

West Dunbartonshire Council

Literacy Hub/Consortia- based approaches to Improving Literacy Outcomes

Delivering improvements in literacy by developing
higher order literacy skills through a Reciprocal
Teaching approach

Final Report, June 2014



September 2012 - June 2014

CONTENTS

Executive Summary.....	3
Background.....	4
West Dunbartonshire Context.....	4
Rationale for Reciprocal Teaching.....	5
Aims.....	7
Funding.....	8
Sharing Approaches to Literacy.....	8
Sharing Resources.....	9
Transition into Secondary.....	10
Workforce Development.....	10
Adult Literacy.....	11
Impact Measures.....	11
Results.....	13
Bespoke measure of reading comprehension.....	14
Standardised measure of reading comprehension.....	18
Metacognitive awareness.....	19
Reading confidence.....	21
Pupil focus groups.....	22
Teacher focus groups.....	24
Discussion.....	27
Collaborative Working.....	28
Conclusions.....	29
Acknowledgements.....	30
References.....	31

Appendix One.....	34
Current Status of Reciprocal Teaching and Next Steps in each Partner Authority	
Appendix Two.....	38
Timeline of Progress	
Appendix Three.....	40
Sample Pages from Practitioner's Guide	
Appendix Four.....	46
Overview of Training and Coaching Sessions	
Appendix Five.....	47
Workforce Development using Reciprocal Teaching in Primary and Secondary	
Appendix Six.....	51
Adult Literacy in Renfrewshire	
Appendix Seven.....	52
Formal Research Proposal	
Appendix Eight.....	57
Metacomprehension Strategy Index	
Appendix Nine.....	62
Pupil and Teacher Focus Group Schedules	
Appendix Ten.....	65
Success One Literacy Hub Criteria	

EXECUTIVE SUMMARY

In West Dunbartonshire Council attainment in literacy has been a major development priority. Targeting the development of higher order reading skills through the adoption of a reciprocal teaching approach, was identified to be reaping long term benefits. Over 7 years of development the West Dunbartonshire model demonstrated positive outcomes in both reading comprehension and pupil confidence and found that staff had a greater knowledge and understanding of teaching reading as a result of Reciprocal Teaching.

The work of experienced West Dunbartonshire teachers and further research into the evidence base for Reciprocal Teaching led to a model which was shared with two neighbouring authorities, Inverclyde and Renfrewshire, as part of the Scottish Government's Literacy Hub initiative. Staff from the pilot primary schools observed practice implemented by teachers in West Dunbartonshire and received training from Psychological Service staff and teachers who had implemented the model. This opened up a professional dialogue across authorities and increased collegiate working.

The implementation of Reciprocal Teaching was monitored and evaluated over a two year period through triangulated research. The quantitative findings included a consistent improvement in both pupil reading comprehension and the development of higher order skills particularly in pupil ability to analyse and evaluate text through a bespoke assessment. A gain in reading comprehension, accuracy and rate beyond the expected maturation of pupils was evidenced through a standardised assessment. Pupil awareness of their own learning; metacognition and strategic thinking by pupils significantly improved. Qualitative findings from teachers included greater confidence and increased knowledge when teaching reading as well as more professional dialogue within and across authorities. Pupils found the approach inspired more confidence with reading as well as finding Reciprocal Teaching helpful and enjoyable for their literacy learning across the curriculum.

The sharing of approaches to improving literacy, the development of resources and the evaluation of the approach was coordinated by West Dunbartonshire Psychological Service.

BACKGROUND

The Scottish Government published a Literacy Action Plan in 2010 with an overarching vision “to raise standards of literacy for all levels from early years to adulthood”.

Following this, the Scottish Government launched the Literacy Hub initiative in order to contribute to improving literacy outcomes. The key aim was to tap into a range of good practice in literacy in local areas through facilitating the sharing of approaches to literacy systematically between authorities.

West Dunbartonshire Council was identified as one of five ‘hub’ authorities because of the council’s commitment to improving literacy outcomes and was invited to submit a proposal for a consortium-based approach to sustaining improvements in literacy. The Scottish Government envisaged that any proposal would have a key and proactive role for the educational psychology service.

The ‘hub’ project was launched in August 2012 in West Dunbartonshire and the report which follows presents the achievements of the project over the course of the 2 years of Scottish Government funding.

WEST DUNBARTONSHIRE CONTEXT

The reciprocal teaching approach aims to develop the teaching and learning of higher order literacy skills. St Ronan’s Primary in West Dunbartonshire used the reciprocal teaching approach and over 7 years of development found improved outcomes in reading comprehension and confidence. In addition it was found that staff had a greater knowledge and understanding of teaching reading. The positive practice from St Ronan’s and the robust research evidence base for reciprocal teaching was selected by West Dunbartonshire as the ‘good practice model’ to be shared with neighbouring and comparative authorities: Renfrewshire and Inverclyde, as part of the literacy hub initiative.

RATIONALE for RECIPROCAL TEACHING

Reciprocal teaching, also known as reciprocal reading, is an instructional approach developed by Palincsar and Brown (Palincsar & Brown, 1984). They describe it as:

A procedure . . . where teacher and student took turns in leading a dialogue concerning sections of text. Initially the teacher modelled the key activities of summarising (self-review), questioning (making up a question on the main idea), clarifying and predicting. The teacher thereby modelled activities: the students were encouraged to participate at whatever level they could. The teacher could then provide guidance and feedback at the appropriate level for each student (Palincsar & Brown, 1984, p124).

In reciprocal teaching, pupils use authentic reading materials such as a narrative passage or expository text and are led by the teacher. During this process, comprehension strategies are introduced, predicting, clarifying, questioning and summarising. The four functions were used because they are 'comprehension fostering and comprehension monitoring activities' (Palincsar & Brown, 1984, p121). The teacher initially acts as a facilitator by modelling the comprehension strategies and pupils are encouraged to take the lead as they gain in confidence. The purpose is to provide a dialogue based framework for teaching the skills necessary for good comprehension. The overarching aim is that pupils will be able to work independently.

Considerable research has been conducted on reciprocal teaching and the approach has demonstrated pupils' improved use of strategies and an overall increase in reading comprehension (Spörer, Brunstein and Kieschke, 2009). Brooks (2007) carried out an analysis of unpublished data and the result was described as 'very clear – a useful impact on reading accuracy and a substantial one on comprehension' (p.28). In a meta-analysis of randomised controlled trials of 16 research studies on reciprocal teaching in the US, Rosenshine and Meister (1994) produced an effect size of 0.32 on standardised tests. They found that the approach was effective in promoting student comprehension when the teacher-student dialogue was of high quality and engaging students with ideas, rather than simply their skill performance and decoding. This effect size increased to 0.88 when using experimenter developed tests which specifically looked at the use of the four strategies. In 2000, the National

Reading Panel published a research report which highlighted the 'combined use of multiple strategies' was most effective at improving reading. The OECD (2010) PISA results from 2009 which focused on reading comprehension found that students using appropriate strategies to improve understanding perform nearly two school years above those who used strategies the least. A meta-analysis conducted by Hattie (2009), considered the influences of over 100 factors and interventions on the learning and attainment of more than 240 million pupils. The influences were ranked in order by effect size and Reciprocal Teaching was listed number nine as having the greatest influence on attainment.

Beyond this, reciprocal teaching has also improved students' self-ratings of confidence in reading (Greenway, 2002). Improving self-concept has an important role in education (Marsh & Martin, 2011) and is a factor contributing to an attempt at balancing inequalities that develop from socio-economic status (Marsh & Craven, 2006).

Alongside the introduction of the four strategies, the West Dunbartonshire approach incorporates four foundations (Oczkus, 2010). These are **scaffolding** and **think-alouds** by the teacher, **metacognition** and **cooperative learning**. Based on Vygotsky's zone of proximal development (1978), scaffolding is where the level of potential learning is 'determined through problem solving under adult guidance, or in collaboration with more capable peers.' Over time, and through gradual release of responsibility, pupils become more competent in implementing the strategies (Duke & Pearson, 2002). Modeling by the teacher through the use of think-alouds makes explicit to learners' what good comprehenders already accomplish implicitly (Currie, 1999; Oczkus, 2010). Metacognition is the awareness of an individual's own thinking processes. In relation to reading comprehension, it is the knowledge the child has about the reading process, recognition of when they don't understand a word, phrase or idea and the capacity to employ corrective strategies (Ness, 2011). Cooperative learning has many positive outcomes in achievement and social competence including higher level reasoning, longer retention of materials, transfer of knowledge and increased motivation (Johnson & Johnson, 1999). A two year study conducted by Gillies (2002) found that children who worked cooperatively were also more willing to help each other demonstrating increased social awareness. There is a strong

supporting evidence base for the use of reciprocal teaching to help improve the development of higher order skills and reading comprehension.

Research suggests that there is an attainment 'dip' across the transition between primary and secondary (Galton et al, 1999; West et al, 2010) and that it is challenging to maintain the success and improvements made in the early stages (HMIe, 2006). This is further supported by the 2009 Scottish Survey of Achievement (SSA) which shows that a relative number of children do not achieve their expected levels in literacy after making the transition into secondary. In 2012, the Scottish Survey of Literacy and Numeracy (Literacy) found that 60% of pupils at Primary 7 achieved over 80% in reading attainment but at S2 this fell to 45% of pupils. **Reciprocal teaching provides a structured language and develops skills which can be used across the curriculum and can help to alleviate the attainment dip.**

Higher order thinking skills are cross curricular skills developed through all areas of learning. Deep learning, also known as active learning is outcome based and 'goes beyond the acquisition of knowledge and embraces understanding and application of knowledge' (Higher Order Skills Excellence Group, 2011). Activities that have been suggested to promote higher order skills include collaborative, problem based learning in an interdisciplinary manner including discussion and questioning. **The West Dunbartonshire Reciprocal Teaching approach promotes each of these activities within the methodology.**

AIMS of LITERACY PROJECT

Key expected outcomes, linked to the Scottish Government Literacy Action Plan, are pupils' improved use of metacognitive strategies to develop reading comprehension and higher order literacy skills, increased pupil reading confidence and to provide a greater coherence in teaching methods across the transition to help sustain early gains in literacy. Another objective is to increase teacher knowledge and understanding of reading comprehension, improve teacher confidence when teaching reading and to open a professional dialogue between practitioners to encourage the sharing of good practice and collegiate working.



Image © West Dunbartonshire Psychological Service 2014

FUNDING

Funding was provided by the Scottish Government from September 2012 to June 2014 to West Dunbartonshire. This enabled an Assistant Educational Psychologist to be employed as well as backfill for the time of a Senior Educational Psychologist and a Head Teacher allowing the development of research measures, the monitoring and evaluation of progress, staff training and support materials. Funding was shared between partner authorities for further resources, staff cover and collegiate time.

SHARING APPROACHES TO LITERACY

West Dunbartonshire, Inverclyde and Renfrewshire share a similar socio-economic status with high levels of deprivation. The authorities have previously successfully shared approaches to literacy and continue to share in other areas such as the School Improvement Partnership Programme. Following discussion between three partner local authorities, one school from each region was selected on the basis of their willingness to engage and capacity to disseminate the approach within their own authority following successful implementation. The selected schools were Dalreoch Primary (Year 1), and St Stephen's Primary (Year2) from West Dunbartonshire, St Patrick's Primary from Inverclyde and Woodlands Primary from Renfrewshire. The dissemination of the approach in each local authority can be seen in Appendix One.

Staff from pilot primary schools observed practice at St Ronan's and received initial training sessions which opened up a professional dialogue. Following implementation in pilot schools, lessons were observed to ensure fidelity of the approach. This was

further supported by ongoing coaching sessions in the second year in line with implementation science to sustain and reinforce learning. Observations of the pilot schools practice continued. A timeline of progress from September 2012 to June 2014 can be seen in Appendix Two.

SHARING RESOURCES

Materials used to help disseminate the reciprocal teaching approach include: 'Reading Routes' developed by a group of skilled professionals in West Dunbartonshire in 2007 and a well-regarded resource, as well as a newly developed guide on reciprocal teaching for teachers and a training DVD. Pilot schools were provided with matched comprehension assessments for pupils from P3 to P7. These new resources, based upon the 'Reading Routes' material, have been created and were piloted successfully as part of the project. Pilot schools were also provided with a commercially available resource to support implementation. These materials were shared across the partner authorities.

Copies of 'Reading Routes' which provide supporting lesson plans for introducing the four reciprocal teaching strategies and passages which can be interrogated by pupils were provided to pilot primary and secondary schools. Extra copies were also given to schools which were introduced to the approach through the initial pilot schools in each local authority.

Experienced staff from West Dunbartonshire contributed to the development of a reciprocal teaching guide for practitioners who had been introduced to the approach through a training session with psychological staff. The guide, "A Practitioner's Guide to Reciprocal Teaching, Raising Attainment through the Development of Higher Order Skills," was created to support teachers who have been trained to initially implement the approach and to refer back to once they had introduced the model to their class. Importantly, the guide also contains information and guidelines for the implementation of the approach across the whole school for Head Teachers. Teachers from West Dunbartonshire provided sample worksheets and handouts for pupils. The guide was commercially printed and includes a CD of all pages and resources in a digital PDF format and distributed across each of the three authorities. Sample pages from the practitioner's guide can be seen in Appendix Three.

To support the guide, each authority was provided with a training DVD, developed by West Dunbartonshire project staff. The DVD portrays teachers modeling the reciprocal teaching foundations i.e. the 'think-alouds', 'cooperative group work' and 'scaffolding of pupil learning'. In addition the DVD captures teacher professional dialogue regarding their use and implementation of reciprocal teaching. Each authority received one copy of the DVD to be used for future training and coaching of staff.

