

Tailored Specialist Intervention and its impact upon Engagement and Learning Behaviour in School Children

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Abstract

The Covid-19 pandemic of 2020-21 has had a major impact on teaching and learning worldwide. In response to the substantial reduction in teaching hours and learning for many pupils, the National Tutoring Programme was launched. Within this programme, the Professional Tutoring Partnership (PTP) was formed, where major membership bodies worked collaboratively to form a collective of specialist teachers, professionals with specific training at Level 7 in teaching literacy. These specialists then worked within schools, delivering tuition underpinned by specific principles around enhancing metacognition. The aim was to upskill pupils with lifelong learning techniques and in so doing, impact upon their learning in the long term. As part of this programme, the PTP was keen to evaluate this process and so engagement with learning was measured with a pupil questionnaire before and after intervention and additionally, pupil learning behaviours were measured by tutors throughout the intervention period. Qualitative data was also recorded throughout, via mentor-tutor communication, lesson detail and post session reflection as well as the observation of a visit to see PTP tutoring in action. The evaluation of this programme suggests that there is a significant enhancement of school engagement in response to PTP tutor provision, as well as improved learning behaviour and that these changes occur for pupils with and without SEND and changes can be observed regardless of whether they are delivered in a group or under one-to-one conditions. These enhancements in learning are supported by qualitative information that enriches the account of this programme. This report is an account of the evaluation of this programme, providing the opportunity for others to consider the implementation of similar metacognitive teaching strategies delivered by specialist practitioners.

Introduction

Impact of Covid-19

The Education Endowment Fund (EEF) published *The Impact of COVID-19 on Learning: A review of the evidence* in May 2022.

The key findings were as follows:

- COVID-19-related disruption has negatively impacted the attainment of all pupils, particularly those from disadvantaged backgrounds.
- There is evidence that the attainment gap between disadvantaged students and their classmates has grown.
- There is some evidence that in primary schools, younger year groups (Key Stage 1 pupils) have been the most significantly affected, with lower attainment than previous cohorts across all subjects. Other recent research shows particularly negative impacts for pupils in KS3 (DfE, 2021, 2022).
- Most evidence shows that despite some recovery by summer 2021, on average pupils were not performing as well in both maths and reading as pre-pandemic cohorts.
- Aside from the impact on attainment, which this report focuses on, teachers have frequently reported concerns around the effect on pupil wellbeing. There is also emerging evidence that suggests the pandemic has negatively impacted children's mental health.

Formation of Professional Tutoring Partnership

The UK Government launched an initiative called The National Tutoring Programme in response to the pandemic of 20-21 in November 2020. Its purpose was to mitigate the impact of school closures by providing schools with access to heavily subsidised, high-quality, one-to-one and small group tutoring from a selection of approved tuition partners. In response to this initiative, The Professional Tutoring Partnership was formed from the following key professional bodies and charities:

- Real Group
- The Dyslexia Guild
- Professional Association for Teachers of Students with Specific Learning Difficulties (PATOSS)
- British Dyslexia Association (BDA)
- Helen Arkell Dyslexia Charity

These organisations came together to design a tutoring programme that captured core principles underpinning the Professional Tutoring Partnerships (PTP) considered approach to the challenge. Members of these organisations have been trained to deliver specialist teaching which usually consists of structured, cumulative and multisensory practices. Such practitioners have extensive knowledge and training around effective teaching of literacy and related subjects to young people with dyslexia and other challenged readers. Tutors were recruited to deliver high quality tuition, whilst being supported by a jointly developed programme of initial training around an adopted teaching approach (Appendix 1), expert advice from allocated mentors and a forum for communication. The aim was to offer the expertise that these tutors could provide to pupils for whom school closure was likely to have resulted in the anticipated need for extra tuition. The pupils receiving the tuition were

selected by interested schools and the intention was to give each pupil a series of 15 sessions of specialist intervention based on their individual needs and tailored around the twelve principles of the PTP programme. These were exemplified in a Core Package which is outlined in Appendix 1. The emphasis within the Core Package is on building a nuanced understanding of metacognition in learners, whilst unpacking the sub-processes involved. It is important to note that most specialist teachers will already have had an understanding of these principles as some aspects of these are well understood and utilised within tutor training programmes. The tuition framework had to be relatively flexible in terms of how it could be used, as a range of curricular topics and content were to be used to support the development of life-long learning skills. As well as addressing gaps in pupils' learning, this approach was expected to provide long lasting skill sets, some of which have been shown to increase learning in the long term, particularly for low socio-economic status (SES) pupils (de Boer et al, 2018). This was evaluated as described below.

Quality assurance of taught sessions

Quality assurance was established at the outset of the delivery of taught sessions. The purpose was to uphold scrutiny by the National Tutoring Programme (NTP). This ensured the integrity of tutoring sessions delivered by the Professional Tutoring Partnership (PTP) through a framework of internal verification. Mentors were engaged, who oversaw the tutors' teaching progress. All sessions were documented via an on-line tuition tracker which helped manage the logistics of the process as well as allowing an overview of sessions and the uploading of lesson plans to be dip-sampled. Mentors held an individual meeting with tutors near the beginning of their tutoring to ascertain their planning intention. Each tutor then had sessions 2, 6 and 14 selected for specific feedback from their mentor with 10% then dip sampled by a different mentor as part of the quality assurance process. Mentors were given guidance in how to monitor their tutors' progress and used the following checklist in their supervision of their bank of tutors:

- Check that required data has been highlighted as uploaded to the Tuition Tracker by the tutor
- Check that the overall summary section has been completed by the tutor
- If further reflections and/or notes are/aren't included, has the mentor commented?
- Check that comments are given on the highlighted Features of Support Provision
- Check that comment has been made on the Session Outline and reinforcement made of the links to the 12 Principles
- Check that feedback to the tutor has been constructive and developmental if necessary
- Check that tutor has responded to the feedback
- Confer that standards are being maintained

No restrictions were made on the content or resources individual tutors selected for sessions with their tutees. Tutors varied in their initial confidence with the teaching principles outlined in the training (defined in Appendix 1), but the provision of mentors alongside the PTP forums and generous sharing of ideas between tutors enabled all those involved to utilise the agreed teaching approach. Access to the training modules could be revisited at any time and regular interactions were offered online or by phone between mentors and tutors. Online

sessions to report on the progress of the project and to share observations and feedback were well attended by tutors. As tutoring progressed, tutors were encouraged to upload ideas and resources to the shared Moodle platform. Mentors ensured regular signposting of materials, academic articles and specific resources from the Educational Endowment Fund (EEF) that potentially added to the richness of the interactions between tutors and their tutees.

The final dip- sampling policy provided clear guidance to the mentors, the PTP lead and professional partners (Patoss, HADC, BDA and Dyslexia Action and The Guild). The process was intended to be open, fair, and free from bias and it addressed the basic principles of authenticity, validity and sufficiency in relation to expectations set out by the NTP.

Training: Alongside mandatory safeguarding and General Data Protection Regulation (GDPR) training presented on Moodle, every tutor was required to undertake online learning to show their understanding of the twelve principles of metacognitive teaching (Appendix 1). Short written responses were required, and these were subsequently posted on to the Moodle Forum to stimulate the sharing of opinions and reflections. Mentors monitored the varied and thought-provoking comments and each tutor received individual feedback.

The reason for a focus on a research-based approach for tuition is captured by a guide on the use of evidence produced during the creation of the Economic and Social Research Council (ESRC) UK Centre for Evidence Based Policy in the early 2000s:

“When we refer to ‘research evidence’, this includes evidence from published research articles and papers, or unpublished sources such as internally conducted evaluations. Research is only one sort of evidence, but has the advantages of greater rigour, relevance and independence when compared to some other types of evidence.”

