Improving Year 8 students' motivation for and confidence in reading Latin stories using a metacognitive intervention

Abstract

Metacognitive reading strategies teach students how to plan, monitor and evaluate their comprehension whilst reading, which can improve learning outcomes and promote learner autonomy. Reading Latin stories can be particularly difficult for Year 8 Latin students as they have not had sufficient exposure to the language to develop a wide enough vocabulary base for fluency. The aim of this project was to explore how a metacognitive intervention could be used to support students reading Latin stories by developing their metacognitive strategy use and improve their motivation for and confidence in reading. Data was gathered through student questionnaires and interviews with both the students and their teachers to understand the obstacles students believe they face when reading, the strategies they use to overcome them, and how the metacognitive intervention mediated these. The findings point towards the need to deliver and scaffold metacognitive interventions over a long period of time, and to embed strategy use early so it becomes automated. Student attitudes towards learning and their willingness to try new strategies, as well as the teacher's own metacognitive knowledge also seem to impact whether a metacognitive intervention has a positive effect on student motivation for and confidence in reading.

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Introduction

Socrates is attributed with saying "I cannot teach anybody anything; I can only make them think", though exactly where this quote came from is unknown. The purpose of this research project is therefore to provide my students with a metacognitive framework for how to *think* about the process of reading Latin, with the aim to make reading a more successful task, one which they feel confident in and are motivated to do.

Rationale

The rationale for focusing this project on metacognitive reading strategies developed in three ways. First, I had identified a need within my department to improve the motivation and confidence of our Year 8 students when they read Latin stories. My Year One project investigated student perspectives of their motivation for learning Latin and found that intrinsic motivation was low, which can be detrimental to learning success as there is a strong correlation between levels of intrinsic motivation and academic achievement (Taylor et al., 2014). In particular, my students found reading passages of text difficult and were reluctant to read longer stories. Metacognition interacts positively with autonomy and motivation (Ushioda, 2014) and so could be used as a way to give my students a feeling of control over their learning and in turn improve their motivation.

Second, evidence suggested that metacognition was a useful teaching tool which could improve learning success. Metacognition and its related construct, self-regulation, are the highest rated interventions on the Education Endowment Foundation (EEF) Toolkit (Teaching and Learning Toolkit | EEF (educationendowmentfoundation.org.uk). The EEF have been criticised for relying too heavily on RCTs (Perry et al., 2019), but repeated research has

shown that metacognition improves learning performance (Akturk & Sahin, 2011; Perry et al., 2019; Sato, 2022; Veenman et al., 2006). Schoolwide metacognitive interventions have reported success (Mannion & Mercer, 2016), and governments are increasingly incorporating metacognitive instruction into their curriculums (Sato, 2022).

Third, my school's Teaching and Learning focus has moved towards 'Empowered Learning', which aims to use teacher instruction to teach our students to be independent learners who have a love of learning. However, metacognition was not considered when the pedagogy was first developed, and it is not used to inform instruction at school. The opportunity to develop the use of metacognition within Latin to act as a model for the rest of the school was appealing.

School Context

My school is an independent day and boarding school for girls aged 11-18. There were 575 students on roll in 2023-2024. The school is not academically selective and has a range of attainment levels, including 137 students on the SEND register. Latin is compulsory in Years 7 and 8 and so students were making their option choices for whether they would continue Latin into Year 9 at the time of the intervention. Latin is taught in three 55-minute lessons per fortnight meaning that curriculum time is limited, with their proficiency levels in Latin still being relatively low by the Spring term of Year 8, the time at which the intervention was delivered. They are able to read simple stories by this point, but longer and more grammatically challenging stories with more varied vocabulary are beginning to be introduced. Students in Year 8 therefore need support for reading these more complicated Latin stories and so would benefit from a reading comprehension intervention.

Literature Review

To address the concerns raised in the introduction, this literature review will form three sections. First, it will seek to develop a clear picture of the nature of metacognition, what it is, how it develops in school-aged children and how it can be measured, as well as its relation to learning success and motivation. Next, it will explore the inherent difficulties of reading in an L2 language, the problems Latin specifically creates for readers, and how metacognitive reading strategies can be used to teach students how to overcome these obstacles. Finally, it will consider the nature of metacognitive instruction and reading comprehension strategies to determine the best framework by which a metacognition intervention can be developed for use in the Latin classroom.

Metacognition

Definition of Metacognition

Metacognition has been described as a "fuzzy construct" (Akturk & Sahin, 2011, p. 3731) that is not always clearly defined by researchers. In a review of 255 studies on metacognition, self-regulation and self-regulated learning, Dinsmore et al. (2008) found that only 32% explicitly defined metacognition, as opposed to 57% which defined self-regulation and 69% which defined self-regulated learning. They proposed that researchers may feel that metacognition is an established term and so clarification of the construct is not needed. However, the 'fuzziness' of the subject and the variety of definitions proposed do suggest that definition is required.

The OECD define it as a "second or higher-order thinking process which involves active control over cognitive processes" (Mevarech & Kramarski, 2014, p. 36). Goh and Vandergrift

see it as “the ability to step back, as it were, from what occupies our mind at a particular moment in time to analyse and evaluate what we are thinking” (2011, p. 84). Similarly, Sato summarises it as “the third-person point of view of one’s own knowledge and thoughts that one possesses, to different degrees of clarity, accuracy and control” (2022, p. 96). In relation to reading, metacognition is “knowledge of the readers’ cognition about reading and the self-control mechanisms they exercise when monitoring and regulating text comprehension” (Mokhtari & Reichard, 2002, p. 249).

The common point between these definitions is the need for monitoring, control, and evaluation of the strategies used in the learning process (Akturk & Sahin, 2011). Indeed, metacognition relates to learning by enabling learners to *plan* their approach and monitor their learning resources, *monitor* their knowledge and skill levels, and *evaluate* their learning during and after the process (Mevarech & Kramarski, 2014; Perry et al., 2019). Metacognitive processes are therefore necessarily active; it is not enough to just think about one’s cognition and learning, a learner must also act on these thoughts (Goh & Vandergrift, 2011). These processes of planning, monitoring, and evaluating should therefore form the basis of a metacognitive intervention and can be used as a framework to introduce and explain metacognition to students.

Development of the Construct

Metacognition was developed as a construct by Flavell in the 1970s following his work into the cognitive process of memory or ‘metamemory’ (1971). The initial focus of metacognitive research was on its role in childhood development, and the idea of ‘thinking about thinking’ was identified by Miller, Frank and Flavell (1970) as the third stage in a four-step

developmental sequence for children in US Grades 1-6 (equivalent to UK Years 2-7). Flavell (1979) proposed that metacognition or cognitive monitoring happened through the actions of and interactions amongst four components: a) metacognitive knowledge, b) metacognitive experiences, c) goals (or tasks), and d) actions (or strategies). This model was further simplified into a two-part construct of metacognitive knowledge (what we *know* about our own cognition and learning) and metacognitive regulation (the *actions* we take in order to improve our cognition and to learn) (Ozturk, 2017; Sato, 2022).

For Flavell (1979), metacognitive knowledge is comprised of three variables: *person knowledge* (the belief of yourself and others as cognitive processors), *task knowledge* (the information and resources needed to undertake a task), and *strategy knowledge* (the likelihood of strategies being effective in completing the task and achieving the goals) (see also Sato, 2022). These variables often interact and are found in combination with each other, and together they help learners to select, evaluate, revise, and abandon cognitive tasks, goals, and strategies. Alternatively, other researchers have divided metacognitive knowledge into *declarative knowledge* (knowledge about self and strategies), *procedural knowledge* (how to use strategies), and *conditional knowledge* (when and how to use strategies) (Schraw & Dennison, 1994). With either model, metacognition helps students to understand themselves as a learner and what they both already know and what they need to learn, but also to understand the nature of any tasks or tests that they have been set and how best to approach them (Pintrich, 2002).