TRANSITION INTO SECONDARY

Reciprocal Teaching was introduced into selected secondary schools in an effort to sustain the success demonstrated in primary stages. Each partner authority pilot primary school linked with English specialists from their cluster secondary. English practitioners observed practice in the upper stages of their feeder primary and took part in team teaching before trialing it with a class of pupils in secondary. Three secondary specific training sessions were provided for staff from each of the pilot secondary schools between October 2013 and May 2014 where experience and practice was shared as well as resources including 'Reading Routes,' the practitioner's guide, assessments and action plans. **A business meeting model was formed and is planned to continue across the authorities for secondary English teachers.**

WORKFORCE DEVELOPMENT

Implementation Science suggests that in depth training should initially be provided followed by coaching sessions to maintain and focus staff skills (Fixen, Blasé, Naoom & Wallace, 2009). An overview of the training and coaching sessions provided by experienced West Dunbartonshire practitioners and Educational Psychologists across each of the pilot primary and secondary schools can be seen in Appendix Four. Independently from the Hub funding, each authority has begun to provide training and coaching sessions to primary and secondary staff using Reciprocal Teaching to ensure the dissemination of the approach across the wider authority.

Within West Dunbartonshire, two experienced practitioners, one from primary and one from secondary, are in the process of completing their Masters in Educational Studies (MEd) and are using Reciprocal Teaching as the basis of their advanced educational research dissertation. Both were provided with guidance from West Dunbartonshire

Council Psychological Service project team to complete their research and a summary of each of their projects is outlined in Appendix Five.

ADULT LITERACY

Community Learning Officers in Renfrewshire have introduced the approach of Collaborative Strategic Reading (CSR) which closely follows the principles of Reciprocal Teaching to a post 16 literacy group. CSR was researched and suggested by two Principal Teachers of English from West Dunbartonshire as appropriate for this often disengaged group of young people. Members of the group had left school and attend sessions with the aim of improving literacy and building transferrable skills to increase their opportunity to gain employment or a position in the voluntary sector. Staff from West Dunbartonshire provided resources and supporting materials to the community development team. A summary of the interview with a Community Learning Officer can be seen in Appendix Six.

IMPACT MEASURES

The project plan agreed across the three authorities included the formal collection of data. The research proposal for both years can be seen in Appendix Seven. The research measures selected and used in the first school session of the project to assess impact were;

1. Bespoke baseline and follow up reading comprehension assessments matched by readability to the 'Reading Routes' assessments;
2. Standardised reading comprehension assessments (York Assessment of Reading for Comprehension);
3. Reading Self Concept Scale for pupils;
4. Teacher focus groups.

The bespoke measure of comprehension was taken from 'Reading Routes' as it focused on understanding and the higher order skills of analysis and evaluation reflecting the skills taught in Curriculum for Excellence and Bloom's Taxonomy of learning domains. A matched passage and assessment was created based on readability scores and comparable content to create a pre-test and post-test measurement of comprehension. These were completed by pupils from Primary 3 to Primary 7. The standardised comprehension assessment (YARC) was used with a sample of Primary 3 children to provide reading ages for comprehension, accuracy

and rate as a pre-test and post-test measure. This is an individual assessment which accounts for maturation and so was useful to include providing a focused evaluation of the changes in reading. The Reading Self Concept Scale is a self-rating questionnaire concentrating on competence, difficulty and attitude to reading. This scale has been used successfully with children from Primary 3 upwards and as a pre-test and post-test measure of impact. The scale has an evidence of validity and internal reliability, Cronbach's $\alpha > 0.7$ (Chapman & Tumner, 1995). Teacher focus groups were used as a pre- and post- measure to gauge teacher confidence, knowledge and understanding regarding the teaching of reading as well as considering the impact of the approach on how they assess comprehension, access other areas of the curriculum through teaching literacy and the effect of opening a professional dialogue and encouraging collegiate working both within their school and across authorities.

Following the initial analysis of data, the impact measures were reconsidered to provide further detail into pupil reading comprehension, metacognitive awareness and opinion of the approach. The impact measures used in the second year included;

1. Bespoke baseline reading comprehension assessments matched by readability to the 'Reading Routes' assessments;
2. Standardised reading comprehension assessments (York Assessment of Reading for Comprehension);
3. Metacomprehension Strategy Index (MSI);
4. Pupil focus groups;
5. Collaborative discussions with teachers to inform current practice and follow up teacher focus groups.

The same measures of reading comprehension, both bespoke and standardised, were used again in the second year as they were found to be sensitive to impact and highlighted the development of higher order skills. The MSI (Schmitt, 1990) was used as an assessment measure to consider pupil awareness of the why a strategy is used and can be seen in Appendix Eight. This was used as pre-test and post-test measure with pupils from P3 to P7. The MSI is a multiple choice assessment of why a strategy at a particular time, for example before reading, would be useful. It focuses on predicting, questioning, activating prior knowledge and summarising. Pupil focus groups were used to reflect the impact of the approach on enjoyment of reading and

confidence and to reinforce the MSI by considering topics such as why strategies are helpful and what can you do to help if you are finding a piece of text challenging.

During coaching sessions with teaching staff, collaborative discussions were held to support practice and to inform evaluation frameworks for the practitioner's guide. Teacher focus groups centered on their opinion of the impact of the approach, development of a professional learning community through collegiate working and the sustainability of the approach. The pupil and teacher focus group questions can be seen in Appendix Nine.

The Reciprocal Teaching approach trialed in secondary schools was also qualitatively evaluated by;

1. Interviews with class teachers;
2. Evaluative feedback from pupils.

Collectively, these measures were used to triangulate data by including both qualitative and quantitative research tools to assess impact and also to feedback to teaching staff to inform and reinforce practice.

RESULTS

The first year of data collection was between January 2013 and June 2013 following initial teacher training. The second year of data collection was between November 2013 and May 2014 and also includes St Stephen's Primary, a new West Dunbartonshire pilot school. Unfortunately, due to long term staff absence and Head Teacher changes, Dalreoch Primary was not included in the summary evaluation as Reciprocal Teaching was not fully implemented during year two of the project.

Bespoke measure of Reading Comprehension

The bespoke comprehension assessment was a pre- and post- measure completed by 403 pupils from P3 to P7 in the first year and 492 pupils in the second year. Figure 1 shows the comprehension scores for the pilot schools prior to and following implementation of Reciprocal Teaching in the first year.

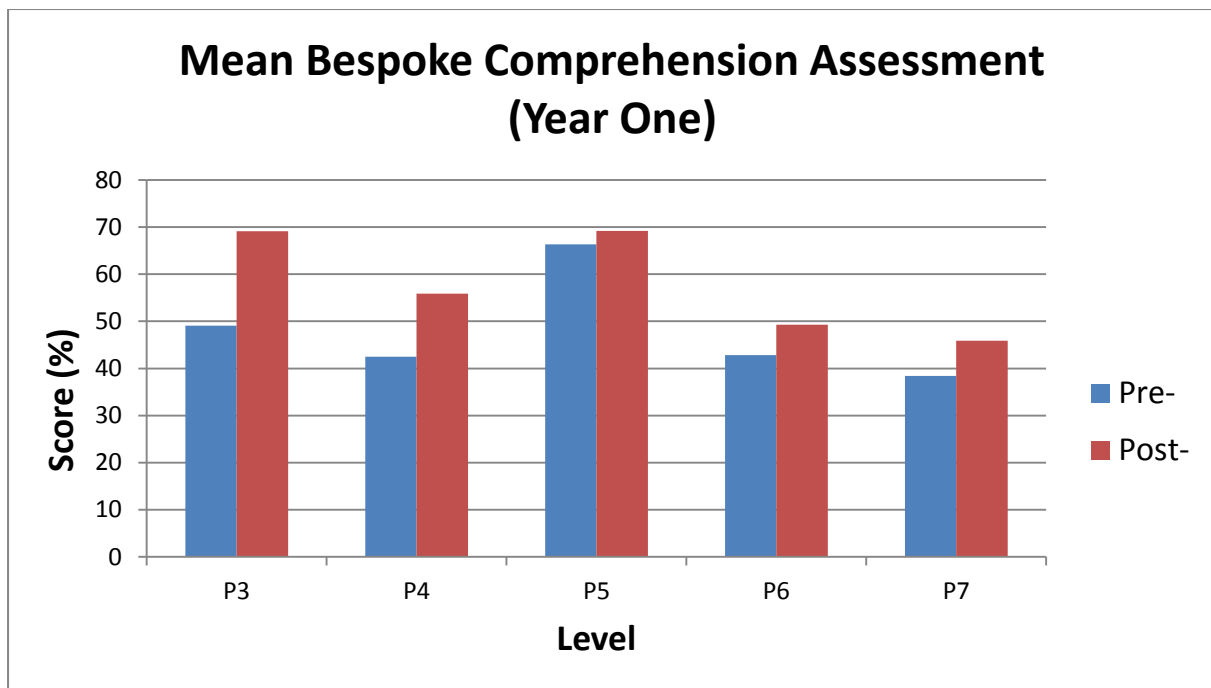


Figure 1. Mean Pilot School Reading Comprehension Assessment Score.

There were increases in comprehension score from P3 to P7 with the greatest difference in P3. There was least change in P5, however, they were achieving above 60% before exposure to the approach. **The effect size, a difference between means on a common scale, was found to be substantial at 0.92 for the pilot schools.** The interpretation of effect sizes for those that fall below 0.2 is reported as very small, those between 0.2 and 0.5 are reported as small, between 0.5 and 0.8 are medium and useful, those above 0.8 are substantial and large (Brooks, 2013). Hattie (2009) conducted a meta-analysis of 50,000 research articles on the influences on learning and attainment and suggested that an effect size 0.4 is what would be expected from a typical years schooling. Our pilot schools achieved much more than this.

Figure 2 shows the individual higher order skills for the pilot schools prior to and following implementation of Reciprocal Teaching.

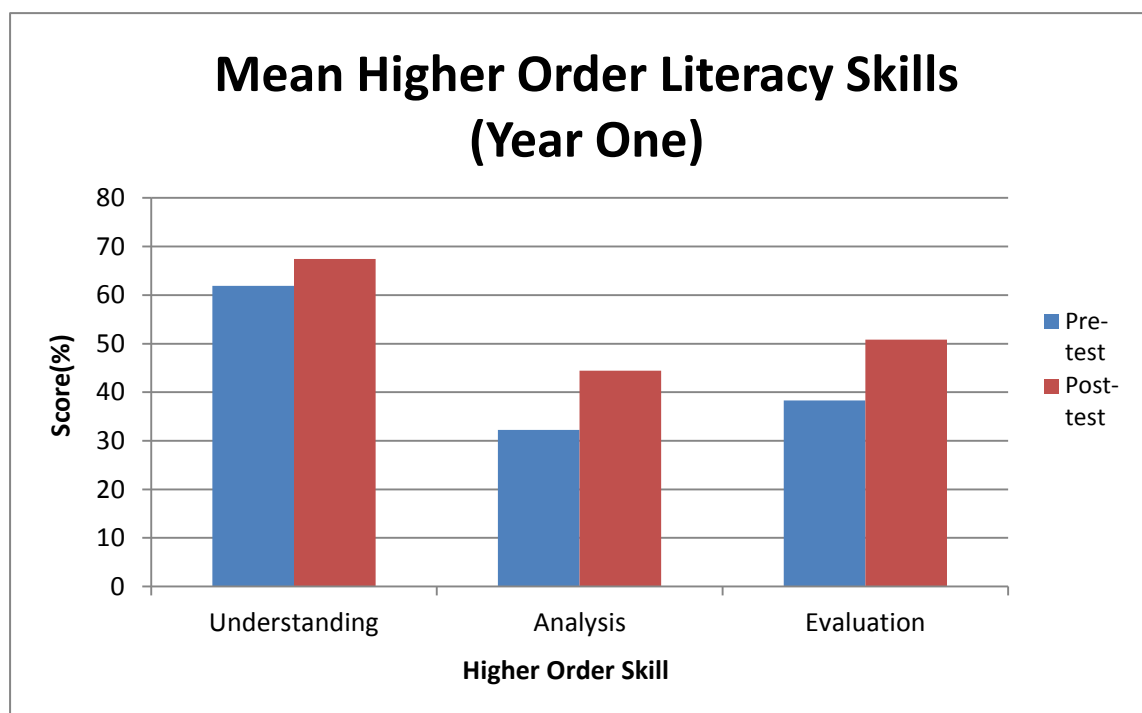


Figure 2. Mean Pilot School Higher Order Literacy Skills.

There were increases in each of the higher order skills with the greatest difference in pupil ability to analyse and evaluate text. This was a valuable measure to demonstrate that Reciprocal Teaching was improving pupil higher order skills.

Figure 3 shows the comprehension scores for the pilot schools in the second year.