The induction to the programme, whilst fully supported, required a high level of prior knowledge and experience commensurate with the qualifications of the professionals involved. Whilst tuition was built around established principles, outlined in the tutor training provision, it was important for tutors to understand their role in evidencing the impact when following the approach. This was promoted and seen as an ideal opportunity to gather information that could confirm that the PTP tuition principles (Appendix 1) are helpful to pupils.

The evaluation of our intervention

Because the tuition was planned around established principles and outlined in the tutor training provision, we aimed to evidence the impact that we expected tutors to have when following this approach.

Outcome measure 1: Engagement in Learning

We focussed upon engagement in learning as this is understood to be the gateway to successful learning experiences and can be the beginning of a long lasting and positive relationship with education (Shernof et al, 2017). We asked the pupils to independently describe their current engagement using a questionnaire before the first session and also at the end of the last tutoring session to capture any changes in this variable over the course of the tutoring period. This questionnaire was adapted from an existing published 20 item

questionnaire, Students' Engagement in School Four Dimensional Scale (SES-DS4) (Veiga, 2016) (see Appendix 2 for adapted questionnaire). We reduced the number of items to eight items to enhance the likelihood that children would be able to manage this independently and we also eliminated items that did not seem suitable for primary school children. Originally, we had an extended version for secondary school pupils but given the very small numbers of young people requested by their schools for tutoring in Key Stages 3 and 4 we decided to analyse responses from the brief eight-item questionnaire on all pupils regardless of their age.

Outcome Measure 2: Metacognition and Learning Behaviour

We also developed brief scales for tutors to use to evaluate pupils' progress in terms of their metacognition (with ratings of 1-7) and also their changes in learning behaviour and thinking styles throughout the whole set of sessions (with ratings of 1-4). These learning behaviour scales evaluated pupils' tendency to:

- persevere with activities
- display curiosity
- display enjoyment of learning
- demonstrate anticipatory thoughts

This data was collected after each session and the scales are described in more detail in Appendix 3.

The adapted SES-DS4 questionnaire was evaluated for its internal consistency and shown to be good (Cronbach Alpha=.724 and .802 for pre and post measures respectively). Additionally, both pre and post scores for the engagement questionnaire were shown to be normally distributed (skewness values are .25 and -.07 respectively and therefore lie between -.5 and +.5 suggesting that distribution is normal). Kurtosis levels suggest that the distribution is typically peaked, as values are -.12 and -.54 for pre and post measures respectively and so lie between -1 and +1, (Tavakol and Dennick (2011)).

The learning behaviour measures were tested for their internal consistency and shown to be good, with Cronbach Alphas in the range of .8 and but with somewhat higher levels of skewness and kurtosis for a few of the learning behaviour ratings but mostly within the acceptable range.

We also gathered information on pupil status including:

including their age, gender, whether they were SEND pupils, whether they were on pupil premium and also whether they received tuition one-to-one or as part of a group of two or three as we were keen to explore whether these factors impacted upon tuition in some way. These factors were entered into statistical models to explore any additional effects.

Table 1 outlines the number of schools, teachers and pupil characteristics before and after exclusions had been applied and Figure 1 provides an outline of how these exclusion decisions were made, based on information supplied by the tutors. Data was removed from some parts of the analysis as follows:

- Pupil data from tutors who reported that they did not feel confident about the accuracy of their data entry
- Data from pupils under the age of seven as tutors reported that young children could not respond accurately to the questionnaire
- Pupils who did not complete more than six lessons

Table 2 illustrates the final sample sizes for outcome measures and independent factors, which varied for each analysis

Variable	Overall n	%	Post exclusion n	%
Pupils				
Schools	100		76	
Tutors	81		70	
Pupils	1142		507	
Tutor group sizes				
· One-to-one	214	19	112	22
· Two	272	24	124	25
· Three	636	55	271	53
· Not recorded	20	2	n/a	n/a
Gender (% female)		45		46
SEND (%)		14		12
Mean age (st dev)	9.5 (2.1)		9.8 (1.8)	
Premium		37		34
Premium plus		2		2

Table 1: To show numbers of schools and teachers who participated and details of sessions and pupil demographics before and after exclusions had been applied

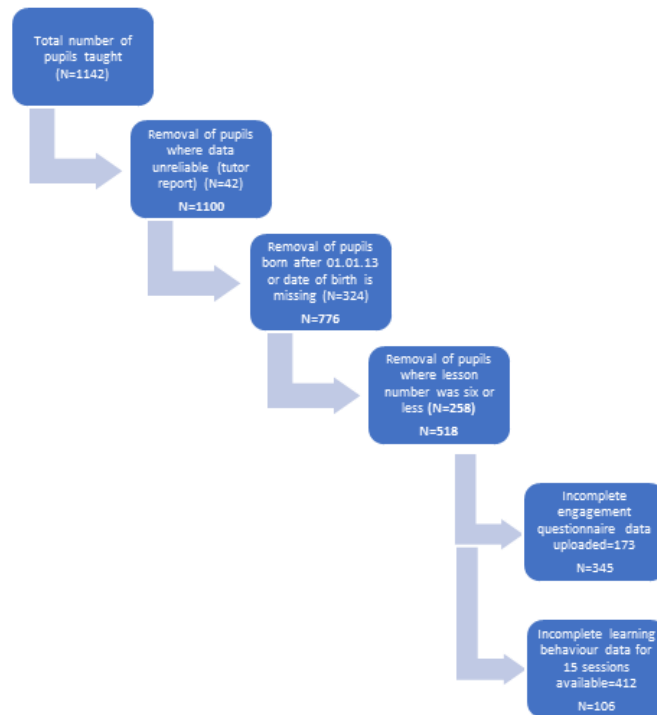


Figure 1: To show exclusion process and associated pupil numbers as a result of those exclusions

Category	School Engagement Questionnaire Analysis N=338	%	Learning Behaviour Evaluation: 7 lessons Analysis N=385	%	Learning Behaviour Evaluation: 15 lessons Analysis N=204	%
Female	173	51	178	46	84	41
Male	165	49	207	54	120	59
No Pupil Premium	210	62	238	62	128	63
Pupil Premium	128	38	147	38	76	37
One to One	73	22	83	22	47	23
Group of 2	79	23	96	24	49	24
Group of 3	186	55	206	54	108	53
Non-SEND Pupil	290	86	336	87	186	91
SEND Pupil	48	14	49	13	18	9

Table 2: Sample sizes for each outcome measure and for each factor included in the final models

Description of Proposed Quantitative Analysis

A series of repeated measures mixed model ANOVAs were carried out to test differences in ratings before and after intervention whilst controlling for SEND status, Pupil Premium status, gender, age and tuition group size (one to one, as part of a group of two, or as part of a group of three). The dependent variables were as follows:

- Change in pupils' ratings of school engagement
- Changes in metacognitive and learning behaviours after seven and then fifteen sessions

Post hoc associations were also investigated where required, using correlational analyses

Results I: Statistical analysis of Quantitative Data

School Engagement before and after intervention

A repeated measures mixed model ANOVA with pupils' ratings of their engagement before and after intervention as a within-subjects factor and gender, group size, SEND and pupil premium status as between-subject factors and age as a covariate showed a significant increase in ratings of engagement after specialist tuition compared with pre-intervention

levels ($F(1, 331) = 12.1$, $p < .001$) (see Figure 2). There was also a small but significant association between changes in engagement and pupils' ages ($F(1, 331) = 5.2$, $p = .023$). The correlation between changes in school engagement and the age of the pupil was calculated to be $r = -.113$ ($p = .036$). This correlation constitutes a small but significant negative effect size, indicating that the increase in engagement is driven by younger more than older pupils.

