2005), 'defensive pessimism' (Norem & Canter, 1986) or socially desirable responses (Collins, Shattell, & Thomas, 2005). Ambiguous phrasing which may occur within self-report surveys, leaves such questions open to the teacher's interpretation.

Several TSE measures were used to obtain data (see Table 9). The majority of studies (N=7) used domain specific TSE measures which were specific to teaching reading to children with the exception of Amendum (2014). Six of the studies used adaptions of the Tschannen-Moran and Woolfolk Hoy (2001) Teacher's Sense of Efficacy Scale suggesting a similar conceptualisation of TSE based on Bandura's conceptualisation of TSE. Although in their literature review Leader-Janssen and Rankin-Erickson (2011) appeared to conceptualise TSE similarly to Bandura, they used the Teacher Efficacy Scale for the Teaching of Reading (TESTR) developed by Gibson and Dembo (1984). This measure is seen to be conceptually flawed as it is believed to be based upon Bandura's theoretical standpoint but drawn from measures developed from Rotter's theoretical standpoint (Tschannen-Moran & Woolfolk Hoy, 2001). Timperley and Phillips (2003) espoused to be exploring TSE when in closer analysis of their self-created questionnaire it appeared they were actually measuring LoC. Issues such as these were taken into account when establishing the WoE each study provided.

Two studies (Timperley & Phillips, 2003; Shaw et al., 2007) did not discuss internal consistency or validity checking of their TSE measure and/or the suitability of the statistical analyses applied to their data. As Shaw et al., (2007) used a measuring instrument utilised and validated by others in this review, a degree of internal consistency could be assumed. However, Timperley & Phillips' (2003) TSE measure was self-created with an indeterminate theoretical basis, thus the validity and reliability of its results are questionable.

1.3.6 Outcomes and effectiveness

The viewed studies employed a variety of research designs and measurement instruments as well as differing in sample size, PD length and duration, and PD content. Therefore, comparison between studies was difficult. Not all studies provided effect size measures which also meant that results were not easily comparable. An average effect size across studies was not considered appropriate due to the differences in populations, PD types and methods which would make the average effect across studies meaningless. As such, the conclusions of this SR will need to be seen in the context of this variability, with caution employed regarding findings as generalizable to wider populations.

Nonetheless, taken in synthesis, as can be seen from the summary on Table 10 and 11, seven of the reviewed studies found PD specifically focussing on the teaching of children to read, to significantly impact upon in-service and pre-service TSE in the domain of teaching reading. Where effect sizes were given, the majority were medium to large.

1.3.6.1 In-service teachers

There were two in-service studies that did not follow this pattern of significance of medium to large effect sizes (Amendum, 2014; Tschannen-Moran & McMaster, 2009). Amendum's (2014) findings were statistically non-significant. Amendum's (2014) study provides low to medium weighted evidence, used a very small sample size and employed a non-domain specific measuring instrument. This may have influenced the findings.

Tschannen-Moran and McMaster (2009) made a noteworthy discovery. Of the four treatment groups they included in their study, treatment 1 and 4 did achieve medium to large effect sizes respectively. However, treatment 2 and 3 showed minimal effect. This is an interesting finding as the levels of efficacy relevant input increased from treatment 1 to treatment 4 (see Table 8). As expected, treatment 4 showed the largest effect size. However, the other results suggest that the development of TSE is more complex than one might expect. For example, the small effect sizes found in

treatment 2 and 3 mask a pattern of increase and decline; although a number of participants saw an increase in their TSE, the same number also saw a decline.

One interpretation of this is that exposure to new knowledge and information as well as having observed the demonstrator implementing strategies successfully (to children in their classes that they may not have experienced success with) may have caused some teachers in treatment 2 and 3 to reconsider their meaning of good teaching and to recalibrate their TSE beliefs against this new standard (Tschannen-Moran & McMaster, 2009). Without coaching (as employed in treatment 4), to aid teachers in the application of their new knowledge and skills, they may have been left feeling less capable than they had before the PD.

When the studies were grouped according to the elements incorporated into each programme of PD (See Table 10) it was possible to see that PD which incorporated the greatest levels of efficacy relevant input had the greatest effect (i.e. an incorporation of a coaching element alongside opportunities to gain knowledge and information and a chance to tutor pupils (i.e. practice their skills) (Tschannen-Moran & McMaster, 2009). PD which incorporated purely an opportunity to gain knowledge and information in the form of subject content, instructional and assessment strategies also achieved medium to large effect sizes (Tschannen-Moran & McMaster, 2009).

Domain specific subject knowledge (with a focus on content, instructional and evaluative/assessment subject knowledge) was a common thread throughout the types of PD which were the most effective. The influence of subject matter knowledge has recently been highlighted by researchers in the field as highly influential as a potential source of TSE in its own right (Palmer, 2011). Well-developed subject matter knowledge, may offer teachers opportunities to be able to answer questions with greater confidence; thus, gaining cognitive mastery experiences leading to increases in TSE (Palmer, 2011).

Table 10: Studies grouped according to content of Professional Development

Elements incorporated into PD	Study	Weight of evidence	Effect size
Subject content (Information)	Tschannen-Moran & McMaster (2009)	High/Medium	**0.65 (CI: lower 0.11 – upper 1.18)**
	Timperley and Phillips. G (2003)	Low	Pre and post professional development: Influence of parents **1.08** Pre and post professional development: Influence of teachers **0.06**
	Carlisle et al., (2011)	Medium	**Unable to calculate**
Subject Content and modelling	Tschannen-Moran & McMaster (2009)	High/medium	**0.02 (CI: lower -0.58 – upper 0.63)**
Subject Content, modelling and tutoring	Tschannen-Moran & McMaster (2009)	High/medium	**0.03 (CI: lower -0.60 – upper 0.64)**
Subject Content, modelling, tutoring and coaching	Tschannen-Moran & McMaster (2009	High/medium	**1.14 (CI: lower 0.51 – upper 1.73)**
	Amendum (2014)	Low/medium	**0.19 (CI: lower -0.70 – upper 1.06)**
	Brady et al., (2009)	Medium	**0.60 (CI: lower 0.22 – upper 0.97)**
	Carlisle et al., (2011)	Medium	**Unable to calculate**

1.3.6.2 Pre-service teachers

The three studies which measured the impact of PD on pre-service TSE beliefs also suggested that there was a relationship between the PD that they received and an increase in pre-service TSE (See Table 8). As above, the studies were further synthesised through examination of common elements of PD, assessing the quality of the studies and their effect sizes where possible.

Having grouped the studies according to the elements incorporated into each programme of PD (See Table 11) it was apparent that similarly to the PD within the in-service studies, all pre-service studies contained a component of subject content, instructional and assessment information. Although the largest effect size was found within PD which contained elements of both subject knowledge and tutoring opportunities (Shaw et al., 2007), it appears that PD incorporating both subject knowledge and opportunities to observe their mentors teaching pupils also produced large effect sizes.

Table 11: Studies grouped according to content of Professional Development

Elements of incorporated into PD	**Study**	**Weight of Evidence**	**Effect size**
Subject Content, observation	Rogers Haverback and Parault (2011)	Medium	**2.48 (CI: lower 1.82 – upper 2.58)**
Subject Content, tutoring	Rogers Haverback and Parault (2011) Shaw et al., (2007)	Medium Medium	**2.21 (CI: lower 2.07 – upper 2.87)** **2.52 (CI: lower 1.99 – upper 3.01)**
subject content, tutoring and coaching	Leader Janssen and Rankin-Erickson (2013)	Medium	**Unable to calculate**

The large effect size for the incorporation of opportunities for tutoring (Shaw et al., 2007) may suggest that an authentic task-specific mastery experience, as theorised by Bandura (1997), may be one contributor to increased pre-service TSE. Interestingly, however, although Rogers Haverback & Parault's (2011) results show an increase in pre-service TSE for both conditions (tutoring and observation) the larger effect was reported by the participants who only had an observation

experience. As highlighted, according to Bandura's theory, the differences in these effect sizes seems surprising since a mastery experience is thought to be a greater source of TSE than a vicarious experience. Once again this suggests that the development of TSE is more complex than one might expect.

Similar to Tschannen- Moran & McMaster's (2009) findings of decreases in in-service TSE after PD, Leader-Janssen & Rankin-Erickson (2013) also found dips in pre-service TSE. Interestingly, this was the only study to measure TSE over three time periods (pre-test, 3 weeks, post-test). The findings show that having received PD for three weeks, a decline in their TSE was found. The decline in pre-service TSE is consistent with previous research that found declines in TSE during student teaching. These declines were thought to be due to the realities of the classroom that became overwhelming for the participants (Spector, 1990). The interviews within Leader-Janssen & Rankin-Erickson's (2013) study, show emergent themes which support such conclusions. Many shared that as they were faced with the realities of making instructional decisions, they became unsure of their teaching abilities. However, following a dip in TSE after 3 weeks the final point of measurement (13 weeks later) demonstrated a significant increase in TSE (effect sizes were not provided). The qualitative element of this study provided an invaluable insight into this pattern of decrease and incline of TSE. Participants shared that as they confronted the task in a supportive context (coaching provided), they were able to, with support, overcome these challenges. Evidence of their students' success resulted in feelings of capability and hence a later increase in TSE.

1.4 Summary of Findings

1.4.1 Conclusions and Recommendations for future research and practice

A number of conclusions can be drawn from this review on the effectiveness of PD in the domain of reading instruction as a means of increasing in-service and pre-service TSE beliefs in teaching children to read. All studies included in the review, with the exception of Amendum (2014), found PD programmes to bring about significant increases in in-service and pre-service TSE in reading instruction. This suggests that

rather than being immutable or resistant to change, once formed (Chacón, 2005), TSE beliefs appear to be capable of ongoing development. This finding, as related to in-service teachers' TSE, is particularly significant considering previous quantitative researchers have tended to depict the TSE of experienced teachers as difficult to change (Woolfolk Hoy & Spero, 2005).

Of those studies providing effect size measures, the majority were in the medium-to-large range. This suggests the warrant for PD as an appropriate and effective means of increasing in-service and pre-service TSE in the domain of teaching children to read. However, a forewarning to this finding concerns the variety found between the different studies, in terms of their methodology (differences for example in design, and sample size) and PD programme delivery (content of PD and programme duration). In this regard, WoE is a valuable tool, as it allowed studies to be compared methodologically and theoretically.

In regards to in-service teachers, the studies' effect sizes (where available) suggest PD that incorporated opportunities to gain subject content knowledge, modelling of instruction, tutoring experiences and coaching by a mentor as the most effective form of PD. PD aimed at preservice teachers which contained elements of both subject knowledge and tutoring opportunities appeared to be the most effective type of PD in increasing pre-service teachers' TSE.

This review suggests that the process of influencing TSE beliefs of in-service and pre-service teachers is not necessarily a straightforward one. This may have implications for the development of future programmes of PD within this area. Although the majority of studies showed an increase in TSE, there were a number of surprising findings. Rogers Haverback & Parault (2011) showed that despite increasing the opportunity for mastery experiences in one treatment, it was the treatment which incorporated opportunities for observational (vicarious) experiences which saw the greater increase in pre-service TSE. Further, Tschannen- Moran & McMaster (2009) found that despite having additional sources of TSE to other treatments within the study, two treatments had less of an effect size and actually resulted in a number of their participants experiencing a decline in TSE. Leader-Jansen & Rankin-Erickson (2013) findings also highlighted a pattern of decline resulting from PD within pre-service TSE, with a later rise in TSE. Together these

findings warrant further investigation as well as raising consideration over the employment of future TSE research design. For example, in the future within studies such as those included in this review, should measurements of TSE be taken over a number of time periods? This may serve to better our understanding of its development. Longitudinal research may also want to explore these peaks and troughs of TSE throughout a teacher's career. This may aid our understanding of the complex process of increasing TSE as well as encouraging appropriate support to be given during predicted periods of decline in future PD programmes and career stages.