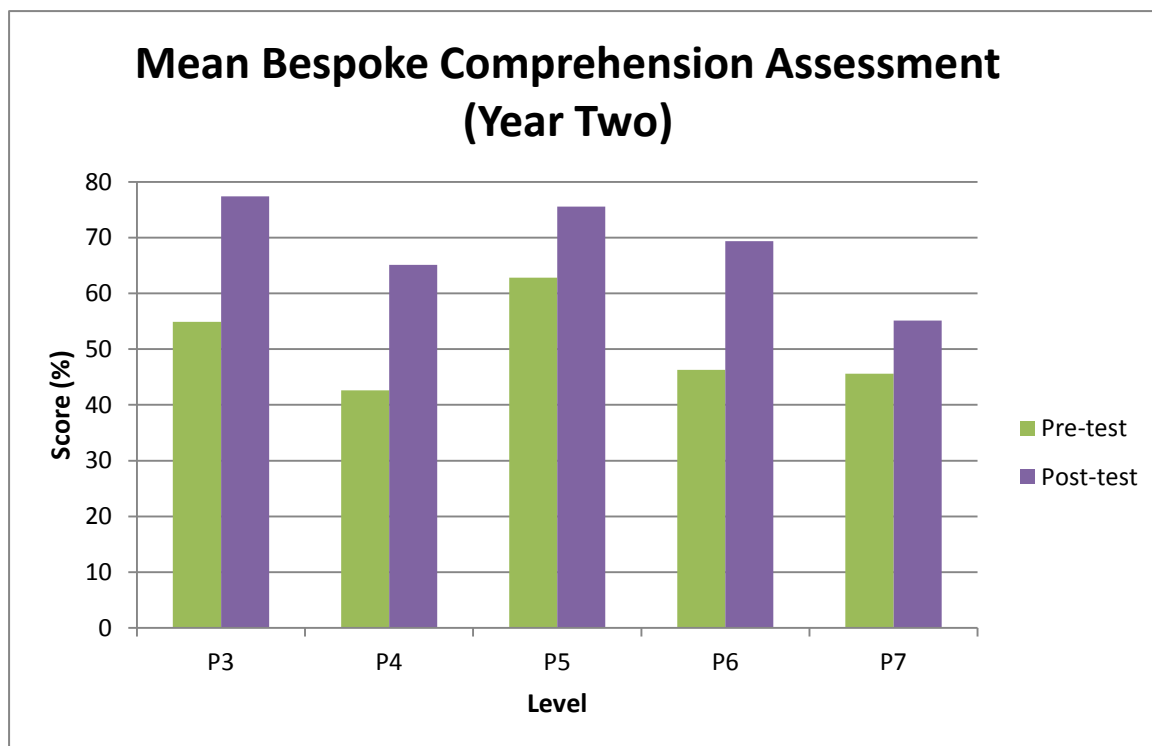


Figure 3. Mean Pilot School Reading Comprehension Assessment Score.

There were increases in comprehension score from P3 to P7. **The effect size was found to be substantial at 1.2.** As this assessment is not standardised but matched it is possible to compare within each year group but not track the progress of a class from one year to another. Across each class group, pupils' comprehension skills improved.

Figure 4 shows the change in higher order literacy skills for pupils from P3 to P7 in the second year.

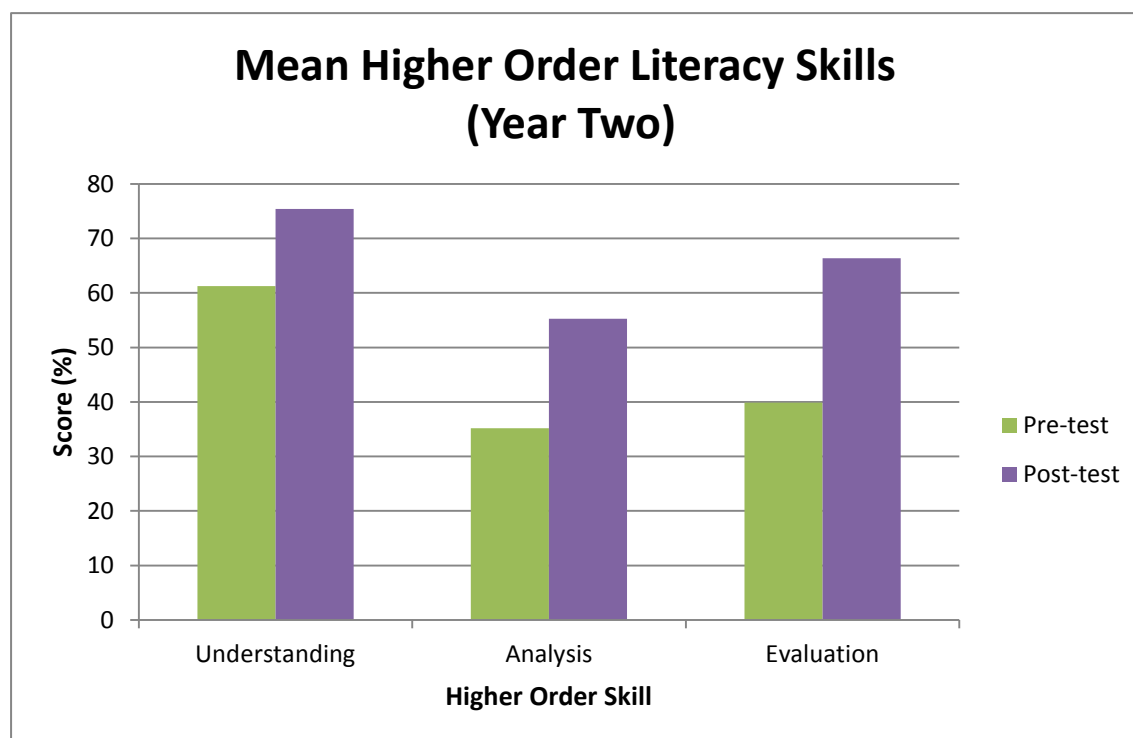


Figure 4. Mean Pilot School Higher Order Literacy Skills.

Figure 4 also demonstrates that the greatest increases in pupil skills were in analysis and evaluation. Overall, the bespoke assessment of reading comprehension was a worthwhile impact measure to gauge change across the whole school.

SUMMARY

The results reflect a substantial change in pupil comprehension in the first year and second year. The bespoke measure demonstrated gains in higher order skills that Reciprocal Teaching aims to improve in pupils from P3 to P7 and is valuable measure across a whole school despite not being suitable for tracking year upon year progression.

Standardised measure of Reading Comprehension

As the bespoke measure of Reciprocal Teaching does not allow the improvements in comprehension to only be attributed to Reciprocal Teaching and some of the change may be due to typical development, a standardised measure of reading comprehension, York Assessment of Reading for Comprehension (YARC), was used with a small sample of pupils. Table 1 shows the YARC assessment average reading ages and the gains made in reading comprehension, accuracy and rate for the pilot schools implementing Reciprocal Teaching in year one and year two.

Table 1. Pilot school YARC assessment pre- and post- mean reading ages in years and months, gain in months of reading age and ratio gain.

		Pre-	Post-	Gain	Ratio Gain
Year One (c.a 7.4)	Comprehension	7.8	8.7	11	2.7
	Accuracy	8.0	8.7	7	1.8
	Rate	8.0	8.6	6	1.5
Year Two (c.a 6.11)	Comprehension	7.5	8.2	9	1.5
	Accuracy	8.2	8.10	8	1.3
	Rate	7.8	8.2	6	1

In year one, there was a gain in comprehension of 11 months of the reading age of the pupils and the ratio gain was found to be 2.7 months over a four month intervention period. Ratio gain is the improvement in months for each month Reciprocal Teaching was implemented. Reading accuracy and rate also improved beyond that of the intervention period.

In year two, there was a gain of 9 months of reading age for comprehension over a 6 month intervention period which is a ratio gain of 1.5 months per month of implementation. It is useful to note that despite sampling pupils with mixed ability their initial reading age for comprehension was 7 years 5 months, 6 months ahead of their chronological age.

Figure 5 shows the mean reading ages prior to and following Reciprocal Teaching for the pilot schools in both year one and two.

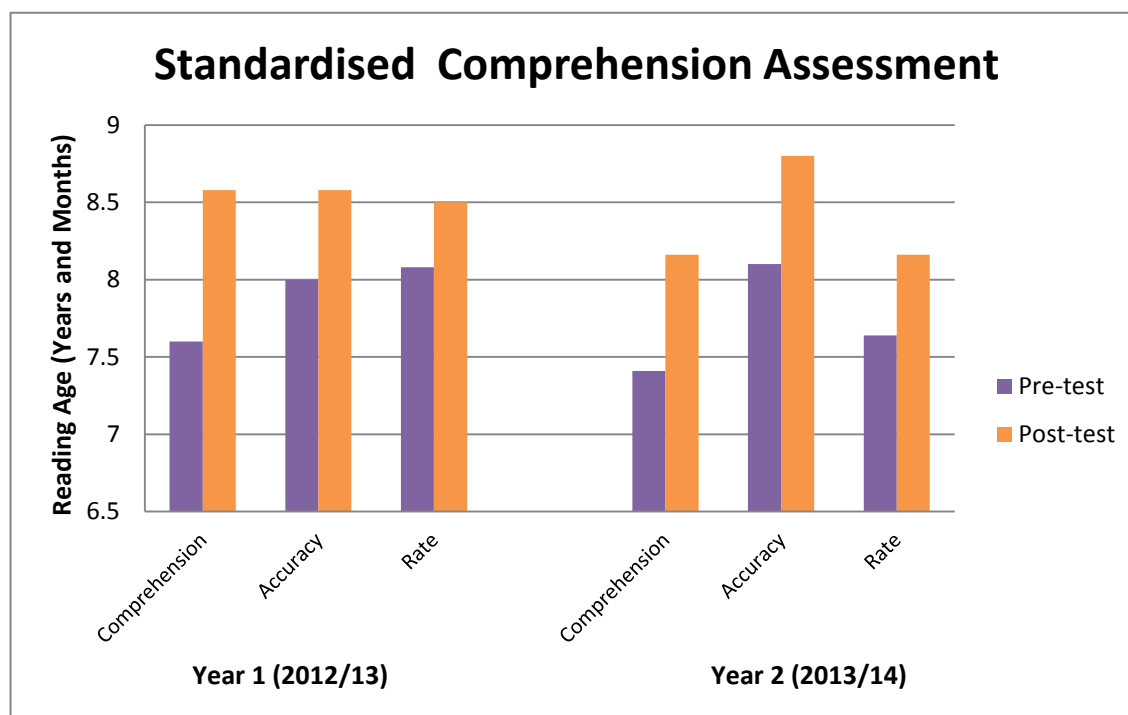


Figure 5. YARC Assessment of Reading Comprehension Mean Reading Ages.

The figure shows that over the two years there were gains made in each of the reading skills with the exception of reading rate in year two which maintained expected maturation. There were children in each year who had a pre- and post- test reading age of greater than 12 years 5 months and given that the YARC is unable to provide a reading age beyond this it is possible that not all increases in reading age are demonstrated. **Nevertheless, the results show that the improvements are beyond what would be expected with typical maturation and aside from improved reading comprehension, pupils are more able to answer inference and vocabulary dependent questions showing a greater analysis of the text.**

SUMMARY

The results reflect improved pupil reading comprehension, accuracy and rate beyond typical maturation of the child and exceeding the time frame of implementation of Reciprocal Teaching. Despite limitations of the tool, higher order skills were also improved through pupil ability to answer inference and vocabulary dependent questions.

Metacognitive Awareness

The Metacomprehension Strategy Index (MSI) was completed by 485 pupils from P3 to P7 in the second year only. The scale directly assesses pupil awareness of why and when a strategy is useful. Figure 6 shows the mean scores pre- and post- test for pupils in the second year.

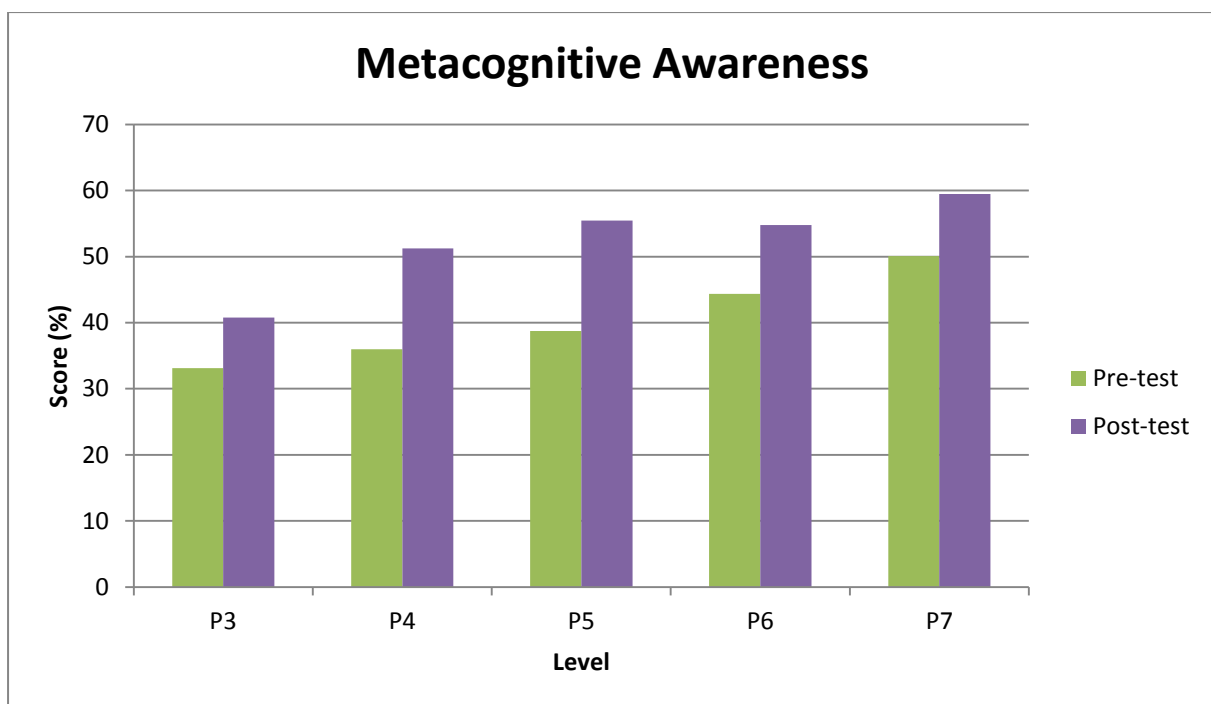


Figure 6. Mean Metacognitive Awareness.

The figure above demonstrates that there were improvements at every level from P3 to P7 with the greatest gains made in P4 and P5. A paired samples t test was conducted to compare metacognitive awareness prior to and following the implementation of Reciprocal Teaching. There was a significant difference in scores

before Reciprocal Teaching was introduced and after the approach had been implemented.