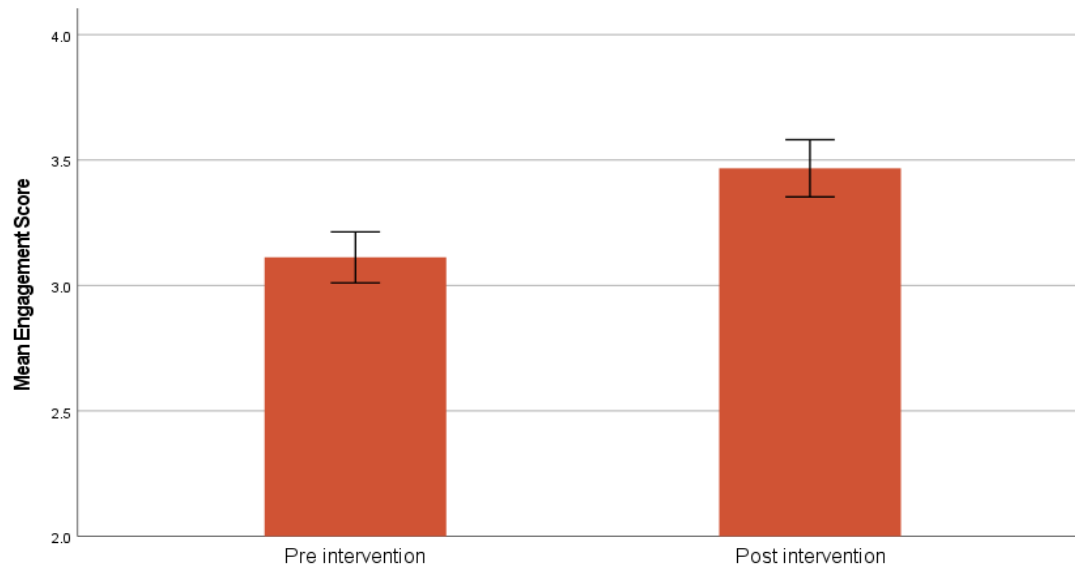


Figure 2: To show differences between pupil's ratings of their school engagement pre and post intervention (95% error bars shown).

Comparison of metacognition and learning behaviours before and after intervention

Metacognition

Another mixed model ANOVA with tutors' ratings of metacognition skills before and after seven sessions of intervention as the within-subjects factor and gender, group size, SEND and pupil premium status as between-factors and with age as a covariate revealed that there were significant increases in metacognitive skills before and after seven sessions of specialist tuition ($F(1, 378) = 15.6$; $p < .001$). This ANOVA was repeated with tutor ratings before and after the full fifteen sessions (with few numbers of pupils) and the same outcomes occurred ($F(1, 197) = 39.9$; $p < .001$) (see Figure 3). There were no significant interactions between changes in meta-cognition skills and the between-factor variables and no impact of the covariate of age in either analysis. This same model was then applied to evaluate change in all four tutor rated learning behaviours. The results were very similar and as follows:

Perseverance

Significant increases were observed after seven sessions of specialist tuition ($F(1, 379) = 9.0$; $p = .003$) and after fifteen sessions of specialist tuition ($F(1, 196) = 25.0$; $p < .001$). No significant interactions between changes in perseverance and between-factor variables were

observed but there was a significant influence of age of pupil ($F(1, 196) = 4.8$; $p = .029$). The correlation between changes in perseverance after fifteen sessions and the age of pupil was calculated to be $r = -.128$ ($p = .066$). This correlation constitutes a small negative effect size that approaches significance (Cohen, 1988) indicating that there is a small drop in the changes in perseverance in response to intervention, the older pupils are. Therefore, as with engagement, increases are driven by younger rather than older pupils.

Curiosity

Significant increases were observed after seven sessions of specialist tuition ($F(1, 380) = 6.8$; $p < .010$) and after fifteen sessions of specialist tuition ($F(1, 197) = 22.1$; $p < .001$). There were no significant interactions between changes in curiosity and between-factor variables and no association with age.

Enjoyment

Significant increases were observed after seven sessions of specialist tuition ($F(1, 377) = 3.7$; $p < .05$) and after fifteen sessions of specialist tuition ($F(1, 197) = 14.1$; $p < .001$). There were no significant interactions between change in enjoyment and between-factor variables and no association of age.

Anticipatory thoughts

Significant increases were observed after seven sessions of specialist tuition ($F(1, 377) = 13.4$; $p < .001$) and after fifteen sessions of specialist tuition ($F(1, 197) = 24.9$; $p < .001$). There were no significant interactions between changes in anticipatory thoughts and between-factor variables and no association with age.

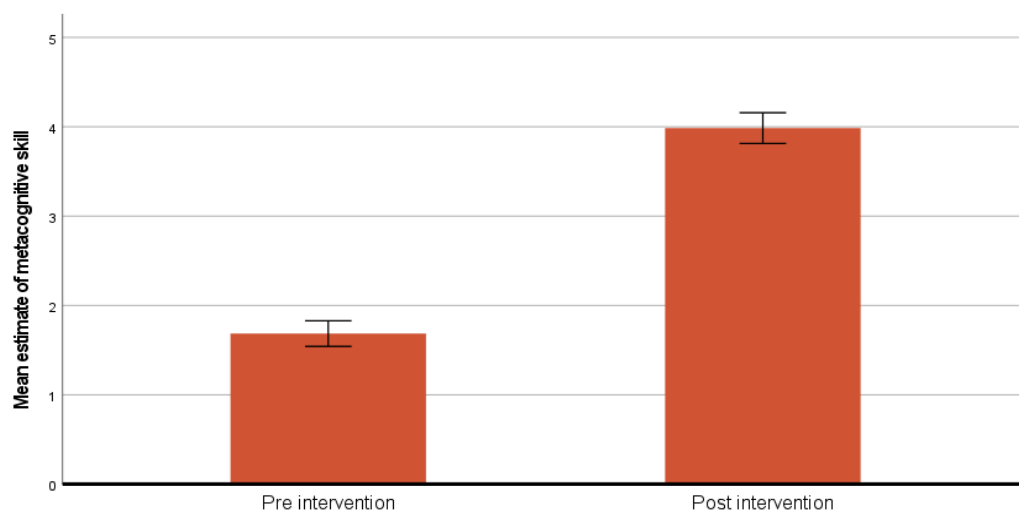
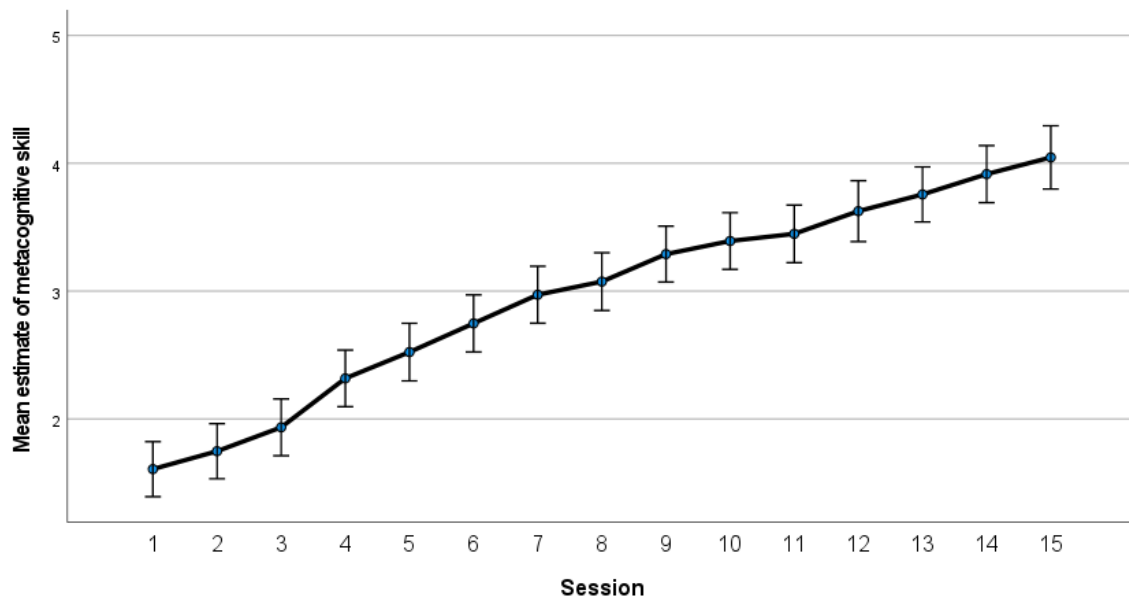