This review highlighted a significant lack of UK based studies of the effect of PD on TSE beliefs about teaching children to read. Considering research suggesting the positive impact high TSE can have on teachers' practice, and in turn pupil performance, this is an area that should be explored in more depth within the UK. Also, some of the reviewed studies utilised conceptually 'confused' TSE measures based upon Rotter's Social Learning Theory (1966) and teacher efficacy as opposed to Bandura's (1997) SE theory. Developing and utilising TSE measures with a consistent theoretical basis, may be a way to improve future research (Tschannen-Moran et al., 1998). Further, having explored the surrounding literature there do not currently appear to be any studies exploring teachers' domain specific TSE to teach *struggling* readers to read. The exploration of these additional elements will go some way in achieving an added depth to the research in this field.

Although there is a need for further research in various areas, practitioners may be confident that PD in the domain of reading instruction is capable of increasing both pre-service and in-service TSE beliefs. Interventions designed to raise experienced teachers' TSE have been few and far between perhaps due to the belief that experienced teachers TSE beliefs are difficult to change (Wyatt, 2014). This review may therefore encourage others to develop PD programmes taking into consideration the overall weight of evidence of each study and the common elements utilised by the studies within this review.

1.4.2 Limitations of review

A number of limitations of the studies have been discussed throughout this review, for example small sample size, use of self-reports and concerns over whether the measuring tool reflected TSE. For example, Timperley and Phillips' (2003) study may capture locus of control rather than reflecting TSE. Although strict inclusion and exclusion criteria were applied in this systematic literature review to increase homogeneity for comparison, the final eight studies differed considerably; the studies varied in the PD programme utilised, measures used and their data analysis. This made comparison of quantitative findings difficult. The ability to generalise the conclusions of this systematic literature review to other educational settings within the UK are further limited as all studies draw upon predominantly white female teachers' views who are based outside of the UK. Therefore, generalisation of the conclusions of this review to specific populations of teachers from the UK should be made cautiously.

Chapter 2: Bridging Document

2.1 Aims

This chapter aims to provide insight into why I chose my area of research and the rationale for my empirical research stemming from the findings of my systematic literature review. I will also provide further information concerning the selected methodology and analysis that was used in the empirical study. This will be followed by a discussion of key terms as well as exploring reflexivity. Firstly, however, I will consider the impact of my epistemological assumptions on the research process.

2.2 A developing interest in TSE

My interest in TSE developed from having discussed the concept during university sessions in the first year of the Educational Psychology Doctorate training course. This interest was furthered by my critical reflection on literature around the subject. TSE is derived from social cognitive theory (Bandura, 1997) which emphasises the role of human agency whereby people are seen as self- organising, self-regulating and self-reflecting and are therefore able to exercise an element of control over their goals and behaviour (Bandura, 2006) which is further influenced by environmental factors. The impact of TSE on behaviours such as choice of activities, effort expended and perseverance when faced with obstacles (Pajares, 1997) was of interest to me when working with teachers who appeared to have low TSE beliefs in their abilities to teach children to read who were struggling. Many teachers were seeking EP involvement prematurely and perceived other professionals as being more capable and having more skills than their own. The exception to these experiences was found in two schools in which I worked as a Trainee Educational Psychologist. Rarely did these schools ask for my advice or support in working with children with literacy difficulties and my conversations with the schools' SENCos were suggestive of teachers who had high TSE in teaching children to read who were struggling. As the empirical research study aimed to explore the factors which impact

on the development of TSE, I felt factors that enhanced TSE would be more evident where the teachers already had a high level of TSE. This understanding is warranted by Maslow (1972, p. 7):

> *'If we want to know the possibilities for spiritual growth, value growth, or moral development in human beings, then I maintain that we can learn most by studying our most moral, ethical, or saintly people'*

2.3 Philosophical Consideration: A journey through the research process

Beliefs about the nature of reality and how it can be known may guide and shape a research journey. These beliefs have guided my research question, method of data collection and analysis as well as any claims I have made in regards to the study's findings. The SR began from a critical realist stance and therefore the belief that there are 'objects in the world, including social objects', which exist independent of our knowledge of them was held (Scott, 2005, p. 635). Critical realism assumes the fallibility of knowledge whereby our understanding of the world is constructed subjectively, influenced by our own experiences, history, language and culture. This perspective views human beings as part of the natural world and promotes the theory of human agency yet also acknowledges the possibility that their 'self' can be modified by purposely engineered environments or social structures which are real and that constrain the construction of 'self' (Ward & Marshall, 2007). However, although I believe that these structures are real I do not believe that we are at the mercy of these mechanisms; individuals are conscious agents and are able to challenge, re-interpret and alter their situation (King, 2004).

In the SR I had aimed to explore papers which had used mixed methods (using both quantitative and qualitative methods). However, although many of the studies did use mixed methods it turned out that only two of these studies had focussed on gathering qualitative data which focussed on TSE. Instead choosing to focus on another aspect of what they were exploring. In evaluating the quantitative data, I was reflective of my epistemological stance and was mindful not to view findings as fact or truth which many of the purely quantitative studies may have aimed to do. In fact as a result of

doing the review, I became more conscious that the findings that I was uncovering were not true for all of the teachers within my study which I feel further strengthened my critical realist stance. The unexpected peaks and dips in relation to the type of PD received highlighted TSE and the development of TSE beliefs as a complex and dynamic concept. The use of questionnaires and objective analysis did not appear to recognise the dynamics of TSE beliefs or the idea of situated cognition (Daniels, 2008). This was further highlighted by the relevant qualitative findings which offered an insight into changes in TSE which the questionnaires could not explain by themselves. Further, teachers are a heterogeneous group and therefore the impact of PD could vary due to individual differences and context.

In regards to my future research this meant that whilst I accepted that the participants were describing their reality of how their TSE beliefs developed and the mediating factors that impacted on this, their recounting of this reality was partly socially constructed and influenced by their own experiences, language and culture. Their understanding of their reality could be different to someone else within the same context.

2.4 Methodology

2.4.1 Deciding on an appropriate Method

I have chosen to use a Realist Grounded Theory (GT; (Corbin & Strauss, 2008) approach to the research for a number of reasons. Firstly, it is in keeping with my philosophical assumptions and research objectives. GT 'can adapt to the needs of critical realism' (Oliver, 2012, p. 378). It addresses not only the event but also the meanings made of it pursuing emancipatory rather than simply descriptive goals (Oliver, 2012). Further, it is capable of operationalising critical realism's fallibilism whereby preconceptions are abandoned; its methods of open coding and constant comparison of the data set aim to advance the researcher past their established interpretations (Corbin & Strauss, 2008). Within Realist GT the traditional idea of saturation as being a fixed point, where the truth has been obtained, has been reframed to accept the changeableness of the development of knowledge (Glaser,

1998). Oliver (2012) argues that analysis stops when 'theory arising from the data has, for the time being, greater explanatory power than its rivals' (p. 379). Additionally, in contrast to traditional GT where theory emerges from the data, Realist GT acknowledges the researchers' pre-existing theoretical knowledge; indicative of a change from induction to abduction, and views early hypotheses as needed 'points of departure' (Charmaz, 2006, p. 17) and foundation for the expansion of conceptual theory. Further, Birks and Mills (2011) posit: 'through applying the work of others to your storyline, you are able to augment, support and validate existing theories and in doing so, explain and reinforce the value of your own contribution.' (p125). I aimed to be transparent about my previous theoretical understandings of how TSE developed as my starting position, although I considered the likelihood of this being replaced as the research advanced.

Secondly, although there are theories surrounding the concept of TSE development, it has been argued that the sources and development of TSE beliefs have not been adequately explored (Klassen et al., 2011). Further, there is a dearth of qualitative research exploring this phenomenon. This is despite calls from those within the realm of TSE who suggest in order to gain a better understanding of the relationships between sources of efficacy information, the importance attributed to this information and the impact of this on TSE, in-depth study with rich descriptions is required (Henson, 2002). I am not aware of any other research (using GT or other methods) that has specifically explored the sources and development of TSE beliefs about teaching children to read who are struggling. Not only does Creswell (2007) argue that GT is suitable if there is insufficient existing theory to describe a process but also if current theories are created from the use of inappropriate samples and populations. The theory that exists currently surrounding the development of TSE beliefs in general is based on population samples outside of the UK and therefore may not be relevant to the development of TSE beliefs in the systems and structures of, for example, the English education system. Hence, focusing on the development of new theory, within the context of teaching struggling readers (to read) and with an appropriate population, makes GT suited to research into the development of TSE beliefs.

Although alternative methods such as Discourse Analysis and Interpretative Phenomenological Analysis (IPA) are also appropriate for small-scale qualitative research, my choice of method was guided by the study's research question.

Research questions about ‘process, experiences, structures and even cognitions’ (Willig, 2008, p.21) are suitable for the use of GT. Having decided to explore the views of teachers regarding the development of their TSE beliefs and the factors which may have influenced this process, GT was confirmed as an appropriate approach in light of the research questions being asked.

An abbreviated version of GT method was used (Willig, 2008). However, similar, to the full version of GT, as described by Corbin and Strauss (2008), data is: collected and explored through initial open coding, tentative links between categories are established, and the researcher then returns to the field to gather additional data. This process allows data collection to be informed by the emerging theory. Nevertheless, in using the abbreviated version I was only able to work within the original data set (the six teachers which had volunteered to take part in the research), carrying out a single interview with each participant. Therefore, I was unable to push outwards, to seek out negative cases and opposites until each category development was ‘dense, detailed and differentiated’ (Willig, 2008, p. 73). This meant I could not be confident that theoretical saturation had been achieved except within the texts which were being analysed. In order to mitigate the issue of using a single interview, as suggested by Charmaz (2006), I ensured that later interviews covered probing questions that explicitly addressed the emerging theoretical issues.

On the other hand, it should also be highlighted that theoretical saturation operates as a goal rather than something that can definitely be achieved (Willig, 2008). Glaser and Strauss (1967) emphasised the provisional nature of GT:

> ‘When generation of theory is the aim, however, one is constantly alert to emergent perspectives, what will change and help develop the theory. These perspectives can easily occur on the final day of study or when the manuscript is reviewed in page proof: so the published word is not the final one, but only a pause in the never-ending process of generating theory’ (p. 40)

2.4.2 Key terms explored: Struggling readers

Throughout Chapter 3 I refer to TSE beliefs in teaching 'struggling' readers. At the beginning of this piece of research the term 'struggling' reader was referring to children who were working below age related expectations in reading who did not have a diagnosis of dyslexia. This was done to ensure the validity of the research as research suggests that teachers can perceive teaching children with a diagnosis of dyslexia as requiring a different skill set than children without a diagnosis (Gwernan-Jones & Burden, 2009). It was therefore important that the teachers knew what this term meant from the outset. However, as the interviews progressed it became apparent that teachers did not believe that they needed to use different methods when teaching children with dyslexia and therefore on reflection the term 'struggling readers' could be broadened to refer to children who were working below age related expectations in reading with or without a diagnosis of dyslexia.