Table 2. Pre- and Post- Reciprocal Teaching Means and Standard Deviations of Metacognitive Awareness and Significance Level.

	Mean (SD)	Significance
Pre-	9.5 (4.2)	$t(484) = -13.6, p > 0.001$
Post-	12.4 (5.1)	

The figure below shows pupils' awareness across six broad categories. Three categories directly link to Reciprocal Teaching strategies of predicting, self-questioning and summarising.

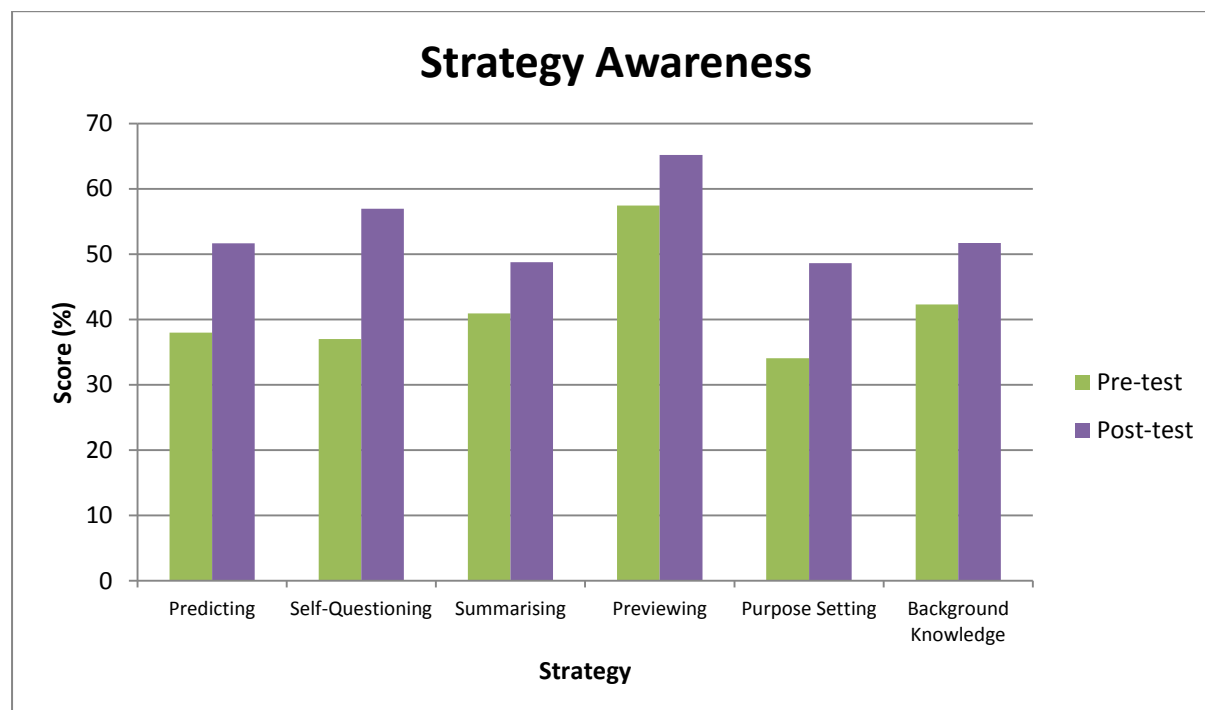


Figure 7. Mean Strategy Awareness.

Figure 7 shows that pupils improved their understanding of why a strategy is helpful with the greatest change in self-questioning, one of the Reciprocal Teaching strategies. The MSI is a self report tool and so caution must be exercised as it does not signify that children are actually using these strategies as they read. The previewing strategy also has only 2 questions out of the total 25 and so a generalisation of the previewing data is not recommended due to the limited number of items.

Reading Confidence

The Reading Self Concept Scale was completed by 421 pupils from P3 to P7 in the first year. The scale focused on pupil confidence with reading prior to and following Reciprocal Teaching and centered on pupil beliefs about their competency, difficulty with reading and attitude. The aim was to find improved pupil confidence following implementation of Reciprocal Teaching. The pre- test mean for the Reading Self Concept Scale was 3.9 (SD 0.1) and the post- test mean was 3.9 (SD 0.1) where the total value was 5. Therefore, there was no change in pupil confidence however, this was already high in the sample and was maintained throughout the course of the intervention. Internal validity and reliability of the measure was also demonstrated through the current sample (Cronbach's $\alpha > 0.7$).

Class teachers felt that pupils often expressed an inflated view of their confidence and this may be attributed to an acquiescence bias where the pupils responded in an effort to imply a positive representation of what they thought was expected. Reports from class teachers indicate that in their opinion the children did show improvements in confidence during the implementation of Reciprocal Teaching. These factors may contribute an explanation as to why there was no change found and that possibly the questionnaire was not sensitive to these issues. The Reading Self Concept Scale was not repeated and instead confidence was discussed as part of the focus groups with pupils.

Pupil Focus Groups

Pupils from both pilot primary and secondary schools were involved in focus groups following the implementation of Reciprocal Teaching. The discussions were centered on whether the pupils liked Reciprocal Teaching, the impact on their other learning, metacognition and their confidence and enjoyment of reading. 60 pupils across the pilot primary schools and 30 pupils from the pilot secondary schools took part in focus groups.

Most children felt that Reciprocal Teaching was helpful as ***'it helps you to learn words and to understand things a bit better'*** (P4 pupil), that Reciprocal Teaching was an enjoyable task ***'it helps us learn strategies in a fun and friendly way'*** (P4 pupil)

and that it was impacting on their reading, ***'it helps us with the skills, it helps us with our reading and sometimes doing it altogether helps us, it makes me a better reader'*** (P3 pupil). Pupils also felt there had been an impact on their other learning such as ***'I'm better at problem solving'*** (P3 pupil) and other social aspects due to cooperative learning including ***'we take turns and compliment each other and help each other'*** (P5 pupil). Another pupil also felt ***'we've improved our listening and talking skills by answering questions and using full sentences'*** (P7 pupil). As well as pupils completing the MSI, further discussion around metacognition was included in the focus groups to support the findings from the assessment. Pupils mentioned a number of strategies to help when they are struggling with their reading such as ***'read around it and look for clues'*** (P3 pupil) and ***'try and look for a root word'*** (P6 pupil). Pupil awareness of why strategies are important was also discussed with one pupil mentioning ***'when you're asking questions it makes you think about the book more because if you get stuck you can ask yourself and your group questions'*** (S1 pupil). Some pupils have also made the step and transferred the skills into other curricular areas, ***'I was doing research for my solo talk and it would come up with big long words and I would have to predict and clarify what they meant so I could understand and put it into my own words'*** (S1 pupil). The Reading Self Concept Scale reported that children had a high degree of confidence when reading but didn't show that this had changed over time despite qualitative reports from teachers. The focus groups also centered on children's views of their confidence and the impact on their enjoyment of reading. A number of pupils reported ***'my confidence has gotten much better'*** (P4 pupil) and that they ***'used to be shy and not really speak that much but now I'm more confident'*** (P6 pupil) and this continued with secondary pupils reporting ***'I used to avoid reading books because I've never really been good at reading all the words but I feel more confident now'*** (S1 pupil).

Pupils felt that their enjoyment of reading had also positively changed with one pupil saying '**reciprocal reading has helped me to read more books**' (P4 pupil). Generally, there was an encouraging response regarding Reciprocal Teaching and reference included the creative implementation that teachers had provided including frequent modeling of the strategies as well as characters, actions and props to provide a representation and reminder.



Image © West Dunbartonshire Psychological Service 2014

Teacher Focus Groups

In the first year, staff from pilot schools were involved in focus groups before their introduction to reciprocal teaching through training and peer visits. They also had a follow up focus group once they had implemented the approach. The discussions were centered on the teachers' knowledge, understanding and confidence with teaching reading and the professional dialogue opened up through collegiate working. Many teachers felt that they had a good knowledge and understanding of teaching reading prior to being introduced to reciprocal teaching and this was maintained through the term. Many felt that they had been teaching aspects of reciprocal teaching but the West Dunbartonshire model '**made me a bit more focused,**' provided a coherent approach to comprehension and '**gave a deeper understanding of what skills are involved.**' Teachers were confident about teaching reading to begin with and this was maintained following the introduction of reciprocal teaching. One Renfrewshire teacher felt '**more confident because you know everybody is doing the same thing.**' Many teachers reported that '**pupils had enjoyed**' and engaged in reciprocal teaching lessons and '**it gave poorer children an opportunity to experience harder texts that they wouldn't necessarily be able to read themselves.**' Teachers also found that reciprocal teaching is '**very interdisciplinary**'

and ***'the skills they've learnt, like the summarising, and shared responsibility, is used more often in topic work than anything else so there's shared values.'*** The collegiate approach to sharing reciprocal teaching was well received both from the teachers that were introduced to the approach and those involved in demonstrating and discussing their practice with staff. Peer observations at St Ronan's were useful as one Inverclyde teacher felt ***'it was good to speak to other teachers about what they were doing'*** and another teacher reflected ***'seeing it in action triggered off ideas in my head.'*** Overall, the reciprocal teaching approach has initially been implemented well with a West Dunbartonshire teacher adding ***'it's on my CPD to continue with reciprocal reading next year.'***

In the second year, the pilot primary school staff were involved only in follow up focus groups and discussion considered the impact and implementation of the approach as well as the inter-authority collegiate experience. Following another academic year of implementation teachers felt that impact was more noticeable. Many felt that ***'you're getting more from the children because you see they understand the strategies and are more confident in their reading ability'*** and ***'I've seen a difference in how much more capable they are.'*** Another aspect highlighted was the impact on the most struggling readers in the class with teachers reflecting on a large authority wide assessment carried out with Primary 5 children that ***'I realised they've come a long way because it was the children that were reluctant to read or maybe big passages put them off were able to give it a really good go, I think maybe they now know strategies they weren't as anxious at looking at a big assessment, they did really well, no one was nervous, it's nice to see.'*** Staff have been supported to share their approaches within their school and collegiate time has been important not only for sharing but for staff confidence with one teacher feeling that ***'we're all learning together and we all see the benefits so we're happy.'***



Image © West Dunbartonshire Psychological Service 2014

Secondary Staff

Secondary English teachers introduced the approach to S1 classes in an effort to maintain the success made in primary. Teachers were interviewed to discuss their views of impact and next steps following their initial trial of Reciprocal Teaching. Teachers felt the impact had been noticeable, even after a short time after introducing the approach to their classes with one English teacher commenting '***you can see they really are checking that they understand everything***' and that other improvements as well as reading comprehension had been noticed with one teacher adding '***it's been fascinating the improvement in writing and we didn't expect that.***' Teachers were keen to continue with the approach, '***I have seen a change in a lot of pupils and the benefits and it'll definitely be part of my toolkit from now on***' with Principal Teachers of English from each of the four pilot secondary schools developing plans for sharing the approach at in service sessions with other staff as well as continuing with progressing the model within their own department. The secondary English teachers involved in the pilot enjoyed the business model of sharing practice, '***I think the whole network approach that we've got is hugely positive,***' that it was helpful, '***it's good to hear how other teachers are doing and other departments to get ideas from them***' and that it is valued and will continue beyond the end of the Hub project, '***we don't have a means to share it and see what's working whereas that was a good forum to do that.***'

DISCUSSION

This project aimed to improve pupil reading comprehension and higher order literacy skills through the sharing of best practice across West Dunbartonshire, Inverclyde and Renfrewshire. The West Dunbartonshire model of Reciprocal Teaching demonstrated improvements in reading comprehension and higher order literacy skills and has continued to do so into the second year of research. Through collaborative working and by opening and maintaining a professional dialogue, teacher knowledge, understanding and confidence with teaching reading has improved. These findings are supported through both quantitative and qualitative research.

Engagement with the project was essential throughout from both school staff and other relevant professionals. Due to factors out with the control of the project leads two schools were not included in the evaluation. Dalreoch Primary in West Dunbartonshire had a range of issues including staff absences meaning that the approach and process foundations were not fully operationalised within the school in the second year and so was not included in the evaluation of the second year. Linwood High was the pilot secondary school in Renfrewshire and due to exam pressures and staff availability the model was not implemented with any S1 class and so no qualitative feedback was able to be collected. However, staff were provided with resources and kept up to date with secondary business meetings.

The research has consistently found improvements in reading comprehension and higher order skill development particularly in year two. This may be attributed to the slightly longer period of implementation in the pilot schools with at least two schools now using Reciprocal Teaching twice each week and across the curriculum. Otherwise the pilot schools implemented Reciprocal Teaching once a week.

Limitations of the research design include the lack of a control group. This is due to the initial time frame for research being restricted to 7 months. In real world practice it is also a challenge ethically to assess children in a control group when there is a robust evidence base for the approach both in research literature and locally demonstrated by staff and pupils at St Ronan's Primary. Again, due to the initial time frame for research design and data collection the bespoke measure of reading comprehension, taken from 'Reading Routes' was not piloted with a sample of pupils

prior to implementation. However, the passages and assessments were developed by skilled professionals from West Dunbartonshire and the passages were graded according to readability level and the content was accounted for. The bespoke measure also does not allow the tracking of progress from one year to the next but only provides a within class measure of change. However, this data alongside other reading assessments that are completed across the authority, for example the GL group reading test in West Dunbartonshire allows the monitoring of longitudinal change. When considering effect sizes it is also useful to note that resources involved (Hattie, 2009) may have affected the outcome. Pilot schools were provided with collegiate time, opportunities to observe practice, training and follow up coaching and classroom materials including Reading Routes and the Practitioner's Guide. These aspects of the West Dunbartonshire model may also have influenced the effect size as well as the Reciprocal Teaching approach. The standardised measure of reading comprehension sampled a small number of children. This is because it is an individual assessment and takes time to administer. Reciprocal teaching is a methodology rather than a strict programme and so relies on the skill and enthusiasm of the teacher to regularly implement the approach in a creative manner.