Metacognitive regulation controls and mediates metacognitive knowledge to enhance learning (Sato, 2022) and is composed of five component skills: planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation

(Schraw & Dennison, 1994). Alongside this, metacognitive experiences help the learner to activate strategies, add to metacognitive knowledge, and amend their goals when necessary. These include the affective experiences (such as interest, liking, disappointment, etc.) that the learner experiences in relation to the task (Efklides, 2006), which may encourage them to use or not use the strategy in future. Consideration of students' metacognitive knowledge, regulation, and experience will therefore help develop the intervention and monitor its effectiveness.

Related Constructs

Metacognition is also associated with other psychological constructs, such as motivation, feedback-seeking behaviours, self-efficacy, and achievement goals, as well as self-regulated learning (SRL) which it is most closely related to (Sato, 2022). Students are self-regulated if they are "metacognitively, motivationally, and behaviourally active participants in their own learning process" (Zimmerman, 1989, p. 329). Consequently, there is a common conceptual basis that connects metacognition and SRL. In Dinsmore et al.'s (2008) analysis of 255 studies published between 2003 and 2007, they found the keywords *monitor* and *control* were both frequently used in definitions of metacognition and SRL, suggesting there is a conceptual overlap between the two constructs. They propose that the difference between them may lie in *what* is being monitored or controlled for: metacognition focuses on the monitoring and control of cognition; whereas in SRL, these can relate to behaviour, motivation, or cognition.

A prime aim of this research project was to investigate a way to increase Year 8 students' motivation for reading Latin stories. Metacognition is a cognitive action that is both

influenced by a learner's motivation and in turn acts upon and triggers motivational ideas and attributions (Efklides, 2001). As such, metacognition plays a positive role in L2 learning motivation, as purposeful effortful striving is not always enough for language learning and so L2 learners also need to think through the learning obstacles they face and learn to utilise the necessary strategies to overcome them in order to sustain their motivation for learning (Ushioda, 2014). Moreover, metacognition encourages students to make autonomous decisions about their learning (Marantika, 2021) and is a prerequisite for autonomous learning (Gao & Zhang, 2011). According to Self-Determination Theory, autonomy is a key factor in improving intrinsic motivation (Ryan & Deci, 2020). It is difficult to give KS3 students choice in the classroom due to the restraints of the curriculum, timetable, and class size, but teaching them metacognitive reading strategies could be one way to improve their sense of autonomy and in turn their motivation. This research project will remain focused on metacognition as a cognitive process but will also consider how it could provide a way to improve a learner's motivation for learning.

Measuring Metacognition

There are three methods for measuring metacognition: probable (before the task), simultaneous (during the task), and retrospective (after the task) (Akturk & Sahin, 2011). Questionnaires and interviews are examples of probable and retrospective measures and think-aloud is a simultaneous method. Dinsmore et al. (2008) found that performance ratings were most commonly used to measure metacognition (31%), followed by self-report (24%), observation (20%), interviews (13%), and think-aloud (12%).

Measuring levels of metacognition is difficult as it is not an explicit behaviour and therefore learners are not necessarily aware of these processes (Akturk & Sahin, 2011). Dinsmore et al. (2008) found that in most studies that measured metacognition there was little attempt to corroborate what individuals reported they were thinking or doing against evidence of these thoughts or behaviours through trace measurement. Think-aloud protocols can be a useful measure of internal thought processes as they provide a window into the mind of learners (Bowles, 2010). However, they are not best suited to classroom research as they are time consuming and learners may become distracted from the learning objective of a task whilst they verbally express their strategies (Akturk & Sahin, 2011). They can be conducted retrospectively, after the task is completed, however, this may diminish the accuracy of the learners' thought processes as they may not exactly recall what they were thinking whilst completing the task (Bowles, 2010). Observations were used by 20% of studies analysed by Dinsmore et al. (2008), but they can be of limited use for understanding learner use of strategies. Lessons tend to be teacher directed and so students have few opportunities to actively use strategies of their own choice, and when strategies are used there is often little external behaviour to observe (Uhl Chamot, 1987).

Instruments for measuring learners' use of metacognitive reading strategies have been developed, such as Mokhtari et al.'s Metacognitive Awareness of Reading Strategy Inventory (MARSI) (2018). However, the items in this inventory are too complicated for Year 8 Latin students' levels of reading proficiency. Other measures will need to be considered in the development of the methodology for this research project.

Metacognition and Learning Success

Metacognition plays a vital role in oral communication, reading comprehension, writing, language acquisition, attention, memory, problem solving, and social cognition, as well as self-control and self-instruction (Flavell, 1979). Repeated research has shown that metacognition is a strong predictor of learning success (Sato, 2022) and that levels of metacognitive knowledge distinguish successful learners from novices (Gao & Zhang, 2011). Furthermore, metacognitive skilfulness may have value for predicting learning success above intellectual ability. A study of Year 1-2 (age 12-14) secondary students in the Netherlands (*N* = 32) found that metacognitive skilfulness accounted for 17% of variance in learning performance, whilst intellectual ability, which was measured using the Groninger Intelligence Test, accounted for 10% (Veenman & Spaans, 2005). One implication of this is that metacognition may compensate for any cognitive limitations (Veenman et al., 2006).

Evidence for the importance of metacognition in learner success is found in a three-year longitudinal study of a UK comprehensive school which introduced a whole-school 'learning to learn' approach. They found a 10% improvement in attainment for students in Key Stage Three (KS3) and a significant closing of the attainment gap between Pupil Premium students and their peers (Mannion & Mercer, 2016). It is not clear how generalisable the results from this study are as it is based on only one secondary school, but the results are persuasive and are supported by a number of meta-analyses which are by their nature drawn from wider research bases. Through a meta-analysis of 20 studies on the effects of the instruction of metacognitive skills on reading comprehension on students in US Grades 2-12, Haller et al. found an effect size of 0.71 which they describe as "among the larger ones that have been uncovered in educational research" (1988, p. 7). Veenman and Verheij (2003) also found metacognitive skilfulness to be a strong predictor of task performance and study success.

However, the application of their results is limited as they are based on a laboratory study of sixteen university students, an age at which Veenman and Spaans (2005) suggest metacognitive skills are already developed.

Donker et al. (2014) highlight the role of metacognitive knowledge in academic performance. In their meta-analysis of which learning strategies are the most effective in enhancing academic performance at both primary and secondary school, they found that when students are taught which strategies to use and how to apply them (declarative knowledge) alongside when and why to use them (procedural and conditional knowledge), they had a higher metacognitive engagement. Their results are supported by an earlier meta-analysis by Dignath and Büttner (2008) who found that there was a higher effect size for the academic performance and use of strategies amongst secondary school students who used metacognitive reflection, that is they had been taught how, when, and why to use learning strategies. Dignath and Büttner (2008) are confident in the results of their meta-analysis as their mean effect sizes were between 0.60 and 0.90, and Sipe and Curelette (1996) suggest that an unweighted average effect size of 0.38 is a benchmark for effectiveness in meta-analysis. The intervention developed for this project will therefore need to teach students not just about how to use metacognitive strategies, but also the reasons why they should use them and the circumstances in which their use is most effective.