Figure 3: To show differences in teacher ratings of metacognitive skill level before and after 15 tuition sessions (95% error bars shown)

Evaluation of learning behaviour change points across fifteen sessions

Change in metacognitive skills is shown below in Figure 4 and this is largely representative of the changes in learning behaviour, all of which show a steady progression upwards in terms of ratings by tutors.

Figure 4: To show progression of metacognition across fifteen sessions



A repeated analysis with session number as the main factor and analysis of successive pairwise differences shows that differences in metacognitive awareness are significant at each session with the exception of Session 7 to 8, 10 to 11 and 14 to 15 (see Table 3, column 2 and 3 and Figure 4).

Lesson steps	Metacognitive awareness		Tendency to Persevere		Levels of curiosity		Levels of enjoyment		Degree of anticipatory thoughts	
	F	P	F	P	F	p	F	p	F	p
1-2	6.776	.011	12.283	<.001	8.587	.004	3.388	.068	13.081	<.001
2-3	10.357	.002	6.463	.012	4.206	.043	8.566	.004	15.936	<.001
3-4	50.024	<.001	14.776	<.001	22.657	<.001	4.727	.032	15.091	<.001
4-5	11.028	.001	1.289	.259	2.300	.132	1.283	.260	1.994	.161
5-6	15.583	<.001	10.635	.001	16.662	<.001	9.505	.003	6.400	.013
6-7	19.940	<.001	.124	.725	.639	.426	.712	.401	10.181	.002
7-8	3.342	.070	7.420	.008	.925	.338	.047	.828	.569	.452
8-9	11.379	.001	3.608	.060	1.202	.275	5.786	.018	2.488	.118
9-10	4.634	.034	.199	.657	8.034	.005	.598	.441	.028	.867
10-11	.899	.345	1.000	.320	.805	.372	2.363	.127	2.653	.106
11-12	10.038	.002	.899	.345	.531	.468	.040	.843	2.153	.145
12-13	5.683	.019	.531	.468	.165	.685	2.673	.105	.040	.843
13-14	9.449	.003	2.618	.109	8.953	.003	4.940	.028	.066	.798
14-15	3.123	.080	.288	.592	.199	.657	.052	.820	4.294	.041

Table 3: To show F and p values associated with each lesson step for each learning outcome measure (the most significant change for each learning behaviour is in bold).

This analysis was repeated for each learning behaviour. F values and associated p values relating to the contrasts between consecutive lessons for each learning behaviour are also shown in the remaining columns and the points of the most significant change for each learning behaviour are shown in orange. This helps to identify the point at which marked changes in learning behaviour occurred and this was often very early on in the tutoring block.

Results II: Thematic Analysis of Qualitative data

Gathering and Analysis of Qualitative data

Learner development, either as one to one or within a group, underpinned the PTP approach. The initial aims of the tuition programme were to:

- support pupils to better understand themselves as learners
- work together to develop strategies
- self-check and reflect on the strategies that worked and how and where else they might be applied.

A graduated, cumulative method needed to be built into the overarching twelve principles outlined in Appendix 1 and this was a core message throughout the pre-tutoring training. With an expectation that tutors would tap into the learner's current curriculum needs, the programme required tutors to support the development of vocabulary, self-expression and

importantly, utilise strategies and skills back in the classroom and beyond. Feedback from tutors was generally enthusiastic and confirmed the potential of the approach when delivered by knowledgeable specialist teachers, as illustrated in the comments below:

- *As the individual strengths and difficulties of the students became increasingly apparent over time, lessons have been adapted to focus and take account of enhancing and improving specific skills. Students were encouraged to review and reflect on their own learning as well as supporting that of others through active engagement. Self-regulation and as well as respecting each other was woven into each lesson. Additionally, language enrichment and the conscious development of auditory and visual memory skills were also integral to lessons in the overall cumulative learning experiences.*
- *Interactive learning resources encourage active engagement for scaffolding learning and promoting self-regulation in a cumulative and structured way. Games for learning incorporated recognition and spelling of some CEWs [common exception words] as well as developing memory strategies for learning.*
- *I have loved being part of the programme. It has felt very rewarding to make a difference and to be working in schools, as well as learning new skills when teaching online. It can feel very isolating to be working as a freelance tutor and I enjoyed being part of something bigger. I spent a lot of time writing my reflections, but I really enjoyed doing so.*
- *I really enjoyed the tutoring. It was lovely to have one hour to spend on a pupil. I found that I could achieve more. The meta-cognition side of things will make me think of how to empower my students in the future by getting them to be teachers of themselves.*

Emerging themes and issues

During the period of tutoring, the cumulative record of lesson plans, delivery, agreed targets and post session reflection as well as the observation of a visit to see PTP tutoring in action provided a rich seam of qualitative data before, during and after intervention. The significant increase in ratings of engagement after specialist tuition was noted by tutors alongside a positive shift in the engagement and interest, observed most especially in primary aged pupils.

Potential barriers to engagement

The engagement of schools and interaction between teachers and PTP tutors illustrates the power of joint approaches and collaboration. The cumulative individual learner records were uploaded to the school and as these succinctly captured progress and barriers, they were a

useful tool for class teachers, most especially when they included learners’ own views and perceptions of the efficacy of strategies trialled.

In contrast when communication was a weakness, tutors felt frustrated that the potential of their sessions was diminished. This feedback illustrates this:

Make sure you have clear and specific guidelines from the school about what they want you to teach ("just do some maths" isn't helpful), exactly where the pupils are (in relation to this) and what they expect you to achieve in the given timeframe. Also, insist on open communication and regular updates from the school.

Throughout the project, barriers to progress and issues from a tutor perspective were recorded and Table 4 captures key themes that were evident across the age range of individual and group sessions during the period of tutoring. The quotations are taken verbatim from session plans.