A possible improvement to the training and coaching sessions would be to monitor and track the staff that have been trained. It is challenging to ensure that all teachers had the same exposure to support due to staff changes and student teachers. This is an important point for consideration for each authority as they continue to disseminate particularly as a key aspect of the model is that the whole school is practising the same approach.

COLLABORATIVE WORKING

The West Dunbartonshire, Inverclyde and Renfrewshire Hub model has been successful because it was initially based upon excellent practice from the staff at St Ronan's Primary. Teachers were confident at implementing an effective approach, learners were encouraged and the school was led by a supportive, experienced Head Teacher. This allowed the initial sharing of practice to be well received as teachers were open to observation by other staff from each authority and to collegiate discussion. The initial training sessions were delivered to whole staff groups by Educational Psychologists and staff from St Ronan's. Following this, psychological

service provided inter-authority leadership, organisational support, and resources and disseminated funding. A fundamental aspect of the model was the monitoring and tracking of progress through triangulated research measures both quantitative and qualitative as well as observations in the pilot schools. The continual feedback of the findings either directly to staff or through coaching sessions which directed the next stage of research ensured that progress and staff development was maintained throughout the project.

In West Dunbartonshire, the systematic delivery of Reciprocal Teaching training and whole school implementation is planned and underway and in Inverclyde a core group of professionals including Educational Psychologists and Head Teachers are developing capacity to be able to share the approach within the authority.

The Hub model led to the Reciprocal Teaching approach being shared and implemented well over two academic years, however, the challenge is to maintain the current successes and disseminate the approach within each authority to achieve the overarching aim of improving attainment.

CONCLUSIONS

This project gave a valuable opportunity for experience and practice to be shared across authorities with the aim of improving literacy in three areas of high socio-economic deprivation.

Overall the project has provided further evidence about the effectiveness of Reciprocal Teaching as well as implementation science. Appendix Ten outlines the success criteria for the Hub model linked to the outcomes achieved through this project.



Image © West Dunbartonshire Psychological Service 2014

ACKNOWLEDGEMENTS

West Dunbartonshire Project Team

Shona Crawford	Principal Educational Psychologist
Gary McIlree	Senior Educational Psychologist
Joanna Grieve	Assistant Educational Psychologist
Clare Levens	Head Teacher, St Ronan's Primary School
Georgette Murray	Head Teacher, St Stephen's Primary School
Anne McFarlane	Head Teacher, Carleith Primary School

Partner Authority Project Team

Angela Kennedy	Head Teacher, St Patrick Primary, Inverclyde
Karen McPherson	Educational Psychologist, Inverclyde
Michael Harker	Principal Educational Psychologist, Renfrewshire
Katie McKeon	Acting Principal Teacher, Woodlands Primary, Renfrewshire

REFERENCES

Brooks, G. (2007). *What works for pupils with literacy difficulties? The effectiveness of intervention schemes* (Third Edition) London: DCSF

Chapman, J.W. & Tunmer, W.E. (1995). Development of young children's reading self concepts: An examination of emerging subcomponents and their relationship with reading achievement. *Journal of Educational Psychology*, 81(1), 154-167

Currie, L.A. (1999). *The Thinking Reader: - A Metacognitive Approach to Reading Comprehension*. Learning Enterprises.

Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. *What research has to say about reading instruction*, 3, 205-242.
HMIe (2006). Ensuring Effective Transitions.

Fixsen, D.L., Blasé, K.A., Naoom, S.F. & Wallace, F. (2009). Core Implementation Components. *Research on Social Work Practice*, 19(5), 531-540

Galton, M.J., Gray, J. & Ruddick, J. (1999). *The Impact of School Transitions on Pupils Progress and Attainment*. London, DfEE. Research Report 131. Norwich: HMSO

Gillies, R.M. (2002). The residual effects of cooperative-learning experiences: A two year follow up. *The Journal of Educational Research*, 96 (1), 15-20

Greenway, C. (2002). The process, pitfalls and benefits of implementing a reciprocal teaching intervention to improve the reading comprehension of a group of year 6 pupils. *Educational Psychology in Practice*, 18(2), 113-137

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. (First Edition) Routledge.

Higher Order Skills Excellence Group. (2011). Report for the Cabinet Secretary.

Johnson, D.W. & Johnson, R.T. (1999): Making cooperative learning work. *Theory Into Practice*, 38 (2), 67-73

Marsh, H.W. & Craven, R.G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives. *Perspectives on Psychological Science*, 1, 133-163

Marsh, H.W. & Martin, A.J. (2011). Academic self concept and academic achievement: Relations and causal ordering. *British Journal of Educational Psychology*, 81, 59-77

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Retrieved from <http://www.nichd.nih.gov/publications/nrp/smallbook.html>.

Ness, M. (2011). Explicit reading comprehension instruction in elementary classrooms: Teacher use of reading comprehension strategies, *Journal of Research in Childhood Education*, 25(1), 98-117

Oczkus, L.D. (2010). *Reciprocal Teaching at Work: Powerful strategies and lessons for improving reading comprehension* (2nd ed.). Newark, DE: International Reading Association

OECD (2010), *PISA 2009 Results: Executive Summary*

Palincsar, A.S. and Brown, A.L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, 1, 117–72

Rosenshine, B. and Meister, C. (1994). Fostering literacy learning in supportive contexts. *Review of Educational Research*, 64, 479–530

Schmitt, M.C. (1990). 'A questionnaire to measure children's awareness of strategic reading processes.' *The Reading Teacher*, 43, 454-461

Scottish Government. (2009). Scottish Survey of Achievement, Reading and Writing.

Scottish Government. (2012). Scottish Survey of Literacy and Numeracy (Literacy).

Spörer, N., Brunstein, J.C. & Kieschke, U. (2009). Improving students' reading comprehension skills: Effects of strategy instruction and reciprocal teaching. *Learning and Instruction*, 19, 272-286

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: The development of higher psychological processes*. Harvard university press.

West Dunbartonshire Council. (2007). Reading Routes – A Cross Curricular Approach to Reading

West, P., Sweeting, H. & Young, R. (2010). Transition Matters: Pupils' Experiences of the Primary-Secondary School Transition in the West of Scotland and Consequences for Well-Being and Attainment. *Research Papers in Education*, 25(1), 21-50

APPENDIX 1

Current Status of Reciprocal Teaching and Next Steps in each 'Partner' Authority

West Dunbartonshire

Following initial implementation of Reciprocal Teaching in the first pilot school, Dalreoch Primary, the model was then shared with staff at St Stephen's Primary. They were selected on the basis of having a strong, experienced senior management team within the school, they were willing to engage with the project, able to provide organisational support and implement the approach across the whole school.

Psychological Service initially introduced the approach to staff through a twilight training session which was followed up by peer visits to St Ronan's Primary to observe the positive practice. The implementation science model of ongoing coaching sessions continued with experienced staff from St Ronan's providing a twilight training session to support practice. A small working group of teaching staff took on the role of 'literacy champions' and have enabled the sharing of good practice within the school as well as developing the approach. There is a culture of high expectations of staff and pupils and the sharing of materials and experiences within the school is encouraged leading to a dedicated learning community. Teachers have felt able and supported to try out new methods to introduce the approach, for example one teacher modelled predicting by becoming 'Paula the Predictor' and dressing up as a fortune teller to look into her crystal ball and predict what might happen next in the story. Teachers have developed confidence to find appropriate resources through 'Reading Routes' and novel studies and are sharing within the school as well as creating their own bank of appropriate texts sourced from a variety of media. The Reciprocal Teaching approach was included in the school's improvement plan, the management team observed lessons on a regular basis, there was a focus on the learning and teaching of literacy and pupil progress was monitored through the use of impact measures suggested by Psychological Services.

Secondary staff were introduced to the approach through Psychological Service and were asked to trial the approach initially in the English department. A bespoke training session was provided for English teachers and staff from each of the five secondary

schools have been introduced to the model. Our Lady and St Patrick's Secondary introduced the approach to two first year classes and a small reading group of pupils with additional support needs so that three teachers were implementing the approach. Staff visited St Ronan's Primary to observe and team teach in the upper stages. Following this, they implemented the approach from November 2013 to June 2014. The aim for the next year is to ensure that all English teachers are provided with training to allow for S1 and S2 pupils to using the approach and developing their skills. St Stephen's staff also linked with secondary staff allowing English teachers trialling the approach in St Peter the Apostle Secondary to team teach in upper stages and observe practice. Two English teachers implemented the approach with two S1 classes from December 2013 to June 2014. The department plan to extend the initial pilot into all S1 classes from the beginning of the 2014/15 academic year following a coaching session.

The Principal teacher of English at Vale of Leven Academy linked with the P.E department to implement the approach with a National Four and Five class. This was to help improve the literacy skills of the pupils who were achieving in the practical side of the subject but struggling with understanding the technical terminology and comprehending the requirements for the theoretical exam. The P.E teacher introduced the approach to the class and within six weeks pupils were taking on roles and interrogating fitness research papers from university level. Each of the strategies were linked to characters from Sky Sports to provide a concrete representation of each of the roles.

A positive outcome is that secondary English specialists from across West Dunbartonshire and Inverclyde plan to continue to hold three business meetings across the academic year in an effort to share practice, experience and resources. This will be facilitated by West Dunbartonshire Psychological Service.

The model was shared with education leaders at a business meeting, from this three quarters of primary Head Teachers contacted Psychological Service and expressed an interest in implementing the approach. Training was strategically delivered to schools where they had either made initial steps to implement Reciprocal Teaching or were purposefully targeting the improvement of literacy within the school. **To date 15 primary schools have been trained in Reciprocal Teaching.**

Next Steps

West Dunbartonshire Psychological Service has developed a plan to continue the roll out of the approach into each primary school to raise attainment across the area. West Dunbartonshire Council will fund the continued employment of the Assistant Psychologist and time of a Senior Educational Psychologist with the aim of improving attainment. Progress will be monitored and tracked systematically to ensure the fidelity of the approach. Teachers will continue to be trained and receive follow up coaching sessions in line with implementation science. Development work will extend into building on the initial steps taken at secondary and consider broadening of the approach into the Early Years.

Renfrewshire

The pilot school in Renfrewshire, Woodlands Primary, followed a different model of dissemination and linked with the other school in their cluster. East Fulton Primary staff observed practice at Woodlands and were also provided with 'Reading Routes' material to assist with implementing the approach. The approach was also shared an education leaders meeting with literacy coordinators before Education Officers in Renfrewshire provided support to schools either where there was experience of the approach or due to professional links with Woodlands Primary. These schools included Todholm Primary and Lochfield Primary.

Woodlands and East Fulton are the two primary schools which feed into Linwood High Secondary school. An English specialist from Linwood High observed practice and team teaching at Woodlands Primary.

Inverclyde

The pilot primary school in Inverclyde, St Patrick's, also followed the cluster model of dissemination. The approach was shared by the St Patrick's Head Teacher and an Educational Psychologist at a literacy coordinators and Head Teachers meeting which opened a professional dialogue. The two cluster schools, St Mary's Primary and All Saints Primary, visited St Patrick's to observe and discuss practice. These two new

pilot primary schools have taken initial steps to implement Reciprocal Teaching and materials shared by West Dunbartonshire staff have been passed on to assist practice. Positive feedback from both schools was given to the St Patrick's Head Teacher which included how '***straight forward the implementation***' had been.

The West Dunbartonshire bespoke reading comprehension assessments have been completed by a sample of pupils in both St Mary's Primary and All Saints Primary to continue the monitoring of progress and maintain the ongoing evaluation.

A teacher of English from the link secondary school, Notre Dame High School, began team teaching in the upper stages of primary on a weekly basis from the initial introduction of the approach in Inverclyde. The English specialists from Notre Dame High School developed an action plan for introducing the approach in S1 and trialled the approach in both a higher and lower ability group. The impact has been noticeable so the next step is that the model will be shared with other school staff at an in service session in the next year where teachers will experience how a Reciprocal Teaching lesson flows by taking part in interrogating text. The methodology and data that English staff have collected will be shared. Development work is planned to create a departmental pack for any new teachers to assist with implementing the approach.

Literacy coordinators in Inverclyde plan to share this approach with every primary school in an effort to sustain literacy improvements.

Future Collaboration

The partner authorities have found the sharing of practice a helpful and worthwhile experience. There are plans to continue with the business model of sharing experience and resources for secondary practitioners with dates already scheduled for next year. Developments in Reciprocal Teaching will be shared between West Dunbartonshire and Renfrewshire through the School Improvement Partnership. Finally, there has also been an informal commitment for schools across the three authorities to keep in touch and updated on progress.

APPENDIX 2

Timeline of Progress

July 2012	<ul style="list-style-type: none">• Consultation meetings between three local authorities; Renfrewshire, Inverclyde and West Dunbartonshire
August 2012	<ul style="list-style-type: none">• Literacy model agreed.
September 2012	<ul style="list-style-type: none">• Assistant psychologist began.• Research proposal drawn up in consultation with EPs from three authorities.
October 2012	<ul style="list-style-type: none">• Model for delivery agreed with HTs from participating schools.• CPD for teaching staff from Inverclyde and Renfrewshire.
November 2012	<ul style="list-style-type: none">• English PTs from two secondary schools developing approach for later stages.• Reading Self Concept Scale and baseline comprehension measures issued to schools for pupils in P3 to P7.• Individual standardised comprehension assessment completed by pilot schools.• Collection of baseline data.• Interim report submitted to Scottish Government.
December 2012	<ul style="list-style-type: none">• Teacher focus groups completed by all schools.• Collection of baseline data.
January 2013	<ul style="list-style-type: none">• Further training to staff in Inverclyde and Renfrewshire.• Individual standardised comprehension assessment completed by all schools.• All baseline data collected.
February 2013	<ul style="list-style-type: none">• All trained staff implementing Reciprocal Reading.• Development of training materials.
March 2013	<ul style="list-style-type: none">• Interim teacher questionnaire distributed.• Observations of model implementation at pilot schools.• Interviews with HTs.• Interim report submitted to Scottish Government.