2.5 Reflexivity

In light of using Realist GT, which acknowledges and assumes previous knowledge, I was aware of the bias and influence that I might bring to the research process. Willig (2008) argued that what emerges from data analysis is theoretically informed as analysis is inevitably influenced by the researcher's constructed questions. Dey (1999) says:

> 'Even if we accept the (doubtful) proposition that categories are discovered, what we discover will depend in some degree on what we are looking for, just as Columbus could hardly have 'discovered' America if he had not been looking for the 'Indies' in the first place' (p.104).

From a critical realist perspective I am aware that despite mechanisms aiming to reduce instances of researcher bias, my existing knowledge and theory will have impacted on the coding process and formation of categories, therefore, shaping the findings. Straus and Corbin (2008) postulate it is impossible to be exempt from personal bias. Therefore, it is likely that differences would have been found if another

researcher had collected and analysed the data. However, I judged the worth of my subject knowledge in a positive light in line with my critical realist stance. Prior knowledge contributed to theoretical sensitivity, which aided me in giving meaning to the data which helped in the formulation of a theory that was grounded in the data and faithful to the reality of what was being studied (Glaser, 1998). I also endeavoured to minimise my bias through reflection which was recorded through memo-writing. This allowed each phase of the research process to be documented and increased reflexivity by demonstrating the ways in which I may have shaped the research. Strategies such as participant led interviews in response to open prompts also aimed to ensure that it was not only my views that influenced the analysis process.

Further, in line with critical realism which posits that there are multiple realities, the emerging theory was tested for its usefulness with the participants in order to ascertain if it made sense or had practical adequacy from the experiences of the teachers. These member checks provided a better glimpse of the teachers' reality and the experiences that shaped that reality. This allowed participants to potentially make use of the theory themselves.

Chapter 3 – Teaching struggling readers: what do teachers' experiences tells us about how teacher self-efficacy beliefs develop?

3.1 Abstract

The importance of reading as the foundation for learning and the social and economic progression through life has been highlighted (Snow et al., 1998). It is, therefore, worrying that a significant number of children continue to struggle with their reading (Department for Education, 2015). Teachers' TSE beliefs have been linked to children's achievement in reading (Guo et al., 2010) and therefore it is important to understand how positive TSE beliefs can be developed. Self-efficacy beliefs are thought to be formed from four sources: enactive mastery experiences, vicarious experiences, verbal persuasion and physiological and affective states (Bandura, 1997). However, there is a dearth of research exploring the sources and experiences of teachers that contribute to understanding the development of teacher self-efficacy beliefs (Klassen et al., 2011). This paper reports the findings of a small-scale qualitative study that explores the development of teachers' positive teacher self-efficacy beliefs in supporting children who are struggling with learning how to read. Grounded theory was used to analyse the interview transcripts of six teachers from two different schools in the North East of England. The participants were asked about what contributed to the development of their teacher self-efficacy beliefs. The emergent theory tells us that teachers' perceptions of success and failure, developing subject knowledge within a supportive school ethos are factors which contribute to the development of positive teacher self-efficacy beliefs. The role of reflection on their practice was highlighted as a particularly salient means of influencing how participants attended to their perceived experiences of success and failure when teaching children to read, who were struggling.

3.2 Introduction

Reading is considered the primary vehicle for knowledge transfer across the curriculum (Cawley, Miller, & Carr, 1990). Individuals with poor literacy are at higher risk of academic failure, less likely to be in employment, and more likely to live in poverty as an adult (Morrisroe, 2014). It is alarming that recent research suggests, in the context of reading instruction, teachers are often anxious to do better. However they feel they lack the tools and support to do so (National Association of Head Teachers, 2014). This lack of belief in their skills is of concern when taking into consideration the impact of self-efficacy (SE) beliefs on teachers' practice.

3.2.1 Teacher Self-Efficacy (TSE) and Reading Instruction

TSE has been defined as a 'teacher's belief in his or her capability to organise and execute courses of action required to accomplish a specific teaching task in a particular context' (Tschannen-Moran et al., 1998, p. 233). These beliefs are argued to heavily impact on one's motivation to act, the effort and persistence put in to a given task as well as resilience when faced with setbacks (Bandura, 1997).

Research on the influence of TSE on reading instruction is limited. However, those studies that have explored this issue suggest TSE beliefs are important and can have positive impacts on students' reading achievement (Guo et al., 2010; Guo, Sawyer, Justice, & Kaderavek, 2013). Teachers with high TSE are also more likely to experiment with teaching methods in relation to reading (Maloch, Flint, & Eldridge, 2003) and persist when faced with student failure (Allinder, 1994). Given the pivotal role TSE beliefs are argued to have in achieving positive outcomes, in the context of reading instruction, it is of interest to understand how these beliefs develop.

3.2.2 Developing TSE

Research on the sources of TSE beliefs appears to be relatively scarce (Klassen et al., 2011). According to Bandura (1997), the most powerful TSE building sources are

‘mastery’ experiences (experiences of teaching accomplishments). Also influential are vicarious experiences (target activity is modelled by someone else), verbal persuasion (interactive experiences with others such as feedback and encouragement) and physiological and affective states (gaining information through the senses e.g. anxiety). However, as highlighted by Klassen et al., (2011), the understanding of these sources is not well comprehended.

Whilst most researchers appear to have followed Bandura’s (1997) suggested sources of TSE beliefs, a number of researchers have suggested other sources. Poulou (2007) argued personality, capabilities or skills such as flexibility are sources of TSE beliefs. Palmer (2011) suggested cognitive mastery (i.e. subject matter knowledge) to be a key source of TSE beliefs. Additionally, Adams and Forsyth (2006) redefined Bandura’s (1997) four sources of efficacy beliefs as ‘remote’ sources of efficacy and explained contextual factors as ‘proximate’ sources.

On the other hand, Tschannen-Moran et al., (1998) argued that although sources of TSE play a role in TSE development it is the interpretation of these efficacy building experiences (sources) that is critical. Cognitive processing determines which experiences (sources) are highlighted in the mind and which experiences are minimised. Therefore, this will have an effect on the extent to which particular experiences will influence the analysis of the teaching task and the assessment of personal teaching competence; the interaction of which is thought to shape TSE beliefs (Tschannen-Moran et al., 1998).

3.2.3 Developing TSE for Reading Instruction

There are few research studies that focus on developing TSE beliefs about teaching children to read and the majority of these use quantitative methods. Some of these quantitative studies have evidenced the development of in-service and pre-service TSE through a range of PD programmes specific to reading instruction (Brady et al., 2009; Carlisle et al., 2011). Other studies have endeavoured to explore the antecedents more widely, with teacher preparation, participation in PD experiences, working collaboratively with colleagues, children’s socio-economic status, and

available resources as impacting on TSE beliefs (Tschannen-Moran & Johnson, 2011).

There is a dearth of qualitative research which has examined the cultivation of TSE in relation to teaching reading or teaching reading to struggling readers specifically. A lone study by Wyatt (2014), explored how a teacher of English, in the Middle East, struggled to overcome low TSE, having been asked to teach younger students as a result of a change in curriculum. Success in developing greater TSE was explained by a combination of psychological and cognitive factors including opportunities for mastery experiences, growth in knowledge and engagement in reflective actions.

This present study aimed to address a gap in literature by using qualitative methods to explore the sources of TSE beliefs in teaching children to read who were struggling. For the purpose of this study, children struggling with reading were those children who were currently deemed as working below age related expectations for reading. By using qualitative methods a better understanding of the development of TSE may be achieved due to an in-depth study where rich descriptions can be elicited (Henson, 2002). Klassen et al., (2011) argued, although there is a certain amount of agreement with Bandura's (1997) four sources there are too few studies investigating the sources of TSE and its development to support the influence of Bandura's sources whole hearteningly. Therefore, more research that is receptive to other possible sources of TSE may be helpful to better understand how TSE beliefs develop.

The research question guiding this study was: What factors might explain the development of TSE in teaching children to read, who are struggling? More specifically, it explored:

1) What experiences give rise to TSE relevant information (sources)?
2) Are these sources in line with Bandura's (1997) posited four SE sources?
3) What factors impact on how teachers with high TSE beliefs interpret and weigh TSE related information?

3.3 Method

3.3.1 Participants

A purposive sample of six Key Stage one teachers, from two Primary schools, in a North East Local Authority, was selected. These teachers stood out from teachers in other schools, the researcher had been working into, as teachers who were positive about their capabilities to successfully implement teaching strategies to support children who were struggling to read. The two schools from which the sample was gained were small, urban schools with a high proportion of children from low socio-economic backgrounds. Table 12 provides demographic details regarding the six participants.

Table 12: Participant Demographics[2]

Characteristics	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6
Pseudo Name	Sarah	Ruth	Mike	Russell	Catherine	Andrew
Gender	Female	Female	Male	Male	Female	Male
School	A	A	A	B	B	B
Current Year Group Taught	1	2	1	2	2	1
Years of Teaching Experience	6	5	5	3	8	7

[2] Names have been changed to ensure anonymity of participants

3.3.2 Data Collection Method

Interviews were used as the qualitative data collection method. It was decided this would be the most suitable method in order to elicit full and in-depth explorations of experiences and perspectives expressed by the participants, in their own terms (Lodico, Spaulding, & Voegtle, 2006). Individual, semi-structured interviews were used to generate data. In the initial interview, broader, open-ended questions, informed by previous reading were asked (Strauss & Corbin, 2008). Subsequent interview questions were built upon whereby questions reflective of the emerging theory were formulated based on previous responses and issues raised in earlier interviews. Concepts raised could then be explored in more depth.

3.3.3 Data analysis

Realist GT (Corbin & Strauss, 2008) was used as the chosen methodology. The analysis process (see Table 13) was guided by Corbin and Strauss' (2008) abbreviated version of GT (Willig, 2008). As the development of TSE is an under explored concept (Klassen et al., 2011) it was hoped GT would provide new insight (Stern, 1994).

3.3.4 Procedure

The participants consented to take part in an interview with the researcher (See Appendix 2: Consent Form). Interviews lasted between 40 and 60 minutes and were recorded on a digital-recorder. Simultaneous involvement in data collection and analysis is central to GT (Charmaz, 2006) and therefore interviews were transcribed and analysed as soon as possible after each was conducted.

After the first interview was transcribed, the theory was developed following the stages of analysis in Table 13. Open codes were assigned to describe words and phrases within the transcripts. Connections between the open codes that described actions were then labelled as axial codes. Ambiguities which arose were followed up in subsequent interviews in order to reach a saturation point with the data set (i.e. no

new concepts being found). The process of selective coding was then carried out whereby all categories were unified around ‘core’ categories that had higher explanatory power and integrated the entire analysis (Corbin & Strauss, 2008). Reflection on the emergent findings and memo writing aided the process of comparative analysis.

I made every effort to create a safe environment for the teachers and a confidentiality agreement was made. All transcriptions were anonymised. One month after transcription the digital recordings were deleted

3.3.5 Reflexivity

Straus and Corbin (2008) postulate it is impossible to be exempt from personal bias. For example, the researcher’s existing knowledge and theory may have impacted on the coding process and formation of categories and hence shaped the findings. Therefore, it is likely that differences would have been found if another researcher had collected and analysed the data. However, the researcher judged their subject knowledge in a positive light. Prior knowledge contributed to theoretical sensitivity, which aided the researcher in giving meaning to the data which helped in the formulation of a theory that was grounded in the data and faithful to the reality of what was being studied (Glaser, 1998). Notwithstanding, the researcher endeavoured to minimise bias in a number of ways. Firstly, participant led interviews aimed to avoid potential bias by remaining open to the views expressed by the participants. Bias was also minimised through reflection which was recorded through the process of memo writing. This allowed each phase of the research process to be documented and increased reflexivity by demonstrating the ways in which the researcher may have shaped the research. This reduced the likelihood of preconceived ideas or concepts influencing how the data was construed during the coding process.