Issue from the tutor perspective	Solution focused response
No pre- assessment	
Challenge of devising an appropriate programme without access to a diagnostic assessment	<i>Consideration will be given to utilising Principle 4 of the PTP approach. This is the graduated task analysis - by breaking down the learning activities into subcomponents it will be clearer to understand how best to help. I will focus on building up cumulatively the processes involved as these are central to specialist literacy teaching. As I get to know the children it is easier to use their prior learning and current knowledge to promote prediction and analysis skills that will assist them.</i>
School requirement	
Addressing specific requirements from the school (in this example the tutor had been told to ‘improve handwriting’) but had no other communication with the class teacher. However, the tutor recognised the need to also support literacy weaknesses apparent within the sessions.	<i>Re-cap of session – review tasks performed today, give feedback (Principle 9) and ask DR why they have been done. How did he feel about his performance? (Principle 8) What could he have done to improve his performance? Explain next steps: use different grips on pencil to find most appropriate; target letter formation (ascenders and circular) to allow automaticity; planning/sketching a sentence to allow information to be ‘held’ to enable DR to put it on paper (Principle 10) and to segment into phoneme/grapheme representations to assist DR with his spelling. Allow DR to have pupil voice and ask if there is anything he wishes to focus on during our lessons.</i>
Where individual class teachers also made time to take feedback and support the implementation of strategies, pupils responded positively.	One tutor made the following observation with regard to liaison between herself and the teacher: <i>Directed to focus on skill gaps, I undertook to review SPaG knowledge and understanding. The notable gaps in distinguishing nouns/verbs/adjectives, expanded noun phrases, sentence types and purpose became the main focus.</i>

	<i>As their individual strengths and difficulties became increasingly apparent over time, lessons have been adapted to focus and take account of enhancing and improving specific skills.</i>
Variation in group dynamics	
The school determined the groupings of children and this led to pros and cons.	<i>The group consists of two outgoing pupils and one very quiet pupil. The more talkative members of the group did not always pay attention and in this session, I will separate them so that it is not as easy to chat. It is a concern that the less talkative pupil will not have a chance to speak up. The group did not complete all the activities I had planned, but additional information was provided by the school (in progress check tests taken by the pupils) which helped to design the target activities.</i>
	<i>This group has made excellent progress and has consistently continued to engage and work extremely well individually and together as a whole group. They have been supportive of each other, listening to each other and making effective criticism which has been very effective and encouraging. Students have developed an excellent understanding of evaluating themselves and each other's reading performance, demonstrating some exceptional understanding of their own metacognitive strengths and weaknesses.</i>

Table 4: To show key themes and examples of solution based responses from tutors to address those issues

The observations documented above were primarily to understand the strengths and weaknesses of the advised approach and were intended to contribute towards refinement and development of the project into the second round of tutoring from the PTP. Whilst in the event the project didn't run for a second year, the points emerging are pertinent and potentially useful in any tutoring context.

Feedback to Pupils

The PTP tutors made good use of feedback. Each session included an element of discussion with the learner to monitor success or otherwise of strategies applied between sessions (this is inherent in the principles adopted by the tutors). Specific individual formative feedback was integral to tutors work and tutors noted the impact when reinforced in the subsequent session as setting clear learning intentions based on their reflection and appraisal of learning needs. Tutors commented on their own raised awareness via the data gathering and feedback was foremost in their minds during sessions.

The research evidence illustrates the power of effective feedback (Hattie and Timperley, 2007). Furthermore, the EEF Guidance Report on Teacher Feedback to Improve Pupil Learning (EEF, 2021) states that 'verbal methods of feedback can improve pupil attainment and may be more time-efficient when compared to some forms of written feedback'.

Where the learner is going	Where the learner is right now	How to get there
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Teacher	1) Clarifying, sharing and understanding learning intentions and success criteria	2) Eliciting evidence of learning	3) Providing feedback that moves forward
Peer		4) Activating learners as instructional resources for one another.	
Learner		5) Activating learners as owners of their own learning.	

Table 5: The five key strategies of formative assessment (Wiliam, 2018)

The EEF draws attention to timing and frequency of effective feedback. It is recognised that misconceptions, once formed, can be trickier to correct. Therefore, immediate feedback is helpful. However, a delay in giving feedback could also be beneficial as it can encourage pupils to focus and find a solution before the answer is supplied. This may also promote retrieval of information and secure recall. Evidence suggests that feedback delivered immediately after learning, delivered up to a week after, and delivered during learning are all associated with positive effects on attainment (Newman et al, 2021). The inference drawn is that the focus on feedback during, and at the conclusion of sessions was vital and when tutors were working closely with class teachers, strategies were actively transferred for the benefit of pupils. Several tutors commented on the value of sharing targets with class teachers and endorsed the value in the features of support (session planning notes) as follows:

Session content forms a cumulative learning experience, to enable pupils to make connections with learning in earlier sessions and make predictions/use learnt strategies in new learning situations (generalisation of skills).

An example of tutor planning with a focus on feedback:

Re-cap of session – review tasks performed today, give feedback (9) and ask XX why they have been done. How did he feel about his performance? (8) What could he have done to improve his performance? Explain next steps: use different grips on pencil to find most appropriate; target letter formation (ascenders and circular) to allow automaticity; planning/sketching a sentence to allow information to be ‘held’ to enable XX to put it on paper (10) and to segment into phoneme/grapheme representations to assist XX with his spelling. Allow XX to have pupil voice and ask if there is anything else he wishes to focus on during our lessons.

Ongoing Monitoring

Tutors valued the ongoing consistent support and encouragement from the mentoring:

- *It was very helpful to be able to ask questions and generally speak to someone who had experience of the programme and who could guide you through.*
- *Quick and relevant responses to queries.*
- *Just brilliant support.*
- *My mentor always replied to my emails straight away, either to give me advice or refer me to other team members.*

- *This was one of the most useful aspects of working with PTP. My mentor offered just the right amount and type of support.*

In turn, mentors were able to make connections between tutors and extend the learning and understanding of all those involved in the project. Because mentors were recruited from each of the professional organisations and had the required expertise, there was generally positive and fruitful collaboration.

Whilst the balance of feedback on the value of mentoring was extremely positive, there were a few observations that confirm the importance of skilled and responsive mentors:

- *I thought my mentor was great, just not easy to get in touch with. Delayed response times. Very supportive when contact was established though.*
- *Bit of a delay in getting feedback, but plenty of ideas when the feedback came.*
- *I felt I was often referred back to the school liaison team, which wasn't a problem but I didn't feel the mentor had any specialist help to offer*

Observation of a group in action

To enrich the qualitative analysis of the project, an opportunity was taken by one of the primary authors (JP) to attend an afternoon of sessions in a primary school. The progress and strengths and weaknesses of the PTP approach were discussed with the tutor and school deputy headteacher.

The visit took as a central focus, the key outcome measures of 'Engagement with Learning'. Alongside the data that is recorded for each session associated with awareness and metacognition, the observation of actual tutoring provided a rich source of 'live' information.

The tutor had planned extremely well for her groups and so the thread of fostering perseverance, enjoyment and eliciting anticipatory thoughts was evident throughout each session. The design of the session content clearly piqued the interest of the children and they were curious and fascinated by the developing 'story' that the activities were built upon. The tuition programme addressed the key needs of the pupils by focussing on the language, vocabulary and comprehension skills that are a prerequisite to effective learning. The experience and expertise of the tutor shone through and her management of the children was exemplary.

The school staff were impressed by the skills the tutor developed in the children over the relatively short time she was with them. The selected students had been disadvantaged by the period of non-attendance during lockdown and were disconnected from learning on their return to school. However, the deputy-head reported a noticeable difference on the day of the visit (session 10) and indicated that they wished to continue sessions in the next academic year. Whilst the deputy head was the nominated SENCO, the school had not been in a position to employ a specialist teacher before and it was gratifying to experience the difference a specialist teacher could make. We talked about the difference between the National SENCO Award and the higher-level qualifications that a specialist teacher would hold. Discussion centred on how other teachers and teaching assistants could potentially benefit from having a specialist 'in-house' and both the Head and Deputy Head were keen to expedite the hiring of the tutor for the future. They recognised the NTP as a unique opportunity to experience the difference a specialist could make and were extremely positive about the experience of working with the PTP.