Meta-analyses are inconclusive about whether there is a causal link between metacognitive instruction, metacognitive knowledge and regulation, and learning outcomes (Muijs et al., 2014). Yet, the repeated number of meta-analyses which have found significant effect sizes suggest there is merit in their positive results for the benefits gained from teaching learners

about metacognition. Furthermore, programmes such as Cognitive Acceleration for Science Education (CASE), an educational programme based on the principles of cognitive conflict, metacognition, and bridging of thinking strategies, have proved successful in improving student outcomes and developing both teachers' use of metacognitive instruction and students' use of metacognitive strategies (Adey & Shayer, 1993; Yap, 2024).

However, despite this evidence for the benefits that metacognition can bring to learning success, schools have been slow to implement metacognitive instruction strategies. Perry et al. (2019) suggest this is because metacognition is not a recognised metric used for accountability purposes and so schools have focused on other aspects of learning which are mandated and measured. Clear evidence will be needed about the benefits that the metacognitive intervention brings to my students to be able to argue for a whole-school adoption of these strategies.

Development of Metacognition

Young children are poor at monitoring their own memory, comprehension and other cognitive actions (Flavell, 1979). Metacognitive awareness begins to grow around ages 4-6 but children do not develop metacognitive skills before the ages of 11-12 (Veenman & Spaans, 2005). For example, a study of students in US Grade 2 (age 7-8) and Grade 6 (age 11-12) found that younger students were unlikely to use metacognitive strategies when reading, whereas older students were aware of various reading strategies and were sensitive to when and how to use them (Myers & Paris, 1978). It also appears that age 12-14, the age of KS3 students in the UK, are the years in which interventions to teach metacognition may have the most effect. In their quantitative synthesis of 20 studies on the

effect of metacognitive instruction for reading comprehension, Haller et al. (1988) found that metacognitive instruction had the greatest effect on students in US Grades 7-8 (ages 12-14). This suggests that Year 8 is a prime year in which to introduce metacognitive instruction.

The positive effects of metacognitive instruction also appear to continue long-term. De Boer et al. (2018) carried out a meta-analysis of 36 studies on metacognitive strategy use and found an average effect size of Hedges' g = 0.50 (SE = 0.07) for student academic performance at post-test and Hedges' g = 0.63 (SE = 0.07) for follow-up tests. This suggests that there is a positive effect of strategy instruction during the period of the instruction and that this effect not only continues but increases afterwards. Therefore, to evaluate the long-term effects of the metacognitive instruction, students' responses to the intervention should be monitored for a period of time after it ends.

Metacognition and Attainment

Hattie et al. (1996) completed a meta-analysis of 51 studies on a range of learning skills interventions and found that medium-attainment students, underachievers, and primary and early-secondary students were most responsive to interventions. Low-attainment children were the least receptive, which Hattie et al. assumed was because they were unable to comprehend instructions, or they found the programme of study too demanding. Whereas, in a subsequent meta-analysis of 58 studies into the use of learning strategies, Donker et al. (2014) found no such disparity between strategy use amongst students with different attainment levels. They suggest that this may be due to improvement in training

programmes since Hattie's study and that there is growing evidence that intervention and strategy use can help low-attainment students.

Yerdelen-Damar and Eryilmaz (2021) introduced metacognitive instruction alongside epistemic instruction in inquiry-based science lessons with 10th Grade (ages 15-17) students (*N* = 107), and their results indicated that metacognitive instruction significantly improves the conceptual understanding of students when used with inquiry-based learning. In line with Hattie, they found that those with higher conceptual understanding from the start benefitted most from metacognitive instruction. These mixed results for the relative effectiveness of metacognition for learners of varying attainment suggest that more research needs to be done in this area. It will also be important to consider the attainment levels of students in the intervention and whether this affects how they respond to and benefit from the metacognitive reading strategy. Moreover, to make the intervention accessible to all, care will need to be taken to ensure that instructions are clear, and that they are reinforced regularly and practised over time.

L2 Reading Comprehension

A *second* language is one learnt in the context of a community which speaks that language whilst a *foreign* language is not spoken in the local community. Latin is therefore a *foreign* language but is not referred to as such by the Classics teaching community. Following Cohen (2011) and in line with the wider academic community, L2 will be used to refer to both second- and foreign-language learning, including Latin. Moreover, as there is little research available on the process of reading in Latin, it is necessary to use research into reading modern foreign languages as a proxy for reading in Latin (Wegenhart, 2015). This allows

researchers into Latin language learning to use a wider range of research and evidence than would be available if research into Latin was used alone. However, it must be considered that Latin is taught differently to other L2 languages. The focus for Latin teachers is on reading Latin and how this leads to comprehension or translation of the text as there is no spoken or listening element in Latin examinations in the UK, and writing in Latin, called prose composition, is only an optional skill taught in UK schools. Therefore, whilst conducting research for this literature review, it was considered that not all L2 research may be applicable to Latin language learning and evidence was evaluated accordingly for its relevance to this context.

Difficulties of L2 Reading

Reading is a complicated process; readers have to be able to recognise and understand vocabulary, gather sense – first from sentences and then across paragraphs and chapters – and they have to interpret what they are reading and draw conclusions to comprehend the text's overall meaning. Moreover, it is a process to which humans are not biologically predisposed (Grabe & Stoller, 2019) and which we have to learn, whether that is with a first or secondary language. Several factors impact reading comprehension: background knowledge, vocabulary, fluency, active reading skills, and critical thinking (Teng, 2022). What then makes a good reader? For Pressley (2002), a good reader will have a clear goal in mind before reading and skim ahead to activate prior knowledge, monitor their understanding during reading by pausing and moving back and forth through the text, make inferences based on prior knowledge, and interpret and evaluate the text, and, after they have finished reading, they will reflect on their reading and monitor and assess their understanding.

Numerous studies have shown that this metacognitive process of planning, monitoring, and evaluating is beneficial for reading comprehension (Pressley & Gaskins, 2006; Talwar et al., 2023; Varga, 2017; Veenman & Beishuizen, 2004). More importantly, these metacognitive comprehension strategies can be taught through teacher explanation and modelling (Pressley, 2002).

Reading in a second language is more complicated than reading in a first language as learners are exposed to unfamiliar vocabulary and syntax in addition to unfamiliar idiom and cultural references (McKeown & Gentilucci, 2007). This puts more cognitive strain on the process and requires a greater use of higher-order strategies such as metacognition to be successful, particularly as low-proficiency L2 readers are more likely to use bottom-up strategies, such as focusing on individual words and intrasentential features, to comprehend texts rather than top-down strategies such as prediction, making inferences, self-questioning, and evaluation (Davis & Bistodeau, 1993). There are many similarities in the cognitive skills used in L1 and L2 reading but Grabe and Stoller (2019) identified three areas in which L2 reading comprehension processes and instruction differ from L1: linguistic and processing differences, individual and experiential differences, and socio-cultural and institutional differences. The difference of most relevance for this review is that second-language learners have greater metacognitive awareness as they have been taught through instruction and an explicit learning environment (Grabe & Stoller, 2019). This suggests that metacognitive strategies might more easily be taught to and used by students reading L2 texts.