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Table 13: Stages of analysis guided by Strauss and Corbin (2008)

Stage 1	Interview 1- recorded and then transcribed	Memo writing, constant comparisons, constant data interrogation and checking of concept and categoy names
Stage 2	Interview 1- open coding	
Stage 3	Interview 2- recorded and then transcribed	
Stage 4	Interview 2- open coding	
Stage 5	Interviews 1 & 2- comparative coding; open codes compared and extended resulting in emerging axial codes	
Stage 6	Interview 3- recorded and then transcribed	
Stage 7	Interviews 1, 2 & 3- comparative coding; open codes compared and extended, axial coding continuing to be developed and refined	
Stage 8	Interview 4- recorded and then transcribed	
Stage 9	Interviews 1, 2, 3 & 4- comparative coding; open codes compared and extended, axial coding continuing to be developed and refined	
Stage 10	Interview 5- recorded and then transcribed	
Stage 11	Interviews 1, 2, 3, 4 & 5- comparative coding; open codes compared and extended, axial coding continuing to be developed and refined	
Stage 12	Interview 6- recorded and then transcribed	
Stage 13	Interviews 1, 2, 3, 4, 5 & 6- comparative coding; open codes compared and extended, axial coding continuing to be developed and refined	
Stage 14	Axial codes reviewed and refined until no more new codes found in the data- theoretical saturation	
Stage 15	Selective coding- abstract core category that ties all of the categories together	
Stage 16	Emergence of draft grounded theory	
Stage 17	Literature Review in reltion to initial theory	
Stage 18	Revisit data and emergent grounded theory- challenge and refine theory	

3.4 Findings and discussion

The data analysis aimed to identify the factors that had an impact on the development of TSE. In this section the findings will be described in relation to this guiding question; referencing theory and evidence from the extant literature. Items in bold signify a category or axial code that was given during data analysis. A discussion of the core category 'Supportive ethos' and associated axial codes ('Feeling Trusted by SLT' and 'Supportive and Collaborative Relationships') will be followed by the core categories: 'Dealing with Success and Failure' and its associated axial codes ('Feedback' and 'Reflection') and 'Developing Subject Knowledge' and its associated axial codes ('Diversity of Practice', 'Shared Practice' and 'The impact of CPD'). Appendix 3 provides a more detailed overview of selected quotes that supported each axial code within a core category.

3.4.1 Core Category 1: Supportive Ethos

In the core category '**Supportive Ethos'** three axial codes were identified: **Trusted by the Senior Leadership Team (SLT)**, **Supportive and Collaborative Relationships.**

The teachers spoke of the SLT allowing them flexibility in how they supported children with literacy difficulties and the freedom to create bespoke programmes of intervention. This led to feelings of being **trusted by SLT** that appeared to impact positively on TSE beliefs,

> *'There isn't a blanket, obviously there are core rules and core values; but you are allowed to create your own intervention and your own environment for your children…knowing SLT have confidence in our ability makes me feel like I am able' (*Ruth)

Both SLTs seemed to employ a 'professional orientation' to leadership whereby there is a flexible application of the rules, control is shared, and work procedures are open to discussion (Hirschhorn, 1997). Professional orientation is grounded in the philosophy of trust whereby teachers are thought to have the knowledge and moral

responsibility to be granted greater autonomy and discretion in the management of their work (Tschannen-Moran, 2009). This is thought to lead to increases in motivation, creativity and work satisfaction (Cloke & Goldsmith, 2002). Working autonomously (Ryan & Deci, 2000) and being able to be creative with their teaching may have led to greater opportunities for powerful mastery experiences (Bandura, 1997) as teachers could take full owner ship of their success. One teacher said:

'It gives you belief because it's your development and things that are working, you are not always following somebody's ideas…If you're given an idea from someone else you don't have to use it in the way they did, you can adapt it' (Andrew)

The teachers referred to **supportive relationships** between SLT and teachers. **Supportive relationships** appeared to be in part fostered by SLT through evidence of a 'no blame culture'. A lack of child progress was seen as a chance to learn and reflect rather than culpability. Therefore, teachers appeared comfortable in seeking help from their colleagues as well as taking risks and trying new ideas. This in turn led to opportunities for mastery experiences (Bandura, 1997) which may have served to increase their TSE.

'I'm not going to get in trouble like if it fails or if a child isn't making progress. I'll usually just think on it and tweak it or ask someone their advice or try something different and that usually works' (Mike)

Reassurance and encouragement from their teaching colleagues appeared to be an important factor in maintaining TSE. Teachers felt comfortable sharing their worries with their colleagues who in turn reminded them of their capabilities. The teachers were then able to **reflect** on previous successes, gain perspective and persevere.

'I felt like I wasn't getting anywhere with this one boy…I talked to the teacher in year two and she was great…She said she was sure I was doing all I could, don't stress just yet. I suppose it reminded me I'd been there before and it was fine' (Sarah)

For others it appeared conversations with their colleagues were used as a means of venting.

'We love getting together and having a good moan, it's therapeutic' (Catherine)

Alongside verbal persuasion (Bandura, 1997) as a source of TSE that appeared to be enabled by **supportive relationships**, it seemed these relationships may also have served to protect the teachers from certain emotional reactions such as stress that are thought to reduce TSE (Schwarzer & Hallum, 2008). This is in line with research that has demonstrated the role of mentors (a supportive role) in increasing pre-service teachers' capacity for coping and highlights, if support is available, a stressful job does not necessarily cause a decrease in TSE (Klassen & Durksen, 2014).

Collaborative relationships with parents also appeared to impact on TSE beliefs. Previous research has highlighted the role of parents' appraisal on teachers' self-evaluation of their capabilities (Skaalvik & Skaalvik, 2010). However, the teachers in this study suggested it was more than **feedback** which impacted on their TSE. Teachers acknowledged the importance of parents supporting children with literacy at home. Literacy Interventions encompassing parental involvement can lead to gains in children's achievement and foster positive feelings about literacy (Dearing, McCartney, Weiss, Kreider, & Simpkins, 2004). Knowing parents were on board and willing to work with the teacher around a child's literacy difficulties appeared to influence the teachers' beliefs about the success of the intervention.

'So you think, right I'm putting this effort in and I'm doing all of this and I'm thinking the parents aren't even getting involved and it's frustrating because you're always thinking will I have the same success?' (Mike)

Similarly, the teachers also spoke of the support they received from the teaching assistants (TA) allocated to their classrooms. The importance of a good working relationship was stressed:

'A lot of work is done by the TA so if I didn't have someone who supported me or wasn't willing to put the effort in, you know have the right frame of mind, I'm not sure how successful I could be' (Russell)

Collaboration with others is thought to enhance the competence and functioning of all involved (Conoley & Conoley, 2010) by providing individuals faced with difficult tasks with additional support and therefore a broader array of resources: cognitive, emotional, and material (Fredrickson & Joiner, 2002). Alongside enhanced competence, the positive emotions related to the process may have caused more creative thinking and motivation to act (Conoley & Conoley, 2010), leading to more opportunities for TSE building experiences.

In summary, a supportive ethos demonstrated through a **trusting SLT** and **supportive and collaborative relationships** with their colleagues and children's parents appeared to cultivate and maintain positive TSE. This highlights the role of contextual factors in developing TSE (Adams & Forsyth, 2006).

3.4.2 Core Category 2: Experiencing Success and Failure

The development and maintenance of the teachers' TSE appeared to be influenced by their experiences of **success and failure**. Positive and negative **feedback** was interpreted and weighted in light of **reflection.**

Experiences of successful personal performance were cited by all teachers as influential in the development of TSE beliefs. This corresponds with Bandura's (1997) self-efficacy source of enactive mastery. Teachers identified a number of ways in which they knew their teaching performances had been successful through positive pupil **feedback**. Table 14 gives an indication of the types of experiences and feedback impacting on TSE.

Table 14: Successful Teaching Experiences

• Child now reading for understanding, demonstrated by more detailed answers • Child showing teacher the book they have chosen from library and asking if the teacher will read with them • Child believing in their own ability to read (self-efficacy) and appearing motivated to learn • Child developing new love of reading • Child engaged and enthusiastic in reading during lessons • Seeing the child smile and happy with their success • Child confident to read written work to rest of class • Children having met targets

Alongside a child's progress in reading, teachers placed an emphasis on seeing children's positive emotions. Reports suggested the display of positive emotion, by a pupil, sent the teacher a message the pupil was enjoying the reading activity. This led to the teachers experiencing feelings of success (Carver & Scheier, 1990) and hence served to increase TSE. The positive emotional state teachers themselves experienced from seeing pupils progress with reading, was also apparent. Teachers described themselves as feeling 'fantastic', 'over the moon' and 'chuffed' when a child experienced success. Teachers expressed these emotions in terms of feeling happy for the children themselves but also because they personally had experienced success with the intervention they had put in place. These emotional states appeared to positively impact on levels of TSE and motivation.

*'There is nothing better than that feeling when something you have put in place works. It spurs you on' (*Mike)

There appears to be little research exploring the affective state on the development of TSE and what does exist tends to focus on anxiety and stress with a lack of focus on the positive dimensions of affective states (Usher & Pajeres, 2008). Therefore, this study may contribute to the literature in this area.

Although teachers acknowledged the importance of working with, for example, parents and TAs, teachers appeared to have **reflected** on the attribution of a child's success or failure. The teachers perceived lack of success as problems of instruction (internal attributions) rather than making external attributions such as inadequate support at home. This is not to say the teachers did not acknowledge factors external to them as affecting student learning. The teachers were aware of the challenges their students faced when learning to read. However, they spoke largely about what *they* could do to improve student's reading (Pas, Bradshaw, & Hershfeldt, 2012).

'I feel personally responsible if they (students) are not making progress' (Sarah)

This is suggestive of a belief system that supports the idea they as teachers are responsible for the learning of children. This may have been a factor in contributing to the development of positive TSE as self-efficacy beliefs are thought to increase when internal attributions for success are made (Pintrich & Schunk, 1996).

Positive **feedback** from parents was mentioned by all of the participants as important to the development of TSE.

'At parents' night, this parent said, "oh these are the reading cups; this is brilliant they seriously used to hate reading and they run in now, it's the first thing they want to do". It really made me look forward to our next lesson' (Russell)

Similarly, positive **feedback** from collegial staff also appeared to have contributed to the development of TSE:

'To be honest I was just chuffed all the hard work I was putting in was being acknowledged' (Catherine)

Alongside mastery experiences of witnessing progress consequent of their teaching, positive comments received from parents and school staff also helped them to recognize their skills. This could be seen as what Bandura (1997) refers to as 'verbal persuasion'. The impact of verbal persuasion is thought to be reliant on the credibility, proficiency, and trustworthiness of the individual providing it (Goddard, Tschannen-Moran, & Hoy, 2001). It appeared the **supportive ethos** encompassing both schools led to greater opportunities for this source of TSE.