The tutor also felt that upskilling other adults, most especially teaching assistants, would boost the impact of her tutoring between sessions. This would be a shift in the provision but does raise interesting questions about the potential of introducing specialist teachers into settings that haven't benefited from such expertise before.

Further, acknowledgement of the benefit of the tutoring from a Middle School Headteacher is commented on as follows:

We have been very blessed to have AB work with our students. She has worked so hard with them and provided great tuition. They have also really liked her which is a huge bonus! Her lessons have always been well planned, shared and evaluated thoroughly.

The experience from the perspective of tutors

Tutors were also asked to provide feedback on their experiences. Tutors that undertook to be a part of the PTP were motivated by the opportunity to be involved in action research and were both willing and enthusiastic to use the agreed common approach to underpin their tutoring. They recognised the benefit of a cohesive approach that would be evaluated and would have the potential to inform and enhance future tutoring.

One tutor summed up her response to the overall experience as:

The Twelve Principles have fundamentally changed how I teach. They have created a clear road map of ideas and principles to refer to. I have adopted them to create the principles into child-friendly language, such as "What makes you a successful learner?" These principles have helped me and my learners demystify the learning experience, by talking about the routes to successful learning and how they can replicate them and achieve them in the classroom, taking personal responsibility and creating more power for them as individual learners.

Whilst using a metacognitive approach isn't new, these comments from tutors confirm the value of the pre-tutoring training:

- *It has helped reinforce and broaden my knowledge of metacognition approaches, which I do routinely use in my teaching.*
- *Whilst I have always tried to incorporate some metacognitive techniques in my tutoring, having them in an approachable list and being able to refer to them so easily has informed my planning and teaching. They have become second nature and I have seen with most of my tutees that they knew what to expect, which helped them to reflect on their learning and make connections.*
- *I now use this approach with all the students I tutor. It is a tremendous help.*
- *Developing pupils' metacognitive thinking provides them with opportunities to be independent workers and capable of considering, 'why am I doing this'?*
- *I think it has made me more reflective and I will now spend more time on discussion based activities that are learner led.*
- *I felt it gave the pupils more autonomy and therefore confidence - they began to take the initiative more.*

Nonetheless, not every tutor agreed. A few tutors felt they had already embraced metacognition and therefore additional training was unnecessary, and in some cases it was felt to be burdensome.

- *The intensity of the training programme was rather a shock and I would have preferred to have been made aware of this prior to signing up to do it.*
- *I didn't feel the exercises we had to do added anything to my knowledge (I recently trained and metacognition was a central theme).*

Online versus face-to-face tutoring

Online delivery of the programme raised issues that the PTP acknowledged were weaknesses.

- *It was not that the training was ineffective, I fully support its structure, thoroughness, ethos and expectations. However, the ability to carry its requirements out was hampered by a lack of communication and support from the school and the limitations of the age of the children working online with limited IT resources.*
- *The team was always ready to help but, unfortunately, could not solve all the problems as these tended to arise from poor connectivity, inadequate IT equipment in the schools.*
- *I would have appreciated more signposting for resources appropriate to on-line teaching.*

However, other tutors using the online platform developed for the sessions were complimentary and positive. An example of the feedback is as follows:

- *Once I got the hang of the platform, I loved using it, as did the children. My one to ones on the platform were highly focused and successful. More so, I think, than the children in the small group sessions in person. This may have been because children attend to technology well or because they were 1-1.*

Whilst there is an interest in the difference between virtual and school based sessions this wasn't a focus of data gathering thus it's not appropriate to draw firm conclusions. Suffice to say that when the technology enabled seamless and uninterrupted learning, the reach of tutors was a fundamental benefit. Tutoring online also meant the PTP could offer sessions to schools outside the geographical area of our recruited tutors and in so doing, widen the impact of the project beyond geographical boundaries of the specialist teachers' locations.

Discussion

We have shown here that flexible specialist teaching underpinned by refresher training and support for tutors is associated with a significant increase in school engagement as rated by pupils and is also associated with increases in metacognition and learning behaviours as rated by tutors. The significant improvement in school engagement, metacognition and in all the learning behaviours focussed upon occurred largely independently of pupil's age, gender,

SEND or pupil premium status or whether it occurred on a one-to-one basis or in small groups.

The observations made by tutors appear to suggest pupils benefit from ‘being held in mind’. The regular sessions and connection made with their progress between sessions was deemed to be a vital factor in maintaining interest and motivation within the classroom. As noted above, where individual teachers made time to take feedback and support the implementation of strategies pupils responded positively. One tutor made the following observation at the beginning of the tutoring with regard to liaison between herself and the teacher:

Directed to focus on skill gaps, I undertook to review SPaG knowledge and understanding. The notable gaps in distinguishing nouns/verbs/adjectives, expanded noun phrases, sentence types and purpose became the main focus. As their individual strengths and difficulties became increasingly apparent overtime, lessons have been adapted to focus and take account of enhancing and improving specific skills.

As the sessions progressed, her comments and observations illustrated that by providing achievable objectives, the group quickly responded gaining measurable momentum with their learning. The school was able to promote and remind students of their targets and this added to their overall experience of this tutoring. Together, the belief and commitment of both tutor and teacher to the students underpinned their success.

The Age of Pupil Participants

The age of pupils raised interesting questions for the project: the decision to remove data associated with pupils younger than 7 years old was based on observations made by tutors and their concerns that children of this age were not able to understand some of the outcome measure questions. Pupils’ age also impacted on the actual teaching methods and for the youngest children this comment exemplifies the views of some tutors working with a similar age group.

There is the need for specific repetition for young children and the fact that very young children of 6,7 are so blindsided by their difficulties that they just can't see how relating their way of learning and memory techniques will work. They just don't seem to have developed the ability to do this or have very limited ability to apply it due to their memory and processing difficulties.

The scenario of compromised memory and processing is familiar to specialist teachers. As schools selected the pupils and their groupings, the PTP tutors relied heavily on their expertise and experience to manage the implementation of a metacognitive approach whilst unpicking specific barriers to learning from the mixed profiles of the groupings. ‘In at the deep end’ springs to mind, with the quality of professional input undoubtedly influencing the positive outcomes. Every tutor evolved their sessions as the understanding between tutor and tutees emerged.

There were some subtle influences of age on the impact of tuition in the statistical analysis of learning behaviours, indicating that perhaps changes in school engagement and also perseverance in response to intervention were reduced in children who are older. While it is

important to note that this is a small effect size, this reduction in response could be attributed to the difference between online tutoring (a higher number of secondary schools selected this option) rather than face to face sessions for younger learners. Without a formal comparison, it is impossible for this project to establish an evidence base for this hypothesis, but qualitative data suggests that online tutors did raise issues of pupil management as more challenging with older students and that building a rapport took time alongside on-line platform continuity, a distinct barrier in some settings, where children are shielding at home and may have felt less engaged due to reasons of social isolation.