April – September 2013	<ul style="list-style-type: none"> • Training materials under development. • Discussion regarding dissemination through clusters with HTs. • Discussion with Renfrewshire adult literacy team regarding implementation of a compatible approach (CSR). • Collection of follow up data with pupils and staff. • Interim report submitted to Scottish Government.
October 2013	<ul style="list-style-type: none"> • Shared Reciprocal teaching approach with PT English teachers from West Dunbartonshire, Inverclyde and Renfrewshire. • Continued development of training materials.
November – December 2013	<ul style="list-style-type: none"> • Observations by secondary staff in upper stages of feeder primary schools. • Pilot primary schools sharing approach with cluster schools. • Collected baseline assessments from pilot primary schools from each authority. • Implementation of approach in pilot primary and secondary schools. • Twilight coaching sessions to pilot primary school staff.
January – March 2014	<ul style="list-style-type: none"> • Secondary coaching session. • Development of practitioner's guide. • Development of training DVD.
April – May 2014	<ul style="list-style-type: none"> • Collection of follow up data from pilot primary schools • Collection of qualitative data from secondary pilot schools.
June 2014	<ul style="list-style-type: none"> • Evaluation of approach and submission of concluding report to Scottish Government.

APPENDIX 3

Sample of Pages from Practitioner's Guide

The Four Foundations

Foundation	Practical Implementation	Evaluate
Scaffolding	<ul style="list-style-type: none"> • 'I do it, we do it, you do it.' • Pupils see each of the strategies modelled by the teacher before they try it out in a supported environment. • Teacher gradually reduces support as pupils become more competent. • Use of tools such as bookmarks or posters can help with the sharing of responsibility. • Aim is for pupils to be able to use strategies whilst reading independently. 	<ul style="list-style-type: none"> • Have I provided enough opportunities where I have modelled each of the strategies for the pupil? • Have I gradually reduced responsibility by including supported peer practice? • Have I introduced a range of supporting tools? See page 46 for examples.
Think-alouds	<ul style="list-style-type: none"> • 'Watch and listen as I try.' • Pupils see the teacher talking through the process of what they are thinking as they are reading making explicit what good comprehenders implicitly think whilst reading. • Think alouds should be often when introducing reciprocal teaching but also performed at some point in each lesson. • As pupils grow more competent it is helpful to encourage individuals to engage in performing think alouds for a small group. 	<ul style="list-style-type: none"> • Have I provided enough opportunities for pupils to hear me think aloud as I work through a reading strategy? • Did I explicitly model every step I took?
Metacognition	<ul style="list-style-type: none"> • Metacognition is the awareness of what the individual knows and how they apply their knowledge in situations. • Link with think-alouds to share how the use of a strategy has helped understanding and provide pupils with explanations as to why a particular strategy was useful. • As pupils grow more confident encourage them to think about what they did to help them understand. • Aim is for pupils to be aware of their learning, reflect on use of strategies and discuss what was useful to help them understand. 	<ul style="list-style-type: none"> • Did I review what the strategies were and their definitions? • Did I start a discussion about which strategies helped improve understanding of the text? • Did I discuss with pupils why the use of a strategy might help when they were struggling?

The Four Foundations

Cooperative Learning

- Encourage group discussion to deepen understanding of a text.
 - Set mixed ability groups and ensure participation from all pupils.
 - Pupils with literacy difficulties are able to contribute by providing background knowledge, generating questions, leading the group or helping to organise and summarise text.
 - Use of tools such as paper plate dials and bookmarks can be helpful to remind pupils of the strategies.
- Did pupils work independently, in pairs, groups or as a whole class?
 - Did I provide enough opportunities for pupils to discuss strategy use?
 - Did I lead a reciprocal teaching lesson with too many writing tasks?
 - Did I promote and prompt group discussion?
-



Image ©NHS Health Scotland 2011

Starting Reciprocal Teaching – Implementation Guidelines

Step	Process
Step 1: Whole Class Instruction of the Four Strategies	<ul style="list-style-type: none"> • Introduce each of the four strategies separately. • Review the four strategies with the teacher performing think-alouds as they read a piece of text. • Use whole class instruction or groups depending on which format is most suitable for the class. • Display the strategies prominently for example, posters, door charts or bookmarks.
Step 2: Form Groups	<ul style="list-style-type: none"> • Groups should have no more than 5 to 6 pupils. • The groups should be of a mixed ability. • With the exception of behavioural issues or passive participation membership in groups should remain constant until pupils are competent with the strategies. • Once the pupils are confidently employing the strategies, groups can be changed to enrich learning and strategy use.
Step 3: Start Groups	<p>Predicting</p> <ul style="list-style-type: none"> • Teacher introduces text and relates it to other materials covered in the class. • Teacher talks about title, illustrations, what's already been read. • Ask pupils to predict. • Teachers models making predictions and think-aloud the process of predicting. • Encourage pupils to use clues from text and what they already know to predict. • Check if teacher and pupil predictions were correct and change if necessary. <p>Clarifying</p> <ul style="list-style-type: none"> • Groups read the first section of text highlighting or circling any words or sentences they don't understand. • Teacher performs think-alouds to help understanding of a word which pupils have found difficult and models several methods to clarify words, for example, re-reading, breaking the word apart, replacing with another word or discussing with others. • Pupils try to clarify words and ideas with scaffolding from the teacher. <p>Questioning</p> <ul style="list-style-type: none"> • After text has been read, each student generates a question which the group answer. • Teacher should model generating different types of questions and think-aloud the process of questioning. • Questions from one group can be asked to another for answering providing an opportunity for the teacher clarify any misunderstandings.

Starting Reciprocal Teaching – Implementation Guidelines

	Summarising <ul style="list-style-type: none">• Groups then asked to summarise the text.• Teacher should scaffold summarising and think-aloud the process of summarising.• Teacher can ask each group to provide a summary of the text to gauge pupil understanding.• Pupils then asked to predict the next section of text based on what they have read.• The cycle can begin again.
Step 4: Getting Groups to Work Independently	<ul style="list-style-type: none">• Once pupils have gained confidence and proficiency, the gradual release of responsibility through scaffolding should be supported.• Students assume greater control of the reading process.• Strategy use should be supported to become more flexible.• Teacher should focus on why and when students select strategies to use.• The role of the teacher is more of a facilitator working between groups.
Step 5: Incorporating Writing	<ul style="list-style-type: none">• Reciprocal Teaching is a discursive process rather than writing but this can be introduced when pupils are confidently using the strategies.• Learning can be enhanced by asking pupils to write different types of questions or write short summaries.
Step 6: Comprehension Assessment	<ul style="list-style-type: none">• Assess understanding by asking pupils to generate higher order questions or short summaries.• Refer to the assessment tool in this guide, see page 44.

Remember

- ✓ Start at a suitable pace – it will take time
- ✓ It's okay to focus on one or two strategies for a period of time
- ✓ You don't require written evidence from every lesson – video clips and group sheets/grids are evidence too
- ✓ Keep it fresh – look for different extracts to try

Assessing Pupil Progress with Reciprocal Teaching Strategies

Strategy	Developing	Consolidating	Secure
Predicting	<ul style="list-style-type: none"> • Able to make some simple, logical predictions. • Sometimes makes predictions that are not text based and don't make sense. • Sometimes able to apply wider knowledge, prior learning or experience to form predictions. • Sometimes able to use clues from text, title or illustrations. • Sometimes able to give a reason for their prediction. • Starting to use language such as 'I think,' 'I wonder,' or 'It could be.' 	<ul style="list-style-type: none"> • Able to make sensible predictions. • Uses clues from the text, title and illustrations to form predictions. • Bases predictions on their own wider knowledge, prior learning or experience. • Reads on to check prediction and often gives reasons for predictions. • Checks predictions throughout reading and usually confirms or changes it. • Most of the time uses appropriate language when forming predictions. 	<ul style="list-style-type: none"> • Uses clues from text, title or illustrations to form logical, sensible predictions. • Applies own wider knowledge, prior learning or experience to predictions. • Consistently uses appropriate language when forming predictions. • Provides reasoning for predictions. • Able to change or confirm predictions as they read.
Clarifying	<ul style="list-style-type: none"> • Identifies words to clarify. • Identifies ideas/themes to clarify with support. • Uses limited strategies to clarify words/ideas/themes. • Starting to use language such as 'I don't understand' or 'I didn't get.' 	<ul style="list-style-type: none"> • Able to identify words to clarify. • Sometimes able to identify ideas/themes to clarify. • Able to use more than one strategy for clarifying words and ideas such as re-read, read on, use text clues, sound it out, try a similar word. • Able to talk about some appropriate 	<ul style="list-style-type: none"> • Identifies words, ideas and themes to clarify. • Uses a wide variety of appropriate strategies for clarifying and is able to discuss them. • Identifies and clarifies higher order ideas such as metaphors, similes and symbolism.

Assessing Pupil Progress with Reciprocal Teaching Strategies

	strategies for clarifying.		
Questioning	<ul style="list-style-type: none"> • Able to formulate simple literal questions related to the text opening with 'who, what, when, where, why and how.' • Often asks questions about details in the text. • Sometimes asks main idea questions. • Sometimes asks inferential questions. 	<ul style="list-style-type: none"> • Asks several questions including literal, inferential, detail and main idea questions. • Sometimes asks different styles of questions such as multiple choice, true, false, can't tell or underline the correct word. • Provides sensible options when providing a choice. • Asks critical thinking questions. 	<ul style="list-style-type: none"> • Consistently asks a mix of questions including literal, inferential, detail and main idea questions. • Consistently asks different styles of questions with sensible options when providing a choice. • Asks critical thinking questions and encourages group members to provide reasons for their answers. • Asks deeper meaning questions about themes and ideas from the text.
Summarising	<ul style="list-style-type: none"> • Often includes unimportant detail in main idea summaries. • Sometimes puts events in the wrong order. • Often leaves out important details and events. • Needs support to re-read and use clues from text. 	<ul style="list-style-type: none"> • Leaves out unimportant details. • Often retells in their own words sometimes phrases from the text. • Able to order the main points correctly. • Creates logical, thought out summaries. 	<ul style="list-style-type: none"> • Retells in their own words incorporating the use of new vocabulary. • Provides only the most important information. • Creates logical, thought out and ordered summaries. • Able to analyse text through use of headings, main ideas and key facts.

APPENDIX 4

Overview of Training and Coaching Sessions

Pilot Primary School	Initial Training Session	Observation of Practice	Coaching Session	Materials provided by WDC
St Ronan's Primary (WD)			October 2013 January 2014	Reading Routes Commercial Resources Comprehension assessments Practitioner's Guide
St Patrick's Primary (Inv)	November 2012	St Ronan's Primary	February 2013 November 2013	
Woodlands Primary (Ren)	November 2012	St Ronan's Primary	February 2013 November 2013	
Dalreoch Primary (WD)	September 2012	St Ronan's Primary	February 2013 November 2013	
St Stephen's Primary (WD)	August 2013	St Ronan's Primary	October 2013	
Pilot Secondary School	Initial Training Session	Observation of Practice	Coaching Session	Materials Provided by WDC
Our Lady & St Patrick's (WD)	October 2013	St Ronan's Primary	January 2014 May 2014	Reading Routes Comprehension assessments Practitioner's Guide Action Plan
St Peter the Apostle (WD)	October 2013	St Stephen's Primary	January 2014 May 2014	
Vale of Leven Academy (WD)	October 2013		January 2014 May 2014	
Notre Dame High School (Inv)	October 2013	St Patrick's Primary	January 2014 May 2014	
Linwood High (Ren)	October 2013	Woodlands Primary	January 2014 May 2014	

APPENDIX 5

Workforce Development using Reciprocal Teaching in Primary and Secondary

Reciprocal Teaching has a robust evidence base and so is seen as an effective long term intervention. Two experienced practitioners from West Dunbartonshire currently completing their Masters in Educational Studies (MEd) implemented Reciprocal Teaching as part of their action research dissertation. Psychological Services provided support through the sharing of research planning, useful resources and assessment tools.

Case Study: Primary

An experienced teacher from Clydemuir Primary introduced the approach to her primary four class as part of her research into professional practice. The aim was to focus on the improvement of pupil reading comprehension, confidence with reading and engagement with text. A pre- and post- test bespoke measure of reading comprehension, provided by Psychological Service was used to gauge impact. Following five weeks of introducing and modelling the strategies and observations, children engaged in Reciprocal Teaching for two sessions per week, once during their normal Big Reading lesson and once in a more informal learning style to encourage familiarisation with each of the roles. Progress was monitored through a weekly piece of written work and through a 'fish bowl' technique where children modelled the strategies to each other. Children self assessed and peer assessed each week. After twelve weeks from initial introduction, pupils had improved reading comprehension. Table Two demonstrates the pre- and post- test scores for overall reading comprehension scores after 12 weeks.

Table 3. Mean Pre- and post- test scores.

Mean Pre-test Score (%)	Mean Post-test Score (%)	Change (%)
35	57	+22

Focus groups with the children found they felt able and confident to each have a role within their group setting and more able to discuss their ideas with others. The class was observed on six occasions with the focus on pupil engagement and interaction. Pupils were noted to be highly motivated and demonstrated excitement prior to a Reciprocal Teaching lesson due to the introduction of four characters to represent

the strategies. Children were beginning to take ownership for their own learning and were maintaining focus as well as motivating one another. Observations also demonstrated that children maintained eye contact with each other, remained on task and as time progressed there were fewer distractions. Noise in the classroom also decreased as pupils developed an understanding of turn taking. Aside from this, other social skills also improved including increased compliment giving, listening to one another and greater social confidence. The approach has been shared within the school and included on the improvement plan. A training session, for all staff to ensure a whole school approach, is scheduled for the start of the next year.