Teachers felt currently it would take a lot for their TSE to decrease. However, they acknowledged doubts in TSE did occur. Negative **feedback** from parents, lack of parental engagement/support and a child's negative **feedback,** such as lack of progress or enthusiasm, were mentioned as incidents which could induce TSE doubts.

These doubts appeared to lead to cognitive dissonance (Festinger, 1957) between their own positive beliefs about teaching struggling readers and, for example, negative feedback from a parent. Attempts to reduce this dissonance ensued in a number of ways. Some teachers appeared to endeavour to maintain their TSE by **reflecting** on past successes when TSE doubts occurred. These successes were also highlighted by their colleagues if the teachers raised their concerns with them. By restoring previous cognitions of success, the teachers appeared to buffer their TSE beliefs by resolving the dissonance caused from negative feedback.

More frequently, teachers spoke of dissonance being resolved by taking action. Teachers experiencing dissonance spoke of being motivated to **reflect** on their practice. They planned and invested time in thinking about previous lessons in view of ascertaining what went well, what didn't go well and what they could change/improve on next time. This is in line with Wheatley's (2002) suggestion that efficacy doubts may serve to promote teacher learning due to cognitive dissonance (Festinger, 1957). Doubts fostered a psychological disequilibrium, drawing the teachers to resolve these feelings by reflecting on and evaluating their practice and making changes (Wheatley, 2002). This differs from Tschannen-Moran et al's., (1998) TSE model whereby doubts or low TSE are related to reduced effort and persistence.

> *'I've never let those doubts get in the way, if anything they drive me on and make me think about what I can do and that's where I would start seeking advice or CPD or speak to someone about it'* (Russell)

These changes were enabled by beliefs in their capacity to develop which is viewed as vital for growth to happen (Dweck, 2007):

'I'm always just thinking about how to develop, how to be better, how can I differentiate this lesson better for you, why didn't it work and either sticking at it or changing it, or asking for advice. It's always worked.' (Ruth)

Holding incremental beliefs of learning potential allowed teachers to benefit from both success and failure. These teachers appeared to have developed **reflective** strategies of self-evaluation when experiencing success and failure and therefore appeared to learn from experiences which both served to develop and maintain their TSE throughout their careers. While **reflection** on experience is noted as important by Bandura (1997) in developing TSE, prominent research surrounding the development of TSE beliefs (Tschannen-Moran & Johnson, 2011) have the tendency to ignore the role of **reflection** (Wyatt, 2014).

3.4.3 Core Category 3: Developing Subject Knowledge

An increase in knowledge and understanding of how to support struggling readers appeared to impact on the teachers' TSE. Teachers spoke of **diversity of practice, shared practice** and the impact of **professional development (PD)** as developing TSE, due to an increase in **subject knowledge.**

The teachers spoke of **diversity of practice** as being a key factor in the development of their content and pedagogical knowledge. Teaching in urban schools, with a low socioeconomic demographic and many children who spoke English as an additional language, meant they always had a diverse year group with many children struggling to read. For some of the teachers this appeared to have led to an interest in developing in this area. Others appeared to have an innate interest:

'Reading is a passion of mine and so I want my pupils to love it as much as I do. I'm always looking for ways to engage my pupils who are finding it difficult' (Ruth)

The role of SE beliefs and motivational constructs such as interest has been considered in the past. Some have argued individuals take part in an activity because

of their personal interest; during the activity, they develop their knowledge and skills, which serves to positively impact on their SE (Renninger, Hidi, & Krapp, 1992).

All of the teachers spoke of how their knowledge had developed through **shared practice**.

'I've learnt so much from my colleagues' (Andrew)

Constructivist theories of learning promote the importance of engagement with others in gaining knowledge (Lambert, 2002). Staff were encouraged by SLT to work together and share practice. This occurred informally and formally e.g. discussion in the staffroom, Key stage meetings and whole staff meetings. Teachers felt in the beginning of their careers the culture of shared practice was invaluable as they learnt a lot about how to teach struggling readers by sharing their worries, asking for advice and listening and reflecting on the experiences of others. Although teachers referred to this process as **'shared practice'** it appeared within this process teachers were engaging in focused professional dialogue which promoted shared inquiry; a way of thinking and reflecting together to gain knowledge (Isaacs, 1999). Dialogue may have been enabled through a **supportive ethos** which promoted a 'no blame' culture. Teachers therefore felt safe, comfortable and willing to share successes, discuss challenges through joint problem solving and learn and experiment with new strategies.

Further, positive experiences of working and experiencing success together may have increased their perceptions of collective efficacy. Teachers' individual perceived capabilities are thought to be 'influenced by beliefs about group capability that characterise the culture of their schools' (Goddard, Hoy, & Woolfolk Hoy, 2004, p. 9). Collective efficacy beliefs are thought to be a greater predictor of individual TSE than other contextual factors (e.g. socio economic status or size of school(Goddard & Goddard, 2001). Therefore, a **supportive ethos** enabling **shared practice** may have promoted collective efficacy beliefs and thus served to increase individual TSE.

Interestingly, once the teachers had developed knowledge and understanding, in the area of teaching struggling readers, some described inadequate in-service **PD** sessions as increasing their belief in their own capabilities.

'I went on this course and the course was rubbish. It actually made me feel like I knew exactly what I was doing because we did all of that anyway but we did it in more detail' (Ruth)

This study offers an interesting insight into an unintentional method of increasing TSE. It also highlights the role of qualitative research which aims to explore the impact of **PD** on teachers' TSE. Qualitative research may help to identify if increases in TSE after PD are occurring in relation to quality rather than inadequate PD.

In light of the findings discussed above, it appears **diversity of practice**, **shared practice** enabled through a **supportive ethos** and **PD** offered teachers opportunities to gain content and pedagogical knowledge. As opportunities increased to demonstrate their subject knowledge to themselves and others, the teachers' TSE appeared to increase. Some have argued cognitive mastery (i.e. subject matter knowledge) is an influential source of TSE (Palmer, 2011) and separate to enactive mastery (Bandura, 1997). This occurs when teachers experience success in understanding a specific subject's concepts (Khourey-Bowers & Simonjs, 2004). Being able to 'answer questions without panicking', 'not having to ask so many questions', 'being able to respond automatically to questions', 'others coming to me for advice' were all given as examples of when the teachers felt capable in their skills and capabilities. The findings from this study therefore support the idea of cognitive mastery as a source of TSE.

3.5 General Conclusions

The teachers interviewed in this study were able to consider and reflect upon their TSE beliefs in teaching children who were struggling to read. They drew upon their individual experiences and provided insight into how their TSE developed and was maintained in the realm of reading instruction for struggling readers. The following section gives a summary of key conclusions which can be drawn from this small scale study. Additionally, the limitations of this study will be discussed as well as future research.

3.5.1 Concluding discussion

Greater knowledge and understanding of the development and maintenance of TSE beliefs in teaching struggling readers can assist teachers, SLT's, and other practitioners in developing TSE beliefs. This in turn may promote positive teaching behaviours and enhance student achievement (Puchner & Taylor, 2006).

The findings of this study provide empirical support for three of the four sources of TSE suggested by Bandura (1997) as having developed TSE beliefs for teaching struggling readers. The sources identified were: mastery experiences, verbal persuasion and affective states. Vicarious experiences were not raised within this study as having developed TSE. This may be explained by the teachers' professed limited opportunities for observation of colleagues within the context of struggling readers.

Although mastery experiences, as described by Bandura (1997), were cited as important by the participants, experiences which could be deemed as cognitive mastery experiences (Palmer, 2011) also appeared to be influential on their TSE beliefs. Cognitive mastery experiences appeared to have been gained through increasing content and pedagogical knowledge through the diversity of their teaching experiences and shared practice. Dialogue during shared practice was enabled due to the supportive ethos of both schools. In light of these findings, attention should be given to the ways in which teachers' subject knowledge can be developed throughout their careers.

Teachers also placed an emphasis on their own positive emotions when experiencing success as well as seeing children's positive emotions. There appears to be little research exploring the positive affective states of teachers as well as the affective states of others on the development of TSE. This study contributes to the literature in this area. Further exploration of this source of efficacy would be beneficial.

Experiences of verbal persuasion such as positive feedback from colleagues and parents and supportive conversations with colleagues during times of TSE doubt were also emphasised as being important to the development and maintenance of TSE. Having been persuaded of their capabilities, teachers were motivated to

embark upon mastery inducing activities which served to further enhance their TSE beliefs.

Teachers shared at times they did experience TSE doubts, however, they were able to gain from these doubts (Wheatley, 2002). When faced with negative feedback teachers evidenced their incremental beliefs in learning by taking responsibility to reduce cognitive dissonance by endeavouring to reflect on and improve their practice. This discord appeared to lead to positive behaviours in an attempt to resolve the dissonance. Further opportunities for mastery experiences were created, which may have led to an increase in TSE.

On other occasions where teachers had doubts, some teachers spoke of reflecting on (at times with colleagues) previous successes as a means of reducing their dissonance. These reflective actions influenced how experiences (negative feedback) were interpreted and weighted whereby the importance of such experiences may have been reduced. Having received negative feedback, previous successes were reflected upon and perspective gained. Positive TSE appeared to have been buffered through this process.

In order to promote and/or maintain positive TSE beliefs, it may therefore be of benefit to encourage reflective processes within teachers' practice fostered within a growth mind-set.

As well as providing supporting evidence for three of the four sources of efficacy (Bandura, 1997) this study has also identified specific contextual factors that influenced the development of TSE. A supportive ethos appeared to foster the development of TSE in a number of ways. Firstly, a supportive ethos appeared to impact on how teachers perceived experiences of success and failure as well as influencing the development of their subject knowledge. Alongside trust and autonomy, a culture of support rather than blame encouraged teachers to engage in professional dialogue during shared practice, reflect, learn and try new things, and take ownership of their practice. A supportive ethos therefore appeared to enable opportunities for enactive and cognitive mastery experiences. Secondly, supportive relationships appeared to influence the maintenance of positive TSE beliefs by relieving stress and encouraging teachers to consider past successes when faced with TSE doubts. Lastly, being able to work collaboratively with TA's and parents appeared to reassure teachers of their capabilities in accomplishing the task of

supporting struggling readers to read. Endeavouring to develop and/or nurture a supportive ethos within school may be a factor to consider when thinking about developing TSE.

To conclude, by using qualitative methods as opposed to the dominant quantitative research paradigm, which has explored TSE in the past, this study offered a means of expanding current understandings of TSE within a specific domain: literacy. This research therefore adds to the extant body of TSE literature and may therefore be used to inform and guide policy makers by highlighting ways in which TSE can be developed. For example, when developing policy, school leaders may endeavour to promote feelings of trust between SLT and staff. Considering ways to support teachers' autonomy and promoting a no blame stance may aid this and also serve to increase teachers' perceptions of a supportive ethos. Ensuring opportunities for shared and reflective practice as part of a schools' professional development policy may also support the development of TSE. Finally, policy around the school/parental relationship should also be considered as a means of increasing the probability of a supportive teacher/parent relationship to support the development of TSE.

3.5.2 Limitations

As with any study, the interpretation of findings should be framed by the study's limitations. An abbreviated version of GT was used in this research. This works with the original data (interviews) only. The principles of GT were adhered to during analysis whereby there was a process of coding and continual comparative analysis. However, due to the dependence on the original data set theoretical sensitivity, negative case analysis and theoretical saturation could only be fulfilled within the texts being analysed. Further opportunities for theoretical sampling may have allowed for a more complete understanding of the categories and concepts.