Group size when delivering specialist tuition

One useful outcome of this analysis is the finding that one-to-one tuition does not necessarily have a significant advantage during tuition. A recent article by Cochrane (2021) describes the evolution of specialist teaching targeted at children with dyslexia. She highlights the possibility that perhaps one-to-one teaching, often thought to be the most appropriate approach for children in need of specialist support, may have evolved from a therapeutic rather than teaching model. Cochrane reports that a key practitioner and developer of specialist teaching, Kathleen Hickey often spoke publicly about the benefits of group teaching and the present data suggests that this approach is just as beneficial and may well be a cost effective way of tutoring more pupils. In support of this statistical finding, one tutor commented that their group had:

‘made excellent progress and has consistently continued to engage and work extremely well individually and together as a whole group. They have been supportive of each other, listening to each other and making effective criticism which has been very effective and encouraging. Students have developed an excellent understanding of evaluating their own and each other’s reading performance, demonstrating some exceptional understanding of their own metacognitive strengths and weaknesses.’

Mentors worked closely over the tutoring period with the tutors and were able to understand the merits of both one to one and group sessions, as well as online tutoring. Economy of scale would certainly indicate schools preferred group teaching, but they also recognised the benefit of working with just one child if, in their opinion, a personalised approach was deemed likely to make the greatest impact. Tutors that did both group and one-to-one teaching reported pros and cons for both approaches.

SEND Pupils and PTP

The Impact of Covid 19 on learning report (EEF, 2022) only gives limited comment on pupils with Special Education Needs or Disabilities (SEND):

There is some qualitative evidence that the provision for children with special education needs or disabilities (SEND) and their families was disproportionately impacted by the COVID-19 lockdowns (Ofsted, 2021). There is limited evidence on the impact on the attainment of pupils with SEND. There is some evidence to indicate that children with SEND’s academic outcomes were affected as much as those of other pupils (DfE, 2021).

The observation here that those children with and without SEND can benefit from specialist tuition is important to note. Children with SEND have been shown not to make as much use

of metacognition and need guidance to do so: this forms the reasoning behind the use of metacognitive strategies for many specialist interventions for children who struggle to learn (Rosenzweig et al, 2011). However, our findings suggest that perhaps children without SEND may also benefit from metacognitive direction, particularly when missing out on significant amounts of schooling and where those perhaps more intuitive skills may be reduced.

Specialist teachers are adept at working with children and young people with SEND. Several tutors found the opportunity to work with children without specific difficulties informative and stimulating. The main observations were with the rate of acquisition of new information shown by pupils purely disadvantaged by missing education and those with additional needs. The latter group were felt to be more significantly compromised.

It was fulfilling to see the progress my learners made during the 15 lessons. I could see the value in offering specialist tutoring (SEND) in schools. It has also opened up other professional opportunities for me, so I am grateful that I had the opportunity to be a part of something so worthwhile.

Limitations of the evaluation

The lack of a control group means that we cannot be sure whether these changes in engagement and learning behaviour might have occurred with extra teaching of any kind or even through typically expected progress upon return to school. However, a recent study has shown that increased engagement has not always been observed on return to school after lockdown periods: while 17% of pupils increased engagement in schoolwork after returning to school after lockdown, the majority showed a decrease (Salmela-Aro et al, 2021).

The fact that tutors rated their pupils' levels of metacognition and learning behaviour means that these ratings may be influenced by unconscious bias. However, the school engagement questionnaire was filled in by the pupil independently and we asked tutors to try not to influence their responses in any way to limit the impact of any bias.

We recognise that no concrete measures of learning were gathered in this evaluation. This was not considered appropriate because pupils were offered catch up tuition on a wide range of subject areas and there was no single skill set that could be compared before and after tuition. The overall positive responses of pupils, schools and tutors confirmed the initial belief that utilising a metacognitive framework for skilled and experienced practitioners to utilise would reap rewards.

Conclusion

This evaluation demonstrates that directed, supported and specialist tuition can be invaluable as a way of enhancing metacognition and learning behaviour where pupils have fallen behind with their learning. We have shown through both quantitative and qualitative analysis that there are significant benefits to be had through either one-to-one, small group or online tutoring and these benefits can be seen in children who have specific needs as well as those who are typical learners.

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Appendix 1: The Twelve Principles of the Core PTP Package

Core Principle	Details
<p>1. Use of images and structured diagrams/ frameworks to:</p> <ul style="list-style-type: none"> ● Create an impetus to initiate, maintain and extend engagement ● Support working memory ● Enable the tutor to calibrate content to pupil requirements. 	<p>A framework of metacognition underpins tuition that makes explicit the different facets within the construct:</p> <ul style="list-style-type: none"> ● Meta-memory ● Meta-learning ● Metalinguistics ● Meta-attention ● Meta-social cognition <p>There is a focus on working memory as the integrator in thinking/action.</p> <p>Elements within the framework can be used to elucidate performance by:</p> <ul style="list-style-type: none"> ● The pupil ● The tutor/ class teacher ● The parent/carer
<p>2. Dialogic focus: discussion used:</p> <ul style="list-style-type: none"> ● for pupil to discover meaning/ content/ understanding ● in peer discussion/ collaboration if group work to create shared meaning ● for tutor to appraise understanding and pinpoint areas of challenge/misconception ● for pupil to review their own learning. 	<ul style="list-style-type: none"> ● Dialogue is used to enable pupils to explicitly consider different aspects of metacognition. ● Range of opportunities to generate discussion. ● Activities designed to act as an impetus for discussion of individual (pupil's) processes of learning. ● Peer discussion of processes of learning, including sharing, comparing, etc. ● Discussion of the different specific processes that make up metacognition enables more nuanced reflection and target-setting by pupil ● Knowledge of the specific processes (meta-memory, meta-learning etc.) can be used to structure the intervention and activities within learning sessions.
<p>3. Use of interactive (structured, multi-sensory) activities to develop understanding and revise prior learning</p>	<p>Active exploration of different strategies to develop understanding of learning processes. Use of:</p> <ul style="list-style-type: none"> ● cards to capture meaning/knowledge and enable the application of understanding to new situations ● cards to develop categorisation skills (eg., synonym/ antonym, subject knowledge). ● Pelmanism games to develop memory skills alongside content knowledge. ● sorting games to explore/consolidate category information. Includes Venn diagrams, Carroll diagrams etc.









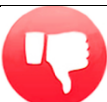

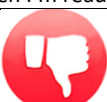

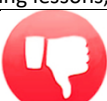



	<ul style="list-style-type: none"> • cloze sentences/passages with cards to explore/consolidate category(semantic) and factual (curricular) information.
4. Vocabulary enrichment	<ul style="list-style-type: none"> • Focus on the enrichment of academic register – using the range of experiences / frameworks necessary to underpin this development e.g. comparative structures (essential for analytical work in many fields). • Explicit coverage of key words necessary for academic discourse. • Explicit coverage of ambiguities in language and value-laden / persuasive language. • Focus on learning synonyms and antonyms to develop comprehension skills. • Use of summarising and paraphrasing activities to provide practice in key-subskills for comprehending/writing in many curricular areas.
5. Development of metalinguistic awareness in pupils	<ul style="list-style-type: none"> • Explicit coverage of the mechanics of academic register in an age-appropriate way so that monitoring can meaningfully take place e.g. use of key topic words, use of comparative structures, discourse markers (but, because, as etc.), coherence markers (elements that allow us to understand how fragments in a sentence fit together to describe a process, to present evidence, to elaborate etc.), adoption of a critical stance etc. • Emphasis on language being a tool for learning • Explicit coverage of genres and the key characteristics of each – to enable meta-language to be broached in meaningful contexts (e.g. imperatives used in instructional texts, passive voice in reports etc.) • Explicit coverage of the importance of metalinguistic knowledge to modern foreign language learning (where appropriate). • (See vocabulary enrichment).
6. Development of analytical approach in pupils	<ul style="list-style-type: none"> • As applied to reading comprehension/comparison of texts. • Exploration of metaphor to unpack meaning and explore the elements presented in short phrases in detail – to support comprehension and experimentation/wordplay activities.