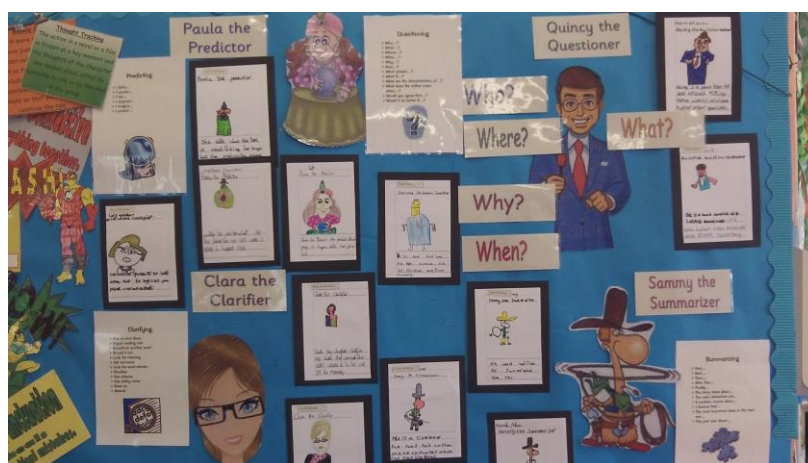


Image © West Dunbartonshire Psychological Service 2014

Case Study: Secondary

In Vale of Leven Academy, the Principal Teacher of English, also completing a Masters in Education, introduced Reciprocal Teaching with a P.E Teacher, into a National four/five P.E class to assist with the demands of theoretical exams and portfolio writing. The aim was to raise attainment and introduce a strategic approach to the teaching of reading comprehension. Following introduction of the approach, each of the strategies were created into characters linked to Sky Sports to provide concrete representations of the roles. Pupils were able to interrogate a university level fitness research paper after six weeks. A previous P.E exam paper was adapted and used as a pre- and post- test measure of impact. This was completed both by a group involved in Reciprocal Teaching and also by a typically taught class not yet exposed to Reciprocal Teaching and was independently scored for both a

P.E response and also literacy. Figure Eight demonstrates the mean pre- and post-test scores for the two groups for both P.E and literacy.

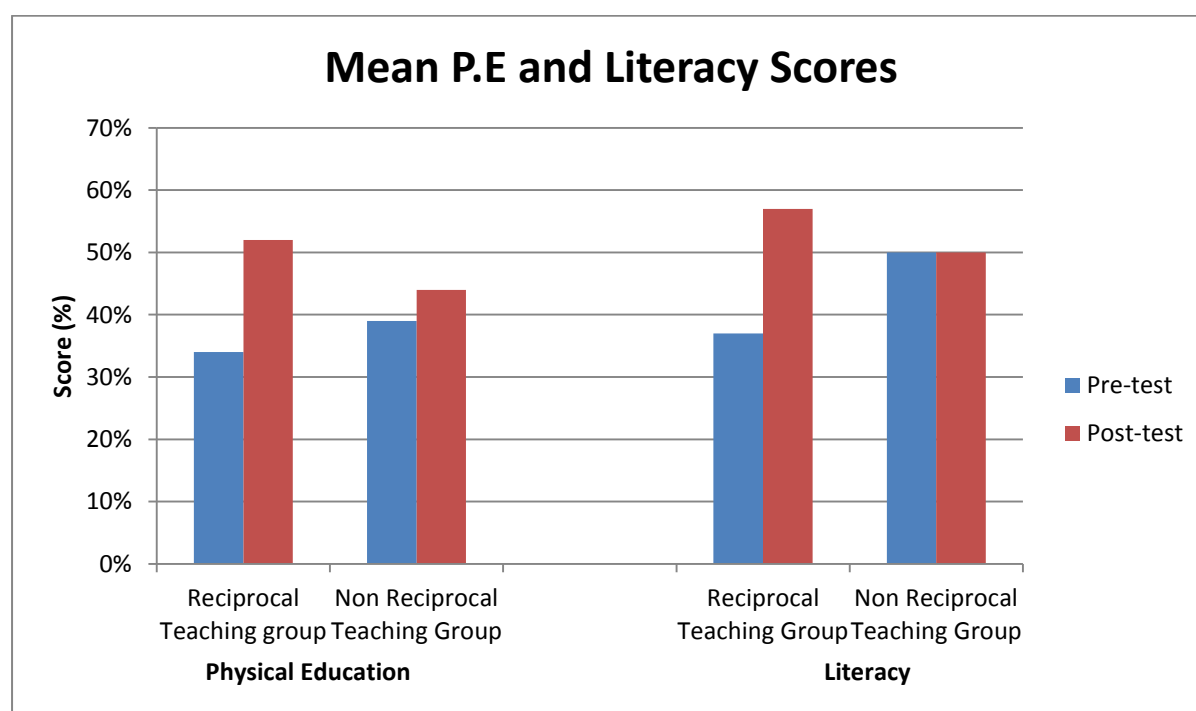


Figure 8. Mean Reciprocal Teaching and Non Reciprocal Teaching Group and P.E and Literacy Scores.

As well as the Reciprocal Teaching group improving both their P.E response and their literacy response, it was reported they are more able to break down and understand a text, they had improved handwriting and spelling and more structured responses. Pupils felt that their vocabulary, knowledge of reading strategies and understanding had improved and found the structure beneficial for their learning. Importantly, they reported that the personality of the teacher and the ability to motivate the class was significant to the success of the approach. Pupils also felt more able to talk in groups, read aloud without embarrassment and take leadership. They also highlighted the transferability of the approach into subjects such as modern languages, social subjects and science. Teacher questionnaires found that pupil literacy and attainment had improved, that pupils were more engaged in learning and that they are more likely to use the approach with other classes. Feedback also included that practitioner's skills had developed and had enjoyed Reciprocal Teaching. Alongside the growth mindset embedded at Vale of Leven

Academy, teachers felt that Reciprocal Teaching provides practical, structured skills for pupils. The findings will be shared at a staff inservice in the new term with the plan to ensure that all pupils in the English department will be involved in Reciprocal Teaching and to develop the approach for other practical subjects initially.

APPENDIX 6

Adult Literacy in Renfrewshire

Summary of Interview with Community Learning Officer

The first group of young people introduced to reciprocal teaching consisted of 4 participants aged 16 to 24 years old. The group met on Mondays for 4 weeks with each literacy session lasting 2 ½ hours. The participants were referred to the group with the aim of increasing employability by improving literacy and building transferable skills. The participants remained with the group until the course was complete or they found employment or voluntary work.

Sessions began with the modelling of each of the roles and then the group members adopted the roles in turn. Short extracts were used which consisted of fiction and non fiction text. One particularly successful text had been taken from the internet, the group worked cooperatively to predict, clarify, summarise and question before finding out that the passage was untrue. This helped them to move onto newspaper articles and identify persuasive arguments. In turn, this led to continued engagement and interest in their learning.

Other positive outcomes included the development of critical reading, flexible learning and supportive attitudes when working cooperatively. Confidence also improved through reflections with the participants it was also found that some had been using the skills at home when reading stories with their children. One participant felt that she had already been using some of the skills when reading but that the programme had made it clearer for her.

The community learning team will continue to use a reciprocal teaching approach (collaborative strategic reading). Despite initial facilitator wariness regarding the model, she felt it had been successful and that it sits alongside other methods which they use to improve literacy with the group members. They have also started to use reciprocal teaching with students in the transition period from a secondary school in the local authority.

APPENDIX 7
Formal Research Proposal

Research Title	Literacy Hub/Consortia-based approaches to Improving Literacy Outcomes
Name, address and contact details of researchers	<p>Project Lead Shona Crawford, Principal Educational Psychologist, Psychology Service, West Dunbartonshire Council 01389 800 491 shona.crawford@west-dunbarton.gov.uk</p> <p>Research Lead Gary McIlree, Senior Educational Psychologist, Psychology Service, West Dunbartonshire Council 01389 800 491 gary.mcilree@west-dunbarton.gov.uk</p> <p>Karen McPherson, Educational Psychologist, Psychology Service, Inverclyde Council 01475 715 430 karen.mcpherson@inverclyde.gov.uk</p> <p>Michael Harker, Principal Educational Psychologist, Psychology Service, Renfrewshire Council 0141 840 8900 michael.harker@renfrewshire.gsx.gov.uk</p> <p>Joanna Grieve, Assistant Psychologist, Psychology Service, West Dunbartonshire Council 01389 800 491 joanna.grieve@west-dunbarton.gov.uk</p>
Research summary	<p>West Dunbartonshire Council, Renfrewshire and Inverclyde are comparative authorities in terms of socio-economic status and have shared and implemented the West Dunbartonshire model of Reciprocal Teaching. The improvement of literacy has always been essential to the educational process and the Curriculum for Excellence has a core principal of 'literacy across learning' which is a central value to the Reading Routes materials developed by West Dunbartonshire. Reciprocal Teaching is an approach which has been used across pilot schools to develop the learning and teaching of higher order literacy skills. St Ronan's Primary in West Dunbartonshire developed the approach, trained staff and improved children's reading comprehension skills using the approach. The use of Reading Routes helped to share the approach and assisted in developing children's comprehension skills and increased collegiality across the three authorities. The approach was also shared with secondary English staff to help provide coherent and structured learning and teaching across the transition into secondary.</p>
Proposed start date and completion date	<p>September 2012 June 2014</p>

Details of organisational support	Organisational support for this project will be provided by the Educational Psychology Service, West Dunbartonshire Council.
Details of any co-funding	Funding provided by the Scottish Government.
Research proposal	<p>Background</p> <p>Reciprocal Teaching, developed by Palincsar and Brown (1984), is a dialogue based framework, instructional approach to reading and has an extensive evidence base documenting its effectiveness in developing reading comprehension skills (Rosenshine & Meister, 1994). Four comprehension strategies are introduced, prediction, clarifying words and ideas, question generation and summarising. These functions are used as 'comprehension fostering and comprehension monitoring activities' (Palincsar & Brown, 1984). Modelling and scaffolding by the teacher can lead to developments in literacy skills, specifically comprehension (Rosenshine, Meister & Chapman, 1996). Research suggests that there is an attainment 'dip' across the transition between primary and secondary (Gatlon et al., 1999; West et al., 2010) and that it is challenging to maintain the success and improvements made in early stages (HMIe, 2006).</p> <p>Research Outline</p> <p><i>Aim</i></p> <p>The aim of the initiative is to improve reading comprehension in young people as well as their metacognitive awareness and confidence in reading and that staff skills are enhanced and shared across three local authorities.</p> <p><i>Objectives</i></p> <p>The research will:</p> <ol style="list-style-type: none"> 1. Outline the relevant research findings of the implementation of Reciprocal Teaching from the pilot primary and secondary schools. 2. Deliver training to staff across pilot schools from each local authority. 3. Continue to share practice through visits between schools to observe Reciprocal Teaching lessons and through the development of a practitioner's guide and training DVD. 4. Monitor the improvement in higher order reading skills in young people. 5. Develop the approach in secondary. 6. Allow reflective practice from teaching professionals.

Participants

One school from each local authority will continue to share implement the West Dunbartonshire model of Reciprocal Teaching and the trained staff will receive further input. Secondary staff from each authority will be introduced to the approach and trial it with S1 English classes. Children from P3 to S1 will be involved in the project.

Method

Each council identified one primary school to be the pilot school to develop reciprocal teaching which is now being implemented. The staff from these schools will receive further training to facilitate discussion about reciprocal teaching as a coaching session in line with implementation science.

The main aim of this initiative is to improve reading comprehension in children and young people. To gauge this, a pre- and post- test measure of reading comprehension will be sampled. Each child from P3 to P7 will complete an appropriate reading comprehension assessment developed or directly taken from the Reading Routes material. This will demonstrate an improvement in higher order literacy skills including understanding, analysis and evaluation. To support this, a standardised test will also be used. The York Assessment of Reading for Comprehension (YARC) will be completed by a sample of children from each pilot school both pre- and post- test. These impact measures were used in the first evaluation and found to be useful.

The Metacomprehension Strategy Index (MSI) will be used with all children from P3 to P7 as a pre- and post- test measure. This will show the metacognitive awareness of the pupils and demonstrate their understanding of appropriate strategy use focusing on predicting, questioning, activating background knowledge and summarising.

Collaborative discussions with teachers from all schools involved with the approach will be a qualitative measure. Teachers will be provided with a list of structured questions to be considered before coaching sessions. This discussion will centre on what key actions leading to gains in pupil comprehension, implementation issues and parental engagement. This will inform evaluation frameworks which will feature in the practitioners guide as well as support practice within the school. Follow up teacher focus groups will consider the impact of the approach, collegiate working and the sustainability of the approach within their own authority.

Pupil focus groups with a sample of children from P3 to P7 will gauge opinions on aspects of reciprocal teaching including cooperative learning, strategy use and enjoyment. This will be a follow up measure.

The assistant psychologist shall observe the reciprocal teaching lessons in action and focus on the children's use of the four strategies ensuring implementation fidelity.

The transition into secondary will focus on English teacher's observing practice at link primary schools before trialling the approach with pupils at S1 stage. Qualitative data from pupils and interviews with class teachers will be collected to find whether the approach had an impact on the pupils' comprehension, development of skills across the curriculum, confidence with reading and suitability of the approach in secondary.

These measures will provide qualitative and quantitative data regarding children's comprehension and opinion of reciprocal teaching, teacher views of the approach and what they felt was successful for a report to the Scottish Government in June 2014.