A perceived limitation of critical realism and the use of realist GT may be that findings do not try to infer generalization beyond a study due to the belief no two contexts are the same (Kempster & Parry, 2011). Further, aside from a critical realist stance the small sample size would render generalisation problematic. However, this does not mean that generalisation is not possible. Therefore, the researcher encourages

others to evaluate how useful the emerging theory from the study is in other contexts, albeit the aim is not to prove or disprove but instead compare findings for similarities and differences (Kempster & Parry, 2011) and consider whether a theory is applicable or generalizable from one context (school) to another. Further, context and direct experience were factors in the emerging theory which took into account differences in the participants' circumstances and environment. The suggested factors that are beneficial to enhancing teachers' self-efficacy in this study could therefore be starting points of inquiry or action when other schools are endeavouring to explore how they can develop teacher self-efficacy.

3.5.3 Future Research

Further research examining the development of teachers with low TSE may be of interest in enhancing the emergent theory and shed light on disabling factors. Future research exploring the impact of collective efficacy on the development of individual TSE beliefs is also warranted. This study also highlights the role of emotional states of teachers and of pupils on the development of TSE. Due to the limited research focussing on this source of efficacy, further research across other subject domains would be helpful.

Appendix 1: EPPI-Centre Data Extraction and Coding Tool for Education Studies V2.0: Section N: Quality of the study - Weight of evidence (The Evidence for Policy and Practice Information and Co-ordinating Centre, 2007).

N.1 Are there ethical concerns about the way the study was done? *Consider consent, funding, privacy, etc.*	N.1.1 Yes, some concerns (please specify) N.1.2 No (please specify)
N.2 Were students and/or parents appropriately involved in the design or conduct of the study? *Consider your answer to the appropriate question in module B.1*	N.2.1 Yes, a lot (please specify) N.2.2 Yes, a little (please specify) N.2.3 No (please specify)
N.3 Is there sufficient justification for why the study was done the way it was? *Consider answers to questions B1, B2, B3, B4*	N.3.1 Yes (please specify) N.3.2 No (please specify)
N.4 Was the choice of research design appropriate for addressing the research question(s) posed?	N.4.1 yes, completely (please specify) N.4.2 No (please specify)
N.5 Have sufficient attempts been made to establish the repeatability or reliability of data collection methods or tools? *Consider your answers to previous questions: Do the authors describe any ways they have addressed the reliability or repeatability of their data collection tools and methods (K7)*	N.5.1 Yes, good (please specify) N.5.2 Yes, some attempt (please specify) N.5.3 No, none (please specify)
N.6 Have sufficient attempts been made to establish the validity or trustworthiness of data collection tools and methods? *Consider your answers to previous questions: Do the authors describe any ways they have addressed the validity or trustworthiness of their data collection tools/ methods (K6)*	N.6.1 Yes, good (please specify) N.6.2 Yes, some attempt (please specify) N.6.3 No, none (please specify)
N.7 Have sufficient attempts been made to establish the repeatability or reliability of data analysis? *Consider your answer to the previous question: Do the authors describe any ways they have*	N.7.1 Yes (please specify) N.7.2 No (please specify)

addressed the repeatability or reliability of data analysis? (L7)	
N.8 Have sufficient attempts been made to establish the validity or trustworthiness of data analysis? *Consider your answer to the previous question: Do the authors describe any ways they have addressed the validity or trustworthiness of data analysis? (L8, L9, L10, L11)*	N.8.1 Yes, good (please specify) N.8.2 Yes, some attempt (please specify) N.8.3 No, none (please specify)
N.9 To what extent are the research design and methods employed able to rule out any other sources of error/bias which would lead to alternative explanations for the findings of the study? *e.g. (1) In an evaluation, was the process by which participants were allocated to, or otherwise received the factor being evaluated, concealed and not predictable in advance? If not, were sufficient substitute procedures employed with adequate rigour to rule out any alternative explanations of the findings which arise as a result? e.g. (2) Was the attrition rate low and, if applicable, similar between different groups?*	N.9.1 A lot (please specify) N.9.2 A little (please specify) N.9.3 Not at all (please specify)
N.10 How generalisable are the study results?	N.10.1 Details
N.11 In light of the above, do the reviewers differ from the authors over the findings or conclusions of the study? Please state what any difference is.	N.11.1 Not applicable (no difference in conclusions) N.11.2 Yes (please specify)
N.12 Have sufficient attempts been made to justify the conclusions drawn from the findings, so that the conclusions are trustworthy?	N.12.1 Not applicable (results and conclusions inseparable) N.12.2 High trustworthiness N.12.3 Medium trustworthiness N.12.4 Low trustworthiness
N.13 Weight of evidence A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)? *In some studies it is difficult to distinguish between the findings of the study and*	N.13.1 High trustworthiness N.13.2 Medium trustworthiness

the conclusions. In those cases, please code the trustworthiness of these combined results/conclusions.	N.13.3 Low trustworthiness
N.14 Weight of evidence B: Appropriateness of research design and analysis for addressing the question, or sub-questions, of this specific systematic review.	N.14.1 High N.14.2 Medium N.14.3 Low
N.15 Weight of evidence C: Relevance of particular focus of the study (including conceptual focus, context, sample and measures) for addressing the question of this specific systematic review	N.15.1 High N.15.2 Medium N.15.3 Low
N.16 Weight of evidence D: Overall weight of evidence *Taking into account quality of execution, appropriateness of design and relevance of focus, what is the overall weight of evidence this study provides to answer the question of this specific systematic review?*	N.16.1 High N.16.2 Medium N.16.3 Low

Appendix 2: Consent form

Dear staff member,

My name is Katharine Jones and I am currently studying for a Doctor of Applied Educational Psychology Degree at Newcastle University. As part fulfilment of this Doctoral Degree, I am undertaking a research study which is concerned with the views of primary school teachers about children who appear to have difficulty with literacy and hope you will be willing to help. I aim to explore with teachers how capable they feel in this area of teaching and how these beliefs have arisen, can be maintained/and or developed in the future.

In order for me to complete this research I need the views and experiences, from primary school teachers, of teaching struggling readers to read. This information will be collected through the process of an interview of which I will be the interviewer asking relevant questions about the proposed research. The interview will be recorded for the purpose of analysis and will last between 30 to 60 minutes. You will be taking part in the interview under a voluntary basis and at any stage during the interview you will have the right to withdraw from answering a question, stop the interview or leave without any negative repercussions. To ensure anonymity the name of the school and your own name or colleagues names will not be included within the study. All information derived from the interviews will be kept in the strictest of confidence and once the study has been completed and submitted all information will be destroyed.

If you would like further information about this research then please feel free to contact me, Katy Jones, at **k.jones6@ncl.ac.uk** or my supervisor, Dr Simon Gibbs, at School of Education, Communication and Language Sciences, Newcastle University, King George VI Building, Queen Victoria Road, Newcastle, NE1 7RU.

CONSENT FORM

- I have read the attached information sheet which explains the aims of the research
- I understand that the information sheet is asking me to participate in an interview with the researcher.
- I understand that all the information gathered will be kept strictly confidential and that my name and the name of the school will not be included in any reports.
- I understand that participation is voluntary and that I am free to withdraw my consent at any time.

(Please tick one of the following boxes to indicate whether or not you agree to take part in the research):

☐ **I AGREE** to take part in the above research

☐ **I DO NOT AGREE** to take part in the above research

Signature: _____ Date: _____

Appendix 3: Core Categories and quotes

Core Category: Supportive Ethos

Axial Codes	Quotes
Trusted by SLT (Autonomy, Feelings of trust)	*'It gives you belief because it's your development and things that are working, you are not always following somebody's ideas…If you're given an idea from someone else you don't have to use it in the way they did, you can adapt it' (Andrew)* *'There isn't a blanket, obviously there are core rules and core values; but you are allowed to create your own intervention and your own environment for your children…knowing SLT have confidence in our ability makes me feel like I am able'* (Ruth) *'The deputy head was saying when he was down with sight vocab and I said, "Have you heard of the probe?" and she said "No, well just try it", So you are thinking right well they trusts me so I'll give it a go, we'll go down that road'* (Mike) *'and we just talked about what we could do to kind of incorporate more of the comprehension side of things and we decided upon that…we kind of mentioned it to SLT but we knew that was what we wanted to do so we got on with it'* (Sarah) *'From the beginning his trust has had a massive impact on my own beliefs about what I can achieve with these children'* (Russell)
Supportive relationships (no blame culture, reassurance offered from colleagues, venting)	'*We are supported no matter what'* (Russell) '*we're a bit like a family, we look after each other'* (Ruth) *'I feel like I could go to the head about any worry I had and I know he would have my* back' (Russell) '*I'm not going to get in trouble like if it fails or if a child isn't making progress. I'll usually just think on it and tweak it or ask someone their*

	advice or try something different and that usually works' (Mike) '*I felt like I wasn't getting anywhere with this one boy…I talked to the teacher in year two and she was great…She said she was sure I was doing all I could, don't stress just yet. I suppose it reminded me I'd been there before and it was fine'* (Sarah) *'Yeah like if I'm having doubts I always find the year one teacher is about and she helps as she is always reminding me how much progress they have made from last year and that I should be proud as what I'm doing is working' (Mike)* *'We love getting together and having a good moan, it's therapeutic …we all doubt ourselves at some point, are we doing enough and it's good to know everyone does to' (Catherine)* *'It's just a way of de-stressing to be honest, I think we all benefit from being able to say what's on our mind, whether its ranting about their parents not helping at home or whatever or having a cry, it works for me and means I can go home feeling as if I've got it out of my system'* (Ruth)
Collaborative Relationships (Working with parents and TA'S)	'*So you think, right I'm putting this effort in and I'm doing all of this and I'm thinking the parents aren't even getting involved and it's frustrating because you're always thinking will I have the same success?*' (Mike) *'And I say (to parents) as long as you keep chipping away at home and then you see they have left a comment in the morning and you think well the parents are on-board which is so important to the success of whatever intervention is in place'* (Ruth) *'It's quite frustrating because you feel like there's not –you know, you can't make that next step with them because they do need just more and more exposure'* (Catherine) *'Like giving a few ideas to parents and things and they will take that on board…that makes me feel positive, just that, you know that they are going to be doing something that will have an impact indefinitely, it pulls everything together that you are doing when you are working with parents'* (Catherine)

	'A lot of work is done by the TA so if I didn't have someone who supported me or wasn't willing to put the effort in, you know have the right frame of mind, I'm not sure how successful I could be' (Russell) *'So it's a bit disheartening in terms of when you are working hard and have put a lot of time into planning for this child and then you have other people (talking about the TA) just going through the motions as such'* (Sarah) *'So at the minute I have a fantastic TA, you know I can rely on her to come up with ideas too. Like she has actually suggested "right I want to this section of read-writing. I don't want to do this part as I don't think it's helpful" and it's a case of thinking, right, well I can rely on you – this will work - and we've put – we've tried little things, you know'* (Andrew)