	<ul style="list-style-type: none"> ● Explore personification as a means to retain subject content in a novel, meaningful way involving perspective shifting, analysis of key characteristics and their purpose etc. ● Explicitly address ambiguity of language to encourage analysis of meaning and the possibility of multiple meanings and perspectives – to encourage appreciation of viewpoints, bias etc. Feeds into comprehension skills. ● As applied to trial and error approach with word attack patterns (VC/VC etc.) to unlock polysyllabic words. ● Work on coherence relations and discourse markers as indicators of causality, process etc. as applied in a range of curricular subjects: <ul style="list-style-type: none"> ○ Problem-solving in maths ○ Using contemporary sources for historic events (e.g. bias) ○ Scientific experiments, proofs, variables, hypotheses etc. ○ Design & technology – creating a complete design systematically. ○ General problem-solving – what if? analysis, creative thinking skills.
<p>7. Graduated approach: understanding and skills built up cumulatively with a focus on the processes involved.</p>	<ul style="list-style-type: none"> ● Initiate using concrete tasks to explore processes. ● Build-up confidence by applying what’s learnt to new situations/subject matter. ● Work towards adopting different learning personae e.g. pupil, teacher, constructive critic ● Underlying drive in all activities is to foster habits of mind and structures that gradually build self-monitoring and self-guided learning. ● Work from small tasks (e.g. sentence summarising/paraphrasing) to larger tasks paragraph/whole text summaries, building upon work done on synonyms.
<p>8. Focus on practical skill development or enhancement (tutor feedback related to performance to ‘feedforward’) and applying skills.</p>	<ul style="list-style-type: none"> ● Skill: Skillset to enable independent, lifelong learning fuelled by intrinsic motivation to learn: ● Focus on honing predictive skills to bolster performance in a range of curricular areas e.g. reading comprehension, science, maths, etc.

	<ul style="list-style-type: none"> • Checklists developed to structure appraisal of own learning – act as bridges towards independence. • Tutor feedback on pupil’s engagement links to: <ul style="list-style-type: none"> ○ Performance (not pupil-directed) attributions ○ Enhancing perceived autonomy ○ Competence and self-efficacy • Tutor feedback on pupil’s work links to: <ul style="list-style-type: none"> ○ Performance (not pupil-directed) attributions ○ Enhancing perceived autonomy ○ Competence and self-efficacy ○ Standards and expectations.
<p>9. Pupil self-efficacy – scrutiny of own performance, self-checking activities devised/used wherever possible</p>	<ul style="list-style-type: none"> • Preview and review sections of lessons make reflection upon learning explicit. This should include setting own SMART targets and wider objectives wherever possible. • Using self-checks in sorting tasks/games to support independence in monitoring own learning. • Developing an ability to scrutinise own performance via task/problem-solving checklists. • Developing critical analysis of text in a range of genres. • Encourage self-talk to create a habit of working through things step-by-step, a habit of checking if all elements are present, etc.
<p>10. Pupil-centred meaning: expected/ encouraged to develop own ways of recording information to help consolidate and retain knowledge.</p>	<ul style="list-style-type: none"> • Encouraged to keep their own record of strategies and concepts they find useful in developing their learning skills e.g. ‘top tips’ for comprehension, for problem-solving, for interpreting bias in texts etc. • Encouraged to use self-talk as a way of checking if the correct meaning has been recorded, or has been expressed in a piece of writing etc. • ‘Concept cartoon’ approach – pupils decide which child in the cartoon they agree with – cartoons with explanations of metaphors, bias in text, identifying genre of text, etc.
<p>11. Pupil’s individual requirements met in sessions in two ways:</p> <ul style="list-style-type: none"> • General – the content of the session addresses key areas to promote skill development. 	<ul style="list-style-type: none"> • Specific requests or work on particular texts can be used to exemplify key learning attributes/strategies that are of importance for the development of learning skills in the learner.

<p>a. Specific – pupil requests can be addressed if they do not detract from the key session objectives</p>	<ul style="list-style-type: none"> • Specific vocabulary (re. academic register/subject-specific words) and key facts can be used in games/activities to teach strategies whilst strengthening retention of key facts.
<p>12. Support packs: a) Teacher support pack to aid generalisation of skills to wider school performance and to help staff-tutor liaison. b) parent support pack.</p>	<ul style="list-style-type: none"> • Teacher guides on methods used available to download. To enable the transfer of meta-skills to pupils' other class/curricular work. • Games packs available for parent/carers to download (or take home if necessary). To enable the transfer of meta-skills to other aspects of pupils' lives.

Appendix 2: Eight item Engagement Questionnaire (adapted from Veiga, 2016)

1. When writing my work, I begin by making a plan							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
4. During lessons, I put questions to the teachers							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
5. I try to connect what I learn in one lesson with what I learn in others							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
8. I talk to my teachers about my likes and dislikes							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
9. I spend a lot of my free time looking for more information on topics discussed in class							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
13. When I'm reading, I try to understand the meaning of what the author wants to get across							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
16. During lessons, I express my opinions							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree
20. I make suggestions to teachers							
 Strongly disagree	1	2	3	4	5	6	 Strongly agree

Appendix 3: Pupil Learning Related Behaviour Scales

Value on dropdown on engage system	Pupil Learning Related Behaviour
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	Rate Pupil's tendency to persevere with activities
1	No indicators of determination is shown by pupil; perseveration is inappropriate or an avoidance technique only
2	Pupil shows little will to succeed
3	Pupils shows an average will to succeed
4	Pupil consistently demonstrates strong determination

	Rate pupil's tendency to display curiosity
1	No curiosity is shown by pupil; any questions are unrelated or an avoidance technique only
2	Pupil shows only minor curiosity
3	Pupil shows an average level of curiosity
4	Pupil shows a high level of curiosity

	Rate pupil's tendency to display enjoyment of learning
1	Pupil displays negativity about learning
2	Pupil unresponsive but emotionally neutral (passive)
3	Pupil is mildly but positively responsive
4	Pupil is positively responsive throughout session

	Rate pupil's demonstration of anticipatory thoughts
1	Pupil displays no signs of predictive skills
2	Pupil shows glimpses of predictive skills at times
3	Pupils shows average level of predictive skills
4	Pupil demonstrates highly developed predictive skills throughout session

Levels of metacognition (Instructions to tutors)

The final measure concerns deciding which level of metacognition your pupil is working at and you should be familiar with these levels after working through the training course. There are however seven options to choose from to provide for more subtle evaluations so that you might decide that a pupil is 'approaching' level 3 but not quite there yet. As above, these need to be collected for every session and they will be based on your own professional judgement based on your observations. Again, you can enter this information directly onto Engage after adding attendance data and learning related behaviour.

	Levels of Metacognition
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	Which level of metacognition is the pupil working at?
1 (0)	Not yet quantified: no signs of Level 1 metacognition (naming elements, strategies or targets within sessions)

2 (.5)	Approaching Level 1: Some naming has occurred of elements, strategies and/or targets
3 (1)	Level 1: Complete naming has occurred of elements, strategies and targets
4 (1.5)	Approaching Level 2: Some comprehension and/or self efficacy is apparent
5 (2)	Level 2: Complete comprehension and self efficacy is apparent
6 (2.5)	Approaching Level 3: Some metacognitive skill has been deployed
7 (3)	Level 3: A wide range of metacognitive skills have been deployed