Roles and Responsibilities

The support, training and coaching of staff in the three pilot primary schools will be provided by the Head Teacher of St Ronan's Primary and Psychological Service in West Dunbartonshire. The schools and trained teachers will be responsible for the ongoing implementation of reciprocal teaching and sharing of approach throughout own local authority to other schools, both primary and secondary. The senior educational psychologist (GM) from West Dunbartonshire and the assistant psychologist (JG) will be responsible for the measures used, collection of data, evaluation and production of report for the Scottish Government.

Planned Outputs

Evidence base summary paper.
Report to the Scottish Government.
Reciprocal Teaching Practitioner's Guide
Training DVD

Ethical issues and data protection issues

General ethical points that are relevant:

1. The approach will be carried out by school staff not an EP.
2. Individual implementation variations may arise.

Proposed Project Timescale

Sept 2012	<ul style="list-style-type: none"> • Selection of 3 pilot schools
Oct 2012	<ul style="list-style-type: none"> • Training for 3 selected pilot schools • Observations and baseline assessments
Nov 2012	<ul style="list-style-type: none"> • Interim report to Scottish Government
Nov 2012 to Feb 2013	<ul style="list-style-type: none"> • Project implementation
March 2013	<ul style="list-style-type: none"> • Interim report to Scottish Government
April 2013 to Aug 2013	<ul style="list-style-type: none"> • Project implementation, data collection, evaluation
Sept 2013	<ul style="list-style-type: none"> • Interim report to Scottish Government • Baseline assessments
Oct 2013 to Feb 2014	<ul style="list-style-type: none"> • Project implementation • Training and coaching sessions at primary and secondary • Development of practitioner's guide and training DVD
March 2014	<ul style="list-style-type: none"> • Interim report to Scottish Government
April 2014 to May 2014	<ul style="list-style-type: none"> • Project implementation, data collection
June 2014	<ul style="list-style-type: none"> • Concluding evaluation • Report to Scottish Government

Potential Risks

Lack of uptake by schools
Implementation fidelity issues
Time constraints

APPENDIX 8

Metacomprehension Strategy Index

Instructions: Think about what kinds of things you can do to help you understand a story better before, during and after you read it. Read each of the lists of four statements and decide which one of them would help you the most.

Circle the letter of the statement you choose.

In each set of four, choose the *one* statement which tells a good thing to do to help you understand a story better *before* you read it.

1. Before I begin reading, it's a good idea to:
 - A. See how many pages are in the story.
 - B. Look up all of the big words in the dictionary.
 - C. Make some guesses about what I think will happen in the story.
 - D. Think about what has happened so far in the story.
2. Before I begin reading it's a good idea to:
 - A. Look at the pictures to see what the story is about.
 - B. Decide how long it will take me to read the story.
 - C. Sound out the words I don't know.
 - D. Check to see if the story is making sense.
3. Before I begin reading, it's a good idea to:
 - A. Ask someone to read the story to me.
 - B. Read the title to see what the story is about.
 - C. Check to see if most of the words have long or short vowels in them.
 - D. Check to see if the pictures are in order and make sense.
4. Before I begin reading, it's a good idea to:
 - A. Check to see that no page are missing.
 - B. Make a list of words I'm not sure about.
 - C. Use the title and pictures to help me make guesses about what will happen in the story.
 - D. Read the last sentence so I will know how the story ends.
5. Before I begin reading, it's a good idea to:
 - A. Decide on why I am going to read the story.
 - B. Use the difficult words to help me make guesses about what will happen in the story.
 - C. Re-read some parts to see if I can figure out what is happening if things aren't making sense.
 - D. Ask for help with the difficult words.

6. Before I begin reading, it's a good idea to:
- A. Re-tell all of the main points that have happened so far.
 - B. Ask myself questions that I would like to have answered in the story.
 - C. Think about the meanings of the words which have more than one meaning.
 - D. Look through the story so far to find all of the words with three of more syllables.
7. Before I begin reading, it's a good idea to:
- A. Check to see if I have read this story before.
 - B. Use my questions and guesses as a reason for reading the story.
 - C. Make sure I can pronounce all of the words before I start.
 - D. Think of a better title for the story.
8. Before I begin reading, it's a good idea to:
- A. Think of what I already know about the things I see in the pictures.
 - B. See how many pages are in the story.
 - C. Choose the best part of the story to read again.
 - D. Read the story aloud to someone.
9. Before I begin reading, it's a good idea to:
- A. Practice reading the story aloud.
 - B. Re-tell all of the main points to make sure I can remember the story.
 - C. Think of what the people in the story might be like.
 - D. Decide if I have enough time to read the story.
10. Before I begin reading, it's a good idea to:
- A. Check to see if I am understanding the story so far.
 - B. Check to see if the words have more than one meaning.
 - C. Think about where the story might be taking place.
 - D. List all of the important details.

In each set of four, choose the *one* statement which tells a good thing to do to help you understand a story better *while* you are reading it.

11. While I'm reading, it's a good idea to:
- A. Read the story very slowly so that I will not miss any important parts.
 - B. Read the title to see what the story is about.
 - C. Check to see if the pictures have anything missing.
 - D. Check to see if the story is making sense by seeing if I can tell what's happened so far.

12. While I'm reading, it's a good idea to:
- A. Stop to re-tell the main points to see if I am understanding what has happened so far.
 - B. Read the story quickly so that I can find out what happened.
 - C. Read only the beginning and the end of the story to find out what it is about.
 - D. Skip the parts that are too difficult for me.
13. While I'm reading, it's a good idea to:
- A. Look all of the big words up in the dictionary.
 - B. Put the book away and find another one if things aren't making sense.
 - C. Keep thinking about the title and the pictures to help me decide what is going to happen next.
 - D. Keep track of how many pages I have left read.
14. While I'm reading, it's a good idea to:
- A. Keep track of how long it is taking me to read the story.
 - B. Check to see if I can answer any of the questions I asked before I started reading.
 - C. Read the title to see what the story is going to be about.
 - D. Add the missing details to the pictures.
15. While I'm reading, it's a good idea to:
- A. Have someone read the story aloud to me.
 - B. Keep track of how many pages I have read.
 - C. List the story's main character.
 - D. Check to see if my guesses are right or wrong.
16. While I'm reading, it's a good idea to:
- A. Check to see that the characters are real.
 - B. Make a lot of guesses about what is going to happen next.
 - C. Not look at the pictures because they might confuse me.
 - D. Read the story aloud to someone.
17. While I'm reading, it's a good idea to:
- A. Try to answer the questions I asked myself.
 - B. Try not to confuse what I already know with that I'm reading about.
 - C. Read the story silently.
 - D. Check to see if I am saying the new vocabulary words correctly.

18. While I'm reading, it's a good idea to:
- A. Try to see if my guesses are going to be right or wrong.
 - B. Re-read to be sure I haven't missed any of the words.
 - C. Decide on why I am reading the story.
 - D. List what happened first, second, third, and so on.
19. While I'm reading, it's a good idea to:
- A. See if I can recognise the new vocabulary words.
 - B. Be careful not to skip any parts of the story.
 - C. Check to see how many of the words I already know.
 - D. Keep thinking of what I already know about the things and ideas in the story to help me decide what is going to happen.
20. While I'm reading, it's a good idea to:
- A. Re-read some parts or read ahead to see if I can figure out what is happening if things aren't making sense.
 - B. Take my time reading so that I can be sure I understand what is happening.
 - C. Change the ending so that it makes sense.
 - D. Check to see if there are enough pictures to help make the story ideas clear

In each set of four, choose the *one* statement which tells a good thing to do to help you understand a story better *after* you have read it.

21. After I've read a story it's a good idea to:
- A. Count how many pages I read with no mistakes.
 - B. Check to see if there were enough pictures.
 - C. Check to see if I met my purpose for reading the story.
 - D. Underline the causes and effects.
22. After I've read a story it's a good idea to:
- A. Underline the main idea.
 - B. Re-tell the main points of the whole story so that I can check to see if I understood it.
 - C. Read the story again to be sure I said all of the words right.
 - D. Practise reading the story aloud.
23. After I've read a story it's a good idea to:
- A. Read the title and look over the story to see what it is about.
 - B. Check to see if I skipped any of the vocabulary words.
 - C. Think about what made me make good or bad predictions.
 - D. Make a guess about what will happen in the next story.

24. After I've read a story it's a good idea to:
- A. Look up all of the big words in the dictionary.
 - B. Read the best parts aloud.
 - C. Have someone read the story aloud to me.
 - D. Think about how the story was like things I already knew about before I started reading.
25. After I've read a story it's a good idea to:
- A. Think about how I would have acted if I were the main character in the story.
 - B. Practise reading the story silently for practice of good reading.
 - C. Look over the story title and pictures to see what will happen.
 - D. Make a list of things I understood the most.

APPENDIX 9

Pupil and Teacher Focus Group Schedules

Pupil Focus Group Schedule

Pupil experience of Reciprocal Teaching

Introduction (recap on procedure of focus group and purpose of discussion)

Questions (used in all groups)

1. What do you think about Reciprocal Teaching?
2. In what ways has Reciprocal Teaching been helpful or unhelpful?
3. How often have you been doing Reciprocal Teaching each week?
4. How is it different to the reading you did before?
5. Apart from the four strategies, what else have you been learning?
6. What do you do if you get stuck when reading?
7. Have you used any of the strategies other than when in your group?
8. How confident do you feel reading?
9. Has this changed since you started Reciprocal Teaching?
10. Do you think your understanding has got changed?

Supplementary questions (used in some groups time permitting)

11. How do you feel about working in a group?
12. How do you feel about each having a role in your groups?
13. Has your enjoyment of reading changed?

Conclusion (summary, thanks and debriefing)

Teacher experience of Reciprocal Teaching – Second session follow up

Introduction (recap on purpose of project and procedure)

Questions (used in all groups)

Key aspects of RT

1. What are the key actions of the Reciprocal Teaching approach that you feel have led to improved comprehension in your pupils?
2. What are the core components of Reciprocal Teaching that every teacher throughout the school should be implementing?
3. With regards to Reciprocal Teaching, what do you think has worked well in your school?

Implementation

4. Have you faced any issues regarding the implementation of the approach and if so, what have they been and how did you overcome them as a Class Teacher and as a school?
5. If any, what alterations to the approach have you made?
6. Have you implemented the approach across the curriculum, if so in what areas?
7. Have you seen evidence of your pupils independently using the skills they have learned?
8. What advice would you give teachers as they are starting out with the approach?
9. What are you aware of now that you were not when you first started implementing the approach?
10. After all staff have been implementing the same approach to teaching reading for two school years, has this impacted on your professional dialogue/collegiate time/sharing of practice/openness?

Collegiate working

11. Have you continued with collegiate time to discuss Reciprocal Teaching and if so what form has this taken?
12. Do you have plans to share the model you have developed within the school with others within your own authority and if so what plans have been made to sustain the sharing of practice?
13. Following the end of the literacy hub project, do you think you will maintain a professional dialogue with colleagues from other authorities?

Supplementary questions (used in some groups, time permitting)

Parental Engagement

14. Have you had any feedback/questions from parents, if so what was it?
15. What approaches have you used to engage parents?
16. What information would be useful to provide to parents about Reciprocal Teaching when it is introduced to their child?

Conclusion (summary, thanks and debriefing)

APPENDIX 10

Schedule One Literacy Hub Success Criteria

1. A sustained approach to improving literacy from early years through to the senior phase and beyond.
2. A focus on constantly striving to raise the bar in terms of what young people can achieve.
3. Early identification, monitoring/tracking and interventions where and when any literacy difficulties become apparent, and the key role of Educational Psychology Services in this area.
4. More personalisation and targeted support for individual and small groups of children in danger of under-achieving.
5. An approach to CPD/professional learning and development which focuses on sharing innovative practice and achieving a shared understanding of standards.
6. Evaluation, including effective self-evaluation practices.
7. Leadership and commitment at every level, including through distributed models of leadership that encourage and nurture effective leadership qualities at all levels.

Literacy Project	Included Criteria	Evidence
Reciprocal Teaching	1. Sustained approach	Similar teaching and learning experiences from P1 to P7 and across the transition into secondary using a common structured language. Efforts by each local authority to disseminate the approach throughout primary and secondary schools and initial concepts introduced at adult literacy groups.
	2. Raising the bar	Promoting the development of higher order literacy skills particularly focusing on understanding, analysis and evaluation skills which can be used across the curriculum. Supporting the improvement in metacognitive awareness to encourage strategic thinking.
	3. Monitoring and tracking of interventions	Research measures considering impact used to collect baseline and follow up data across two school years. Data from the first year influencing the collection of data from the second year and ensuring a triangulation of quantitative and qualitative data. Results were analysed and used to inform training and coaching sessions in turn, leading to informed practice.
	4. Targeted support	All children receiving intervention but can be used with a whole class and small groups of children. Reciprocal Teaching approach is particularly effective at improving reading comprehension of those pupils struggling the

		most. Improving vocabulary, accuracy and reading rate led to an overall increase in comprehension for children at all levels.
	5. Sharing innovative practice	Partnership authorities linked with WDC staff to observe lessons, share materials and resources and receive coaching sessions from experienced staff. Opening a professional dialogue and promoting collegiate working as well as creating a learning community both within and across authorities.
	6. Evaluation	Ongoing data analysis and feedback from staff as well as providing four interim evaluations (Nov 2012, March 2013, Sept 2013, March 2014) and overall concluding evaluation (June 2014) of the approach by West Dunbartonshire Psychological Services. Collection of data scrutinised to inform practice and coaching sessions for pilot schools, highlighting areas of success and development.
	7. Leadership	Leadership developed at all levels as HTs leads the whole school approach, CTs share the approach within their own authorities and begin to provide coaching sessions and pupils develop leadership skills through the model Reciprocal Teaching.