Difficulties of Reading Latin

Latin is an inflected language, and whilst it requires the same knowledge of phonics, spelling, morphology, vocabulary, syntax, and semantics as English (Sparks & Wegenhart, 2011), there are differences in how reading the two languages is approached. A reader's ability to comprehend a Latin text depends predominantly on their ability to fluently decode the form and phonics of Latin words and on the depth of their vocabulary knowledge (Wegenhart, 2015). These skills are initially developed in our first language, and many learners find learning Latin difficult because they do not have sufficient proficiency with their decoding and comprehension skills in their L1 (Sparks & Wegenhart, 2011). Many find Latin grammar difficult (Sparks & Wegenhart, 2011), particularly the inflected nature of the language and its subsequent varied word order. A lack of exposure to the language as a result of the limited curriculum time often provided in the curriculum also leads to learner frustration when reading in Latin (Markus & Ross, 2004). Moreover, 'reading' in Latin is also most often a form of translation as students (and often teachers) who cannot read it by sight must 'detangle' the Latin word order and reorder it to make sense in English (Hoyos, 1993). Latin is therefore often treated as a puzzle to be solved rather than a language which expresses meaning (Olimpi, 2019) and so students often lack the skills required to overcome the obstacles they face in reading comprehension.

Suggestions for improving Latin reading skills have included using pre-reading tasks (Rea, 2006), contextual learning (Hoover, 2000), free voluntary reading (Olimpi, 2019), and tiered or embedded reading (Gall, 2020; Sears & Ballestrini, 2019). Markus and Ross (2004) and Rea (2006) suggest that it is important for students to pause when reading Latin to summarise what they have read as Latin stories are based in a different historical and cultural context and so comprehension of the story may be more difficult. Russell (2018)

found that teaching her Year 10 students to ‘read like a Roman’ by reading Latin in its given word order rather than jumping around the sentence to hunt for the verb – as is commonly taught in schools – had promise for improving their fluency in reading Latin (see also Hansen, 1999). No research was found that used metacognition as a way to improve reading comprehension in Latin and so this is an area calling for further investigation.

Metacognition and L2 Reading

While the importance of metacognition for reading comprehension was identified early on by Flavell (1979), Wenden (1987) was the first to relate his model of metacognition to L2 research. Wenden focused on the role of the three variables in metacognitive knowledge (person, task, and strategy) and the role of metacognitive strategies to either pre-plan or plan-in-action. She found utility in metacognition for L2 learning as it provided an expanded view of learners’ cognitive abilities, a way in which to view differences between successful and less successful language learners, and provided a way to influence learners’ use and choice of strategies. Since then, many studies have consistently pointed to a positive relationship between learners’ metacognition and second-language learning (Zhang & Zhang, 2019), including research into second-language listening (Goh & Hu, 2014; Goh & Vandergrift, 2011), reading (Dabarera et al., 2014; McKeown & Gentilucci, 2007; Teng, 2022; Zhang, 2010), speaking (Lam, 2010; Sato & Loewen, 2018) and writing (Ruan, 2014; Teng & Huang, 2019).

Many studies have shown that metacognition can be used to support L2 reading comprehension. Zhang (2010) found a strong relationship between metacognitive strategies and successful reading comprehension amongst university-level Chinese students studying

English (*N* = 20). However, this review has already shown that metacognition is more developed in older learners and the limited scope of the study may also prohibit the application of its findings to the current context. McKeown and Gentilucci (2007) investigated how a think-aloud strategy could be used to improve reading comprehension of school-age students studying English as a second language in American schools (*N* = 27). The students were taught in three groups according to their levels of English proficiency and whilst Spanish was the first language for most students, three students spoke either Urdu, Hebrew or Tagalog. The results varied between the three language levels and the think-aloud strategy proved most effective with the higher-proficiency students, suggesting that L2 learners need to have a certain level of language proficiency to be able to effectively use the higher-order metacognitive strategies. McKeown and Gentilucci suggest that the lower-proficiency students' decoding and vocabulary difficulties meant that they were stuck at the word level and so used bottom-up processes instead.

Zhang et al. (2008) used think-aloud protocols to assess the use of metacognitive reading strategies, such as self-initiation, planning, and monitoring, by Singaporean primary-age students aged 10-12 (*N* = 18) when they were reading in English. They concluded that successful readers used these strategies and again found that higher-proficiency learners were more likely to use them than low. A 2014 study by Dabarera et al. on 12–15-year-old students (*N* = 67) in a Singaporean secondary school found a positive relationship between increasing metacognitive awareness and improvements in English second-language reading comprehension. Quantitative data was gathered through the MARSI (Mokhtari et al., 2018) and reading comprehension test scores and was supported through student interviews. The experimental group received metacognitive strategy instruction and outperformed in all post-test measures the control group, who did not receive any explicit metacognitive

strategy instruction (Dabarera et al., 2014), providing strong evidence for the role metacognitive strategy instruction can play in learning success. However, it must be considered that whilst English may not be the language that the students in either of these studies speak at home, it is the main language used in Singaporean schools and so their results may not be comparable to learning a language such as Latin in a UK school where students will have a much lower level of proficiency.

A significant portion of research into metacognitive reading strategies has been undertaken with Chinese students learning English as a foreign language and so a cautious approach will need to be taken to determine how applicable these results are to learning other languages, particularly Latin. However, a study by Mokhtari and Reichard (2002) into the reading strategy use of English-speaking students in America and Arabic-/French-speaking students in Morocco (N = 350) found that the two groups had very similar patterns of strategy awareness and reported usage which suggests that evidence for reading strategy use can be extrapolated from research on different language learning. The study also suggested that L1 and L2 readers use the same strategies when they have the language proficiency to do so. A common theme in these studies has been the importance that a learner's level of language proficiency plays in the success of metacognitive instruction. The proficiency level of the students should therefore be considered when considering the effectiveness of the intervention.

Developing an Intervention

Learners regularly meet obstacles and this difficulty can be beneficial to learning for it brings awareness to problems, helps regulate effort, and provides recognition of a need for help

or the use of strategies (Efklides, 2011). By addressing these obstacles and thinking through their nature, students and teachers can develop strategies to overcome them. In order to develop an effective classroom strategy which uses metacognition to improve reading comprehension, it is necessary to understand what a metacognitive reading strategy is, how teachers can best implement them, and why students decide to use them or not.

Metacognitive Instruction and Strategy Use

Metacognition can be conceived as "a set of self-instructions for regulating task performance" (Veenman et al., 2006, p. 6). This self-instruction does not develop automatically, particularly for lower-attainment learners (Wenden, 1987), for you cannot use a strategy if you are not aware of it (Pintrich, 2002). Nevertheless, it can be taught (Ozturk, 2017), and teachers can play a vital role in developing metacognition in their students by modelling metacognitive strategies (Wall & Hall, 2016). However, Ozturk (2017) found that a teacher's ability to deliver metacognition instruction is dependent on their own level of metacognition, with only highly metacognitive teachers creating moments for metacognition in their teaching practice and those with lower metacognition instead relying on teacher-initiated and -controlled cognitive strategies.

It has already been considered that a metacognition instruction programme, through which students are taught about metacognitive strategies – about how and why they work and when to use them – can be used to improve their metacognition. But what form should metacognitive instruction take? Schraw (1998) identified four ways to increase metacognition in classroom settings: (1) promote general awareness of the importance of metacognition, (2) improve knowledge of cognition, (3) improve regulation of cognition, and

(4) foster environments that promote metacognitive awareness. Veenman et al. (2006) identified three fundamental principles for successful metacognitive instruction: (1) ensure connectivity by embedding metacognitive instruction in the content matter; (2) encourage learners to make the initial effort needed by informing them about the usefulness of metacognitive instruction; and (3) guarantee the smooth and maintained application of metacognitive activity by prolonging training. Veenman referred to these principles as the *WWW&H* rule (What to do, When, Why and How).