Core Category: Dealing with Success and Failure

Axial Codes	Quotes
Feedback (from pupils, parents and colleagues),	*'Seeing success, you know, seeing that something I'd worked on in the past and I think it's the same with everything. You try something and if it works out you feel more capable the next time it comes around and you just get straight on with it, you know' (Andrew)* *'As soon as you see they (pupil) are happy, you see a smile on their face, like straight away it picks you up and you feel fantastic, really able.' (Mike)* *'If they couldn't (read) at the beginning and now they could. So I think as they progress it does instil more confidence in myself because you think oh well I must be doing something right and I feel more motivated' (Catherine)* *'Seeing them (pupil) laugh during a session was just unbelievable, it really made me feel like progress had been made and that he and I would be fine' (Russell)* *'I thought well there is no harm in introducing it and actually it's been a great success and the children have really enjoyed doing It, they've had a ball, which makes me think I'll have success in the future using it as well' (Ruth)* *'And then she (member of staff) was the one who adopted the new approach of using comprehension to help teach reading and through that just checking things with her and then she came to look at my reading books and said "what you have done is brilliant!" (Russell)* *'The SENCO just came up to me and said well done, I've been hearing really positive things about you, and ever since then I just grew and grew, like I felt I knew what I was doing' (Andrew)* *'I suppose the impact of parents is huge, like I mean when I hear positive feedback from them, that's a real boost from me and I just want to get on and have more success with it' (Sarah)*

	'You get the parents who are quite negative so that kind of does – and I'm like quite a sensitive person so it kind of does make you think 'oh my gosh' Like have I done something wrong? Like should I have done it a different way, they can make me feel really incompetent at times' (Ruth) *'It's nice when you get things like that like when parents are seeing the difference, the difference in their reading is massive and you think, oh good, let's keep going with this' (Catherine)* *'I was so taken aback by their (negative) comments, like it knocked me to be honest and I thought, what am I doing?' (Mike)*
Reflection (Reducing cognitive dissonance, capacity to develop)	*'Often the approach that I generally have is give it a go and then I will review it, come back and think what worked well and what didn't and having that open approach and giving it a go'* (Catherine) *'Because obviously when you are in it the whole time you forget. You are just like, oh like they need to do this and they still need to do that and you totally forget that actually when they first walked through the door they couldn't read a word never mind a whole sentence and now you are making them read a whole book'* (Sarah) '*I've never let those doubts get in the way, if anything they drive me on and make me think about what I can do and that's where I would start seeking advice or CPD or speak to someone about it'* (Russell) *'On a number or occasion I have talked with colleagues about concerns over the progress of a couple of my children and yeah I think being able to do this has had a really positive impact for me because talking through my worries I am reminded of things that have worked in the past'*(Andrew) 'I'm always just thinking about how to develop, how to be better, how can I differentiate this lesson better for you, why didn't it work and either sticking at it or changing it, or asking for advice. It's always worked.' (Ruth) *'Doubts and negative feedback to be honest deserved or not it gives me a kick*

	start. They make me think about my practice, like I will immediately start researching or reading around what else I could be doing to improve' (Mike) *'I feel personally responsible if they (students) are not making progress' (Sarah)* *'If you don't think they can learn, then what the point. I know I can help them.' (Mike)*

Core Category: Developing subject knowledge

Axial Codes	Quotes
Diversity of practice	*'It was a nightmare to begin with as I moved from Year 4 to key stage one and so I had to learn so much more about phonics…I feel I benefited from it as I've learned completely different skills, you know approaches and strategies I can put in place'* (Sarah) *'I think at first as a –when I first started teaching I was a nursey teacher so I was quite able in teaching them sounds and everything. And then I ended up in Key stage 2, which was a bit of a jump; so it was trying to find out how they taught phonics, you know. What they would put in place if there were issues because it was one of those things I hadn't studies at university. So I suppose it meant I developed and felt more capable to teacher any year or child who was struggling.' (*Andrew) *'I've always worked with children from deprived areas and never worked you know, like an affluent place where the children maybe don't struggle as much. I'm going to see a lot more success with these children because a lot of these children will struggle'* (Russell) *'A lot of our children struggle to be honest initially. I suppose I have an invested interest to develop my practice in reading'* (Catherine)
Shared practice	*'I have learnt so much from my colleagues'* (Andrew) *'If someone turns around and actually suggests "Why don't you try this?" and it's something you've been thinking about doing, it obviously picks you up'* (Russell) *'I was trying to find out how you teach phonics to a child who was struggling… I hadn't studied this at university and to be honest felt out of my depth'* (Andrew) *'So together as a staff agreeing upon approaches to things and sharing what works well and what doesn't and having that open, you know, discussion with staff in staff meetings or literacy meetings.'* (Catherine) *'So her and I used to get together quite a lot and just talk through ideas and obviously she had an Early Years perspective which actually came in quite handy just in terms of thinking about the phonic knowledge. So we also get together as a key stage and discuss any kinds of problems and any ideas we would like to put forward'* (Ruth) *'I think from talking to the other staff and from hearing that they are doing similar things and that they have worked in their classes. I think it just kind*

	of reassures you that what you are doing is right' (Mike)
Professional development (PD)	*'I went on this course and the course was rubbish. It actually made me feel like I knew exactly what I was doing because we did all of that anyway but we did it in more detail' (Ruth)* *'We get very little formal professional development to be honest and usually what we do get we are doing it already'* (Andrew) *'Any PD I have got has usually made me feel like I know what I'm doing as rarely do they offer us any other information that we don't know'* (Sarah)

References

Adams, C. M., & Forsyth, P. B. (2006). Proximate sources of collective efficacy. *Journal of Educational Administration, 44*(6), 625-642.

Allinder, R. (1994). The relationship between efficacy and the instructional practices of special education teachers and consultants. *Teacher Education and Special Education, 17*(2), 86-95.

Aloe, A., Emo, L., & Shanahan, M. (2014). Classroom management self efficacy and burnout: a multivariate meta analysis. *Educational Psychology Review, 26*(1), 101-126.

Amendum, S. J. (2014). Embedded Professional Development and Classroom-Based Early Reading Intervention: Early Diagnostic Reading Intervention Through Coaching. *Reading & Writing Quarterly, 30*(4), 348-377. doi:10.1080/10573569.2013.819181

Bandura, A. (1997). *Self Efficacy: The Exercise of Control*. USA: W. H. Freeman and Company.

Bandura, A. (2006). Guide for constructing self efficacy scales. In F. Pajares & T. Urden (Eds.), *Self efficacy beliefs of adolescents* (pp. 307-337). Greenwich, CT: Information Age Publishing.

Birks, M., & Mills, J. (2011). *Grounded Theory: A practical Guide*. Thousand Oaks, CA: Sage.

Brady, S., Gillis, M., Smith, T., Lavalette, M., Liss-bronstein, L., Lowe, E., . . . Wilder, T. D. (2009). First grade teachers' knowledge of phonological awareness and code concepts: Examining gains from an intensive form of professional development and corresponding teacher attitudes. *Reading and Writing, 22*(4), 425-455. doi:http://dx.doi.org/10.1007/s11145-009-9166-x

Bümen, N. T. (2009). Possible effects of professional development on Turkish teachers' self-efficacy and classroom practice. *Professional Development in Education, 35*(2), 261-278. doi:10.1080/13674580802568385

Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6), 473-490. doi:http://dx.doi.org/10.1016/j.jsp.2006.09.001

Carlisle, J. F., Cortina, K. S., & Katz, L. A. (2011). First-Grade Teachers' Response to Three Models of Professional Development in Reading. *Reading & Writing Quarterly, 27*(3), 212-238. doi:10.1080/10573569.2011.560482

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control process view. *Psychological Review, 97*, 19-35.

Cawley, J. F., Miller, J. H., & Carr, S. C. (1990). An examination of the reading performance of students with mild educational handicaps. *Journal of Learning Disabilities, 23*, 284-290.

Chacón, C. T. (2005). Teachers' perceived efficacy among English as a foreign language teachers in middle schools in Venezuela. *Teaching and Teacher Education, 21*(3), 257-272. doi:http://dx.doi.org/10.1016/j.tate.2005.01.001

Charmaz, K. C. (2006). *Constructing Grounded Theory: A practical guide through qualitative analysis*. London: Sage.

Cloke, K., & Goldsmith, J. (2002). *The end of management and the rise of organisational democracy*. San Francisco: Jossey-Bass.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

Collins, M., Shattell, M., & Thomas, S. (2005). Problematic interviewee behaviours in qualitative research. *Western Journal of Nursing Research, 27*(2), 188-199.

Conoley, J. C., & Conoley, C. W. (2010). Why Does Collaboration Work? Linking Positive Psychology and Collaboration. *Journal of Educational and Psychological Consultation, 20*(1), 75-82. doi:10.1080/10474410903554902

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). Los Angeles, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). London: Sage.

Daniels, H. (2008). *Vygotsky and research*. Abington: Routledge.

Dearing, E., McCartney, K., Weiss, H. B., Kreider, H., & Simpkins, S. (2004). The promotive effects of family educational involvement for low-income children's literacy. *Journal of School Psychology, 42*(6), 445-460. doi:http://dx.doi.org/10.1016/j.jsp.2004.07.002

Department for Business Innovation and Skills. (2011). *Skills for life Survey: Appendix of tables*. London: DfBIS.

Department for Education. (2015). National curriculum assessments at key stage 2 in England, 2015. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/483897/SFR47_2015_text.pdf

Department for Education (DfE). (2015). *Reading: the next steps*. London: The National Archives.

Dey, I. (1999). *Grounding Grounded Theory: Guidelines for Qualitative Inquiry*. London: Academic Press.

Dweck, C. S. (2007). Boosting achievement with messages that can motivate. *Education Canada, 47*(2), 6-10.

Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row and Peterson.

Fives, H., Hamman, D., & Olivarez, A. (2007). Does burnout begin with student-teaching? Analyzing efficacy, burnout, and support during the student-teaching semester. *Teaching and Teacher Education, 23*(6), 916-934. doi:http://dx.doi.org/10.1016/j.tate.2006.03.013

Fredrickson, B. L., & Joiner, T. (2002). Positive Emotions Trigger Upward Spirals Toward Emotional Well-Being. *Psychological Science (0956-7976), 13*(2), 172.

Gambrell, L., Malloy, J., & Mazzoni, S. (2007). Evidence based best practices for comprehensive literacy instruction. In L. Gambrell, L. Morrow, & M. Pressley (Eds.), *Best Practice in Literacy Instruction* (pp. 11-29). New York: Guildford Press.

Gibson, S., & Dembo, M. (1984). Teacher Efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569-582.

Glaser, B. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, California: Sociology Press.

Glaser, B., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine.

Goddard, R. D., & Goddard, Y. (2001). A multilevel analysis of the relationship between teacher and collective efficacy in urban schools. *Teaching and Teacher Education, 17*(7), 807-818. doi:http://dx.doi.org/10.1016/S0742-051X(01)00032-4

Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence and future directions. *33, 3*(3-13).

Goddard, R. D., Tschannen-Moran, M., & Hoy, W. K. (2001). A multilevel examination of the distribution and effects of teacher trust in students and parents in urban elementary schools. *The Elementary School Journey, 102*(1), 3-17.

Grace, C. (2014). *Teacher Self Efficacy and Inclusive Practice: An exploration of educator self efficacy with regards to inclusive practice within the mainstream classroom.* (Doctorate in Applied Educational Psychology), Newcastle University.

Guo, Y., Piasta, S. B., Justice, L. M., & Kaderavek, J. N. (2010). Relations among preschool teachers' self-efficacy, classroom quality, and children's language and literacy gains. *Teaching and Teacher Education, 26*(4), 1094-1103. doi:http://dx.doi.org/10.1016/j.tate.2009.11.005

Guo, Y., Sawyer, B. E., Justice, L. M., & Kaderavek, J. N. (2013). Quality of the Literacy Environment in Inclusive Early Childhood Special Education Classrooms. *Journal of Early Intervention, 35*(1), 40-60.