However, before considering how a metacognitive reading comprehension intervention might be developed, attention must be paid to what an L2 learning strategy is, how learners approach and use strategies, and what makes interventions most effective. Oxford (2016) analysed 33 definitions of L2 learning strategies to produce a comprehensive definition:

> L2 learning strategies are complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts in order to regulate multiple aspects of themselves (such as cognitive, emotional, and social) for the purpose of (a) accomplishing language tasks; (b) improving language performance or use; and/or (c) enhancing long-term proficiency (Oxford, 2016, p. 48).

She continues that they can be used flexibly and creatively, can be combined, and that the appropriateness of any strategy depends on multiple personal and contextual factors.

Three strategy types have been identified for reading (Cohen, 2021):

Support Strategies	Using a dictionary; underlining; highlighting; taking notes; paraphrasing; mental translation.
Global Strategies	Reading selectively; posing and answering questions; identifying the main ideas; making connections with background knowledge; guessing meaning from context; making inferences; summarising.

Monitoring Strategies	Identifying difficulties while reading; taking action to repair errors in comprehension; reflecting on information learned from the text.

When Dabarera et al. (2014) considered which strategies the students in their study used, they found that students were more likely to use general reading strategies that helped prepare them for reading (global strategies) and were averse to using practical strategies such as using dictionaries (support strategies). This suggests that knowledge of learning strategies is not equal, and students have different patterns of preferred strategy use. Moreover, the number and types of strategies students use before, during, and after the intervention can be used to evaluate how effective the intervention is in developing their metacognitive strategy use.

Learners have control over the learning strategies they use and they have to be knowledgeable about available strategies and be motivated to use them (Donker et al., 2014). Moreover, various aspects influence how a learner approaches a task, such as self-efficacy beliefs and whether they believe they can accomplish a task, task-value beliefs and whether they believe the task is interesting and important, and their goal orientation and the reasons why they are performing the task (Donker et al., 2014). Strategy use is also context-dependent as they are goal driven (Garner, 1990) and so learners may not use strategies in contexts in which they have not been taught (Hattie et al., 1996).

Interventions have greater effect the longer they are, for over time students become more familiar with the strategies and so their use becomes more automated and sophisticated (Dignath & Büttner, 2008). Hattie et al. (1996) also caution that the success of interventions is not universal. One reason for which may be the level of individual motivation, as students

“need to have both the ‘will’ and the ‘skill’ to be successful in classrooms” (Pintrich & De Groot, 1990, p. 38). Moreover, students may actively resist metacognitive instruction, particularly if they are used to and have been rewarded previously for more passive learning (Sternberg, 1998). This may be because they feel uncomfortable using metacognitive techniques if they do not understand how to take a more active role in their learning or why it is important, or they may fear testing the limits of their ability (Gourgey, 1998). Scaffolded instruction and initial support will need to be used during the intervention to overcome any student resistance to strategy use.

Wilson and Bai (2010) investigated teachers’ understanding of metacognition and the nature of what it means to teach students to be metacognitive through a study of K-12 teachers in the US who were studying graduate programmes in education (*N* = 105). They found that to encourage metacognition in the classroom, metacognitive thinking needs to be modelled by the teacher and then shared by teachers and students so it is visible and explicit. Moreover, this modelling should go beyond just telling students about the strategy process by also explaining the mental processes underlining the metacognitive strategies being taught (Wilson & Bai, 2010). Fisher (1998) proposed using ‘meta-teaching’ to develop metacognitive skills in children, in which the language of ‘thinking’ and ‘learning’ is used by teachers throughout lessons and teachers also use think-aloud to model their own metacognitive thinking as they explain tasks and demonstrate strategies. Verbal or written prompts, for example questions (e.g., “What do I know about this topic?”) or sentence starters (e.g., “My difficulties in this topic are…”), can also be given to students during the intervention to help scaffold metacognitive thinking (Yerdelen-Damar & Eryılmaz, 2021).

Teachers also need to be instructed in metacognition and how to use metacognitive strategies in the classroom. Ozturk (2017) studied the levels of metacognitive awareness and use of metacognitive strategies of English language teachers in a Turkish university (*N* = 30) and found that teachers had low levels of metacognitive knowledge and competencies for teaching metacognition before the intervention, which is supported by other studies (Muijs et al., 2014). Furthermore, Ozturk (2017) found that teachers who scored poorly on levels of metacognition in the pre-test were much less likely to have integrated metacognition into their lesson plans. This suggests that the teacher's level of metacognition is an important factor in the use and success of metacognitive instruction and will need to be addressed during the teacher interviews in this research.

Reading Comprehension Strategy

There is no agreed typology of classroom metacognitive strategies (Perry et al., 2019). Classroom tasks such as writing frames, mind maps, or concept maps can be used to help students understanding how to learn. Mokhtari (2016) suggests that students should be encouraged to engage in comprehension monitoring and have clear goals for their reading to allow them to develop metacognitive reading strategies. Think-aloud can also help students to activate metacognitive monitoring (McKeown & Gentilucci, 2007).

Goh and Vandergrift (2011) propose a metacognitive pedagogical sequence incorporates four processes which interact with each other (see Figure 1): 1) planning for the activity; 2) monitoring comprehension; 3) solving comprehension problems; and 4) evaluating the approach and outcomes. The process was developed for use with L2 listening but can also be used for other learning, including reading comprehension.

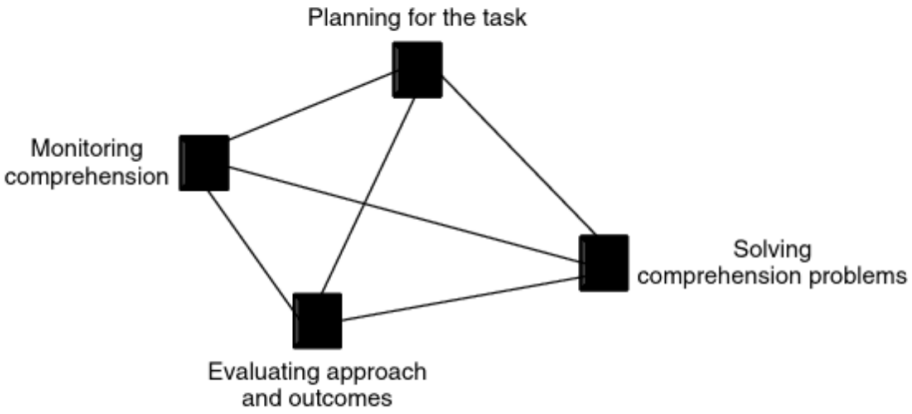

Figure 1: Interactions within the metacognitive pedagogical sequence, taken from Goh & Vandergrift (2011, p. 106)

Varga (2017) studied teachers' use of learning strategies and suggested that they help students develop metacognitive perspectives on the texts they are reading. The study was completed over four years with Swedish students in Grades 6-9 (age 12-16) through classroom observation during reading lessons. The teachers' strategies supported the students in five ways: 1) to identify and illustrate the premises of their own queries, approaches, and viewpoints; 2) to focus on their interpretations of the text; 3) to focus on their feelings in response to it; 4) to develop their awareness of the comprehension strategies they use and use of meta-language; and 5) to focus on the interaction between the text and the reader. The relevance for these findings in relation to the present study are limited as it is not possible to replicate the length of this longitudinal study, but it suggests a variety of ways in which teachers can develop students' use of metacognitive strategies during reading and also reinforces the importance of developing metacognitive strategy use over time.

Teng (2022) studied the benefits of using a metacognitive reading strategy with fifth-grade (age 11-12) students learning English in Hong Kong (*N* = 25) and used a guided question-

asking intervention before, during, and after reading. Following the Question Answer Relationship framework proposed by Raphael and Au (2005) and the related Question As Thinking (QAT) framework developed by Wilson and Smatana (2011), Teng's intervention asked questions of the students to elicit relevant background knowledge before reading, focus on relevant reading strategies during reading, and evaluate strategy use afterwards (see Appendix One – Metacognitive Prompts). Teng found that the students developed a wider awareness of metacognitive strategies and were encouraged to take more initiative while reading and to self-regulate their reading. An effect size of 0.44 was also found for improved reading performance with students with advanced reading levels making the most improvement, in line with McKeown and Gentilucci's findings on the effectiveness of metacognitive strategies and levels of reading proficiency (2007).

The common link between these strategies is that teachers should guide students to engage with the metacognitive strategy throughout the reading process. They should consider their purpose of their task, context, and prior knowledge to plan their approach, monitor their understanding whilst reading, and once finished, evaluate the methods they used to complete the task. This process will inform the development of the metacognitive intervention used in this study.

Summary and Research Questions

The literature review has shown that teaching metacognitive reading strategies to students can improve their learning outcomes and be a way to motivate students and help them improve their confidence when they meet difficulties. However, metacognition itself is a difficult construct to measure as it is an internal cognitive process, and the nature of

practitioner research means that think-aloud protocols and observations cannot be held whilst the students are reading in lessons. As metacognition was initially considered for this research project as a factor that can develop learner autonomy and intrinsic motivation, the research questions will not measure the level of metacognition that the students develop but instead how metacognitive strategy instruction could be used to improve motivation for and confidence in reading Latin stories.

The first research question addresses student perceptions of the obstacles faced when reading Latin and how challenging they find the subject to be. The literature review has shown that learner perception of the level of difficulty of a subject and of their own ability to use strategies can lead to maladaptive strategy use (Donker et al., 2014; Gourgey, 1998). The second research question measures student understanding of strategy use, for an understanding of metacognitive instruction should lead to greater strategy awareness and use (Dabarera et al., 2014). The final question considers the relationship between metacognition and learners' motivation and confidence in language learning (Ushioda, 2014) and evaluates how effective the metacognitive reading intervention was in improving these attributes.

The research questions are:

1. What obstacles do Year 8 students believe they face when reading Latin stories?
2. What understanding do Year 8 Latin students have of the strategies that can be used to read a Latin story?
3. How effective is a metacognitive intervention for strengthening motivation for and confidence in reading Latin stories?

Methodology

My research questions evaluate both student perceptions of the obstacles they face when they read Latin stories and the effectiveness of using a metacognitive reading strategy for reading Latin stories. Research methods that gather both student responses to reading Latin stories and their teachers' experience with using the intervention will be essential for answering these questions. I decided to use a mixed-methods research design to elicit both quantitative and qualitative data from students in Year 8 who study Latin, as well as qualitative data from their teachers. A mixed-methods approach was chosen to allow me to compare and contrast my qualitative and quantitative data in order to cross-check results and build a fuller picture (Denscombe, 2017).

Denscombe (2017) advises that a mixed-method approach should be based on 'what works best' for addressing a specific problem and methods should be chosen accordingly. Therefore, I started designing my research plan by considering how best to address my research questions within the confines of my context. Each research question was addressed by the following aspects of my data collection:

Table 1: How research questions are addressed by data collection methods

	Research Question	**Data Collection Methods**
RQ1	What obstacles do Year 8 students believe they face when reading Latin stories?	Questionnaire (questions 2 and 3) Student responses during Think, Pair, Share in lesson 1 Interviews
RQ2	What understanding do Year 8 Latin students have of the strategies that can be used to read a Latin story?	Questionnaire (questions 4 and 5) Interviews
RQ3	How effective is a metacognitive intervention for strengthening motivation for and confidence in reading Latin stories?	Questionnaire (questions 1 and 6) Interviews

Rationale for Research Methods

I decided not to use a think-aloud protocol or observations for this research as the constraints inherent in practitioner research and my timetable meant I would not be able to undertake think-aloud protocols during lessons nor would I be able to regularly observe either my own lessons or the other Year 8 Latin lessons as they were timetabled at the same time. I instead included questions in the interviews that asked students to recall what they thought about during a reading task but bore in mind that these recollections may not have been accurate following the inevitable gap between completing the task and attending the interview (Bowles, 2010). To minimise this gap, I organised the interviews so that they happened either on the same day or the next day to the lesson in question.

I used questionnaires as a primary research method as they enable data to be collected from a large number of participants without interfering in their classroom experience. Akturk and Sahin (2011) believe such positives outweigh any negatives, such as the potential reluctance of participants to express their ideas in a questionnaire. Uhl Chamot (1987) also proposes that the best way to get at which strategies learners use is to ask them. I therefore also used interviews to facilitate a more in-depth investigation and to give my students the opportunity to expand on their answers. Moreover, as interviews are time consuming, I decided to undertake group interviews so that a broader spectrum of views could be heard in the time I had available. Group interviews can be particularly beneficial if participants with differing views and experiences are chosen to be interviewed (Denscombe, 2017). I will explain in the participants section how I chose who to interview in order to gain this range of opinion and experience.

Questionnaire

I used Microsoft Forms to administer the questionnaire (see Appendix Two – Questionnaire) as it is regularly used in school for learning and administrative tasks and so the students were already familiar with its layout and functionality. Online questionnaires also make it easier for the researcher to collect large amounts of data and can be easier for participants to complete (Cohen et al., 2018). The questionnaire was set as an assignment on Teams for students to complete at the start of a lesson, and it took less than 10 minutes to answer.

The instructions on the questionnaire encouraged the students to be honest in their answers. Nevertheless, it must be considered that my prior relationship to the students and my role as both Head of Department and classroom teacher may have led some students to answer in a way that they thought would please me, for participants may give what they believe to be socially desirable answers, leading them to either under or over report (Cohen et al., 2018).

The questionnaire comprised 16 items across seven questions and used three different measures: enjoyment (question 1), strategy use and confidence (questions 2-5), and willingness to read Latin (question 6). Question 7 asked students which set they were in so the data could be separated according to whether they were in the intervention or control group. An additional question was included in the final questionnaire which asked students what they understood metacognition to mean, to explore whether they had retained knowledge of metacognition following the intervention. However, on reflection this question should also have been included in questionnaires 1 and 2 as it would have allowed me to compare their knowledge of metacognition from the beginning to the end of the intervention. The questions either required students to answer using a Likert scale or

provided a free text box for students to explain their answers. Quotes from the questionnaires given in the Findings and Discussion will be presented as students typed them.

Enjoyment measure

The enjoyment measure was adapted from Ryan and Connell's 'enjoyment rating' measure (1989) which they used with children in Grades 3-6 in the US (equivalent to Years 4-7 in the UK). Question 1 asked students to rate the statements 'I enjoy learning Latin' and 'I enjoy reading stories in Latin' using a 4-point Likert scale (very true, true, not very true, not at all true). Enjoyment was taken as an indication of levels of motivation as the two concepts are interlinked (Ibrahim, 2016; Ryan & Deci, 2020) and children often talk of the two concepts together (Henry & Thorsen, 2019).

Strategy use and confidence measure

The students' use of strategies was measured by questions 2 and 3. Question 2 required students to complete the statement 'I find reading stories in Latin…' using a 4-point Likert scale (very easy, easy, difficult, very difficult). Question 3 was an open-ended question which asked students to explain which aspects of reading Latin they find easy or difficult. The benefit of an open-ended question is that it "can catch the authenticity, richness, depth of response, honesty and candour which […] are hallmarks of valid qualitative data" (Cohen et al., 2018, p. 475). This question was answered using a free text box and so they could choose how much to write.