Gwernan-Jones, R., & Burden, R. (2009). Are they just lazy? Student teachers' attitudes about dyslexia. *Dyslexia, 16*, 66-86.

Henson, R. K. (2002). From Adolescent Angst to Adulthood: Substantive Implications and Measurement Dilemmas in the Development of Teacher Efficacy Research. *Educational Psychologist, 37*(3), 137-150. doi:10.1207/S15326985EP3703_1

Hirschhorn, L. (1997). *Reworking authority:Leading and following in a post-modern organisation*. Cambridge, MA: MIT Press.

Ingersoll, R., & Merrill, E. (2010). Who's teaching our children? *Educational Leadership, 67*, 14-20.

Isaacs, W. (1999). *Dialogue and the art of thinking together: A pioneering approach to communicating in business and in life*. New York: Doubleday.

Joshi, R., Binks, E., Hougen, M., & Smith, D. (2009). Why elementary teachers might be inadequately prepared to teach reading. *Journal of Learning Disabilities, 42*(5), 392-402.

Justice, L. M., Mashburn, A. J., Hamre, B. K., & Pianta, R. C. (2008). Quality of language and literacy instruction in preschool classrooms serving at-risk pupils. *Early Childhood Research Quarterly, 23*(1), 51-68. doi:http://dx.doi.org/10.1016/j.ecresq.2007.09.004

Kempster, S., & Parry, K. W. (2011). Grounded theory and leadership research: A critical realist perspective. *The Leadership Quarterly, 22*(1), 106-120. doi:http://dx.doi.org/10.1016/j.leaqua.2010.12.010

Khourey-Bowers, C., & Simonjs, D. G. (2004). Longitudinal study of middle grades chemistry professional development: Enhancement of personal science teaching self efficacy and outcome expectancy. *Journal of Science Teacher Education, 15*(3), 175-195.

King, A. (2004). *The Structure of Social Theory*. London: Routledge.

Klassen, R. M., & Durksen, T. L. (2014). Weekly self-efficacy and work stress during the teaching practicum: A mixed methods study. *Learning and Instruction, 33*, 158-169. doi:http://dx.doi.org/10.1016/j.learninstruc.2014.05.003

Klassen, R. M., Tze, V. M., Betts, S. M., & Gordon, K. A. (2011). Teacher Efficacy Research 1998-2009: Signs of progress or unfulfilled promise? *Educational Psychology Review, 23*(1), 21-43.

Knoblauch, D., & Woolfolk Hoy, A. (2008). “Maybe I can teach those kids.” The influence of contextual factors on student teachers’ efficacy beliefs. *Teaching and Teacher Education, 24*(1), 166-179. doi:http://dx.doi.org/10.1016/j.tate.2007.05.005

Lambert, L. (2002). *The Constructivist Leader*. New York: Teachers College Press.

Leader-Janssen, E. M., & Rankin-Erickson, J. L. (2013). Preservice Teachers' Content Knowledge and Self-Efficacy for Teaching Reading. *Literacy Research and Instruction, 52*(3), 204-229. doi:10.1080/19388071.2013.781253

Littell, J., Corcoran, J., & Pillai, V. (2008). *Systematic reviews and meta analysis*. New York: Oxford University Press.

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2006). *Methods in Educational Research: From Theory to Practice*. San Francisco: Jossey-Bass.

Maloch, B., Flint, A., & Eldridge, D. (2003). Understanding beliefs and reported decision making of first year teachers from different reading teacher preparation programmes. *The Elementary School Journal, 103*(5), 431-459.

Maslow, A. (1972). *Theory Z: Transpersonal Psychology, The farther reaches of human nature*. New York: Viking.

Morrisroe, J. (2014). Literacy changes lives 2014: A new perspective on health, employment and crime. Retrieved from http://www.literacytrust.org.uk/assets/0002/3684/Literacy_changes_lives_2014.pdf

Mulholland, J., & Wallace, J. (2001). Teacher induction and elementary science teaching: enhancing self-efficacy. *Teaching and Teacher Education, 17*(2), 243-261. doi:http://dx.doi.org/10.1016/S0742-051X(00)00054-8

National Association of Head Teachers. (2014). Owning what is ours: A manifesto for education. Retrieved from http://www.naht.org.uk/welcome/news-and-media/key-topics/government-policy/naht-manifesto-puts-profession-in-the-lead/

National Trust Forum. (2014). Vision for Literacy. Retrieved from http://www.literacytrust.org.uk/assets/0002/3984/Vision_for_Literacy_2025.pdf

Norem, J., & Canter, N. (1986). Defensive pessimism: Harnessing anxiety as motivation. *Journal of Personality and Psychology, 51*, 1208-1217.

Oliver, C. (2012). Critical Realist Grounded Theory: a new approach for social work research. *British Journal of Social Work, 42*(2), 371-387.

Pajares, F. M. (1997). Current directions in self-efficacy research. In M. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 1-49). Greenwich: JAI.

Palmer, D. (2011). Sources of efficacy information an in service program for elementary teachers. *Science Education, 95*(4), 577-600.

Parsons, S., & Bynner, J. (2007). Illuminating Disadvanatge: Profiling the experiences of adults with entry level literacy or numeracy over the life course. London: National Research and Development Centre.

Pas, E. T., Bradshaw, C. P., & Hershfeldt, P. A. (2012). Teacher and school level predictors of teacher efficacy and burnout: Identifying potential areas of support. *Journal of School Psychology, 50*, 129-145.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Oxford: Blackwell.

Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research and applications*. Englewood Cliffs, NJ: Merrill/Prentice Hall.

Poulou, M. (2007). Personal Teaching Efficacy and Its Sources: Student teachers' perceptions. *Educational Psychology, 27*(2), 191-218. doi:10.1080/01443410601066693

Puchner, L. D., & Taylor, A. R. (2006). Lesson study, collaboration and teacher efficacy: Stories from two school-based math lesson study groups. *Teaching and Teacher Education, 22*(7), 922-934. doi:http://dx.doi.org/10.1016/j.tate.2006.04.011

Renninger, K. A., Hidi, S., & Krapp, A. (1992). *The role of interest in learning and development*. Hillsdale, NJ: Erlbaum.

Robson, C. (2002). *Real world research: A resource for social scientists and practitioner-researchers* (2nd ed.). Oxford: Blackwell Publishing.

Rogers Haverback, H., & Parault, S. (2008). Pre-Service Reading Teacher Efficacy and Tutoring: A Review. *Educational Psychology Review, 20*(3), 237-255. doi:http://dx.doi.org/10.1007/s10648-008-9077-4

Rogers Haverback, H., & Parault, S. J. (2011). High efficacy and the preservice reading teacher: A comparative study. *Teaching and Teacher Education, 27*(4), 703-711. doi:http://dx.doi.org/10.1016/j.tate.2010.12.001

Ross, J. A., & Bruce, C. D. (2007). Teacher self-assessment: A mechanism for facilitating professional growth. *Teaching and Teacher Education, 23*(2), 146-159. doi:http://dx.doi.org/10.1016/j.tate.2006.04.035

Rotter, J. B. (1966). Generalised expectancies for internal versus external control of reinforcement. *Psychological Monographs:General and Applied, 80*(1), 1-28.

Ryan, R., & Deci, E. (2000). Self determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psyhologist, 55*, 58-68.

Save the Children. (2014). Read on. Get On. London: Save the Children.

Schwarzer, R., & Hallum, S. (2008). Perceived teacher self efficacy as a predictor of job stress and burnout: Mediation Analyses. *Applied Psychology, 57*, 152-171.

Scott, D. (2005). Critical Realism and Empirical Research Methods in Education. *Journal of Philosophy of Education, 39*(4), 633-646. doi:10.1111/j.1467-9752.2005.00460.x

Shaw, D. M., Dvorak, M. J., & Bates, K. (2007). Promise and Possibility - Hope for Teacher Education: Pre-service Literacy Instruction Can Have an Impact. *Reading Research and Instruction, 46*(3), 223-254. doi:10.1080/19388070709558469

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education, 26*(4), 1059-1069. doi:http://dx.doi.org/10.1016/j.tate.2009.11.001

Snow, C., Burns, S., & Griffin, P. (1998). *Preventing reading difficulties in children*. Washington, DC: National Academy Press.

Spector, J. E. (1990). *Efficacy for teaching in preservice teachers*. Boston, MA: American Educational Association

Stern, P. N. (1994). Eroding Grounded Theory. In J. Morse (Ed.), *Critical issues in qualitative research methods*. Thousand Oaks: CA: Sage.

The Evidence for Policy and Practice Information and Coordinating Centre. (2007). EPPI-Centre Data and Extraction and Coding Tool for Education Studies V2.0. Retrieved from http://www.civilservice.gov.uk/Assets/data_extraction_form_tcm6-7398

Timperley, H. S., & Phillips, G. (2003). Changing and sustaining teachers' expectations through professional development in literacy. *Teaching and Teacher Education, 19*(6), 627-641. doi:http://dx.doi.org/10.1016/S0742-051X(03)00058-1

Torgerson, C. (2003). *Systematic Reviews*. London: Continuum International Publishing Group.

Tschannen-Moran, M. (2009). Fostering teacher professionalism in school. *Education Administration Quarterly, 45*(2), 217-247.

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27*(4), 751-761. doi:http://dx.doi.org/10.1016/j.tate.2010.12.005

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783-805. doi:http://dx.doi.org/10.1016/S0742-051X(01)00036-1

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher Efficacy: Its meaning and measure. *Review of Educational Research, 68*(2), 202-248.

Tschannen-Moran, M., & McMaster, P. (2009). Sources of Self-Efficacy: Four Professional Development Formats and Their Relationship to Self-Efficacy and Implementation of a New Teaching Strategy. *The Elementary School Journal, 110*(2), 228-245. doi:10.1086/605771

Usher, E. L., & Pajeres, F. (2008). Self efficacy for self regulated learning: a validation study. *Educational and Psychological Measurement, 68*, 443-463.

Vaughn, S., & Roberts, G. (2007). Secondary interventions in reading: Providing additional instruction for students at risk. *Teaching Exceptional Children, 39*, 40-46.

Ward, T., & Marshall, B. (2007). Narrative identity and offender rehabilitation. *International Journal of Offender Therapy and Comparative Criminology, 51*(3), 279-297.

Wheatley, K. F. (2002). The potential benefits of teacher efficacy doubts for educational reform. *Teaching and Teacher Education, 18*(1), 5-22. doi:http://dx.doi.org/10.1016/S0742-051X(01)00047-6

Wheatley, K. F. (2005). The case for reconceptualising teacher efficacy research. *Teaching and Teacher Education, 21*, 747-766.

Willig, C. (2008). *Introducing Qualitative Research in Psychology* (2nd ed.). Bershire: Open University Press.

Wolters, C., & Daugherty, S. (2007). Goal structures and teachers' sense of efficacy: Their relation and association to teaching experience and academic level. *Journal of Educational Psychology, 99*(1), 181-193.

Woolfolk Hoy, A., & Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education, 21*(4), 343-356. doi:http://dx.doi.org/10.1016/j.tate.2005.01.007

Wyatt, M. (2014). Towards a re-conceptualization of teachers' self-efficacy beliefs: tackling enduring problems with the quantitative research and moving on. *International Journal of Research & Method in Education, 37*(2), 166-189. doi:10.1080/1743727X.2012.742050