Questions 4 and 5 measured the students' confidence in reading Latin stories, and the format and wording of the questions was adapted from the Rochester Assessment Package for Schools (RAPS), which was developed from the model of self-systems processes proposed by Connell (Pierson & Connell, 1992; Research Assessment Package for Schools (RAPS), 1998; Skinner et al., 1990) and used with middle-school-age students (ages 11-14). Question 4 asked them to rate four statements referring to their confidence with using strategies and what they do when they get stuck, using a 4-point Likert scale (always, sometimes, occasionally, never). The second point in the Likert scale 'sometimes' was an error when the questionnaire was developed as the phrasing 'most of the time' was intended. Although the hierarchical nature of the Likert scale might suggest that 'sometimes' refers to a greater frequency of use than 'occasionally', the two words are too closely related to be able to distinguish them and so they must be treated equally during the analysis of findings.

Question 5 was another open-ended question which asked students to list which strategies they would use to help them understand a Latin story. This question was also answered using a free text box and so no prompts were given for which strategies students could refer to and they could choose how much to write.

Willingness to read Latin measure

Question 6 was adapted from the 'willingness to communicate in French' measure developed by MacIntyre et al. (2001). They used a 5-point Likert scale but I removed their middle point 'willing half of the time' so that my students would have to choose an answer either way as a mid-point in a scale may encourage satisficing (Cohen et al., 2018). Question

6 therefore asked students to rate five statements referring to tasks associated with reading Latin according to a 4-point Likert scale (almost never willing, sometimes willing, usually willing, almost always willing).

Interviews

Interviews were conducted with both students and teachers. The interviews were not recorded. Instead, I kept a record of the interviewees' answers by making written notes on Microsoft OneNote during the interviews, and the interview transcripts were later transferred onto Microsoft Excel for coding.

Student interviews

Student interviews were conducted either at lunchtime or after school and each took between 25-30 minutes. Before each interview, I explained that by attending the students were giving their consent to be interviewed and that they could say no if they didn't want to take part. I also explained the purposes and format of the interview, what was required of them, and that their answers would remain anonymous. I encouraged them to give answers based on their own experiences and not to say what they thought I wanted to hear or to give the same answers as others in the interview group if that was not their own experience. However, it must be considered that they may have held back on some answers or said what they thought myself or the other students expected to hear. Taking part in an interview is not a normal activity for the students and so they may have withheld information (either deliberately or not), distorted the truth, or acted differently to position

themselves according to how they anticipated others might view them (Cohen et al., 2018; Hammersley, 2013).

The interviews were semi-structured so that I could adapt them where necessary to expand on the students' answers further (Cohen et al., 2018; Marta, 2021). I designed the interview questions so that the vocabulary used was appropriate for the age group and the questions were not leading or ambiguous (Arksey & Knight, 1999; Krähenbühl & Blades, 2006). The interview questions asked students to reflect on a reading task in their most recent Latin lesson and the strategies they used to complete it:

1. How did you feel when the instructions for the reading task were given in your lesson?
2. Why did it make you feel like this?
3. What did you think about before you started the task?
4. What strategies did you use to complete it?
5. What made you decide to use these strategies?
6. How did you feel when the task was finished?
7. What did you learn about how to do this type of task in the future?

In the second interviews, I also asked students about their understanding of metacognition and how they monitored their understanding whilst reading.

Teacher interviews

Interviews were also undertaken with the two colleagues who used the intervention with their Year 8 Latin classes, each lasting around 20-25 minutes. My colleagues had been involved in the development and implementation of the intervention and so were already aware of the nature of my research and gave their consent to be interviewed. I informed them that their answers would be used anonymously.

The interviews were semi-structured and were based on nine questions:

1. What is metacognition?
2. Did you know about metacognition before the intervention?
3. How effective do you think the resources used to introduce metacognition were?
4. How did your students react?
5. Do you think it had any effect on their ability to read or on their motivation and confidence?
6. Were there any problems with using the intervention?
7. Were you consistent in showing your students the metacognitive strategy PPT during the intervention?
8. Did your students use the bookmark?
9. What would you do differently to implement the intervention if we were to do it again?

Data Analysis

The quantitative data was analysed in Excel using formulas to count how many times a certain answer was given to each question. This method allowed for the data to be split according to whether the responses came from students in the intervention or control groups but also by individual set so that analysis could be done on both levels. Responses were expressed as a percentage to facilitate reading and comparison, with the raw number of responses and total number of students in that group given in brackets for transparency. This data was also turned into graphics to make for even easier comparison and analysis between each questionnaire and the intervention and control groups.

The qualitative data from both the questionnaires and interviews was analysed following the phased approach suggested by Lester et al. (2020): 1) prepare and organise the data; 2)

transcribe the data; 3) become familiar with the data; 4) memoing the data; 5) coding the data; 6) move from codes to categories and categories to themes; and 7) making the analytic process transparent. The data was analysed using inductive coding to allow the analysis to emerge from the data itself rather than from the constraints of a structured methodology (Cohen et al., 2018; Thomas, 2006). The repetition of the questionnaires and interviews meant there was a large amount of data to code and interpret. However, once the initial codes were organised into categories and themes it was much easier to see patterns within the data and compare the codes to the theories explored in the literature review.

Structure of the Intervention

The intervention was delivered over the Spring term and, following Gourgey (1998), was split into three phases with decreasing levels of scaffolding (see Table 2): heavy scaffolding of intervention (January), light scaffolding of intervention (February), no scaffolding of intervention (March). The intervention resources were shared with the other teachers and were designed to be easy to use in the classroom. A PowerPoint presentation introduced the students to the concept of metacognition and to the metacognitive reading strategy (see Appendix Three – Introduction to Metacognition PowerPoint). Students were also given a bookmark when they started the light scaffolding phase which contained reminders of the metacognitive reading strategy (see Appendix Four – Bookmark).

Table 2: Phases of the intervention

Phase	In lesson intervention	Measure
First reading lesson (Jan)	Teachers set questionnaire via Teams for students to complete at start of the lesson. Teacher uses PPT to explain what metacognition is. Class use Think, Pair, Share to discuss what they find difficult about reading Latin stories and strategies they use. Students write their individual obstacles/strategies on a piece of paper which is collected in by the teacher. The class discuss the most common obstacles/strategies and write a list on the board, which the teacher takes a photo of to record it. Teacher explains what strategies they could use to improve using same PPT. Students apply these strategies to reading a short story in Latin. The strategies are modelled and supported by teacher. Class discuss how the strategies could be improved/used more effectively.	Pre-test – questionnaire 1 Semi-structured interview with group of three students from each of the intervention classes after the lesson.
Heavy scaffolding phrase – next 3-4 reading lessons (Jan)	Teacher displays PPT slide of strategies on board. Students apply strategies to reading other Latin stories. Some modelling and support from teacher. Class discuss how the strategies could be improved/used more effectively.	
Light scaffolding phase – next 3-4 reading lessons (Feb)	Teacher displays PPT slide of strategies on board to remind students that they can use them but no longer models and supports students with how to use them unless they ask for help. Students are given a bookmark of prompts to remind them of the strategies.	Post-test 1 – questionnaire 2
No scaffolding phases – next 3-4 reading lessons (March)	Teacher no longer displays the PPT and only reminds students of strategies if they become stuck on what to do.	Post-test 2 – questionnaire 3 Semi-structured interview with group of three students from each of the intervention classes after the last of these reading lessons.

The questionnaire was completed three times, in January immediately before the intervention started, in February after the main phase of the intervention finished, and in March when the intervention ended. Group interviews were undertaken with students from each of the intervention classes after they completed the questionnaires in January following the first intervention lesson and in March after the intervention had finished. Ideally a third, middle round of interviews would have been completed in February after the second questionnaire; however, it was a very busy period in the term and so I was not able to arrange interviews with the students at that time.

Participants

Eighty-nine students (ages 12-13) study Latin in Year 8 and are divided into five sets (here referred to numerically 1-5). The sets are based on their attainment in the Latin, English, Theology, Geography, and History examinations at the end of Year 7 with Set 1 the highest attainment, Sets 2 and 3 middle attainment, and Sets 4 and 5 lower. I teach Set 1, one colleague teaches Sets 2 and 3, and another teaches Sets 4 and 5. Sets 1, 2, and 4 were chosen to receive the intervention to include students at all attainment levels. Sets 3 and 5 acted as a control group.

All 89 students in Year 8 who study Latin were invited to take part in the research as no parent opted their daughter out of participation. The students were asked to complete the questionnaires but not all completed it due to being absent during the lesson the questionnaires were set or because they chose not to take part. As a result, the number who completed each questionnaire varied: questionnaire 1 $N = 85$, questionnaire 2 $N = 75$, questionnaire 3 $N = 80$ (see Table 3). The greatest variation in numbers of students who

completed the questionnaire was for questionnaire 2 as there was a sports fixture that day and so five students in Set 1 and four students in Set 2 were absent. They were asked to complete the questionnaire at another time but did not do so.

Table 3: Number of students who answered the questionnaires

Set	**Total students**	**Questionnaire**		
		1	*2*	*3*
Set 1	21	21	16	20
Set 2	19	19	15	17
Set 3	21	20	20	20
Set 4	16	14	14	13
Set 5	12	11	10	10
Intervention classes	56	54	45	50
Control classes	31	31	30	30
Total	89	85	75	80

Three students from each of the intervention classes were invited to interview. They were chosen using purposeful (or criterion-based) sampling so that a full range of experiences and attitudes could be explored (Cohen et al., 2018; Maxwell, 1996). From each class, the teacher was asked to recommend one student whom they perceived to be motivated and confident in reading Latin stories, one who was somewhat motivated and confident in reading, and one who seemed to lack motivation and confidence (see Table 4). However, the limitations of this method are that the selection was based on teacher perceptions, and these may not align with how students actually feel about reading stories in Latin.

Table 4: Sampling of students who were interviewed

Student	Set	Level of motivation and confidence as perceived by teacher
A	2	High
B	2	Low
C	2	Middle
D	4	Middle
E	4	Low
F	4	High
G	1	High
H	1	Middle
I	1	Low

Collaboration

I collaborated with my two colleagues in the Classics department throughout the process of designing, implementing, and evaluating the intervention. In the Autumn term, I used a department meeting to address the issues we felt were preventing students from reading Latin confidently. I explained the evidence for using a metacognitive reading strategy and they agreed that it held promise for helping our students develop better strategies for reading. One teacher had learnt about metacognition during their teacher training but had not used it in their teaching practice since. The other had not heard of metacognition before and so I explained what metacognition was. We then discussed how best to introduce metacognition to the students, and following this meeting I developed the resources for the intervention.

Both teachers taught the intervention and also administered the questionnaires to their classes. Throughout the intervention period I reminded them of the steps that needed to be taken, and we discussed the progress of the intervention so we were all delivering it in the same way. Following the intervention, I interviewed both teachers to gather their feedback on the delivery of the intervention and how it could be improved for future use.

In the summer term, I also gave a presentation to colleagues from a number of departments (History, Biology, Physics, Theology, English, and French) to explain my research and how it could be used as part of the whole-school Empowered Learning programme.

Ethics

I used the BERA guidelines to ensure that my research met all ethical considerations in terms of my responsibility to participants (British Educational Research Association [BERA], 2024). This involved consideration of three key principles of ethical research: voluntary participation, informed consent, and confidentiality (Marquis & Daku, 2021). Ethical approval for my research was also gained from the University of Oxford Central University Ethics Committee (CUREC approval reference: EDUC_C1A_23_294 – see Appendix Five – CUREC Approval).

Written permission to undertake research in school was gained from the Headteacher, and I wrote to parents in advance to explain the nature of the research and give them the opportunity to withdraw their daughter from the study (see Appendix Six – Parent Information Letter). The students were also informed about the research through a PPT presentation in a lesson at the end of the Autumn term, a more detailed information letter was uploaded to Teams following this lesson, and students were encouraged to ask any questions (see Appendix Seven – Information for Students). The students were informed that by completing the questionnaire or agreeing to be interviewed they were giving their consent to take part, and it must be considered that some students may have given their consent in order to please me in response to the power imbalance in our relationship (Cohen et al., 2018). To mitigate this, they were reminded at each step that they could

choose not to take part if they wished to without penalty and could stop their participation at any time (BERA, 2024). Moreover, knowing my students, I do not believe that they would have had a problem telling me no if they did not want to participate.

Student data was collected anonymously to ensure their privacy (Cohen et al., 2018), and letter acronyms were used to refer to the students who were interviewed. As only two teachers were interviewed, there is the possibility that they might give details in their answers that make it clear which classes they taught and so could be identified (Cohen et al., 2018). To avoid this, every effort has been made in the reporting of their interview data to remove such identifiable information (BERA, 2024).

Interviewees were chosen according to their motivation as perceived by their class teachers. It is possible that those who are low motivation may have realised that this is why they were chosen if they compared themselves to the other students in the interview group and that this may have caused them discomfort. The students were told that the groups were chosen randomly, and they showed no indication in the interviews that they realised that this was why they had been chosen.

The use of a control group in my research is also an ethical consideration as this meant that two classes did not experience an intervention which I believed would be beneficial to my students' learning. Control groups can increase the validity of results by providing triangulation and comparison with the intervention group (Maxwell, 1996). However, the control group may feel resentful or deprived if they realise that they are not receiving the benefit of the intervention (Cohen et al., 2018). The students and parents were told that there would be a control group, but they were not told which classes would be in it. Moreover, it was felt that as the intervention was only carried out over a relatively short

period of time and they would still continue to have the same high-quality teaching as normal during this period, any disadvantage would not be long lasting, and they would be introduced to any benefits that were found during the intervention as soon as it ended.

Findings and Discussion

The results of the intervention are presented here in relation to each research question before a concluding discussion bringing together what these findings may suggest about the effectiveness of using a metacognitive intervention with Year 8 Latin students.

Research Question 1: Perception of Obstacles

What obstacles do Year 8 students believe they face when reading Latin stories?

Year 8 students face a number of obstacles when reading Latin due to their limited proficiency after studying the language for only two years. The first research question considered student perceptions of the obstacles they face when reading Latin stories and how discussion of these obstacles can improve awareness of the strategies that could be used to overcome them and can encourage better strategy choice (Efklides, 2011).

This research question was addressed by the Think, Pair, Share activity conducted in lesson one, questions 2 and 3 in the questionnaires, and the interviews. In question 2 of the questionnaire, the majority of Year 8 students reported that they found reading Latin stories to be difficult or very difficult (see Table 5 and Figure 2), with those in the control classes rating reading as more difficult than those in the intervention classes across all three questionnaires. This perception of difficulty was fairly stable over the three questionnaires, although slightly more students in the intervention classes reported that they found reading Latin stories more difficult in questionnaire 3 than they had in the previous two. By contrast, students in the control classes reported more negatively in questionnaire 2 compared to questionnaires 1 and 3. These changes in perception of difficulty could be the result of

stories increasing in difficulty as the classes moved through the textbook or of how the students responded to the particular story read in their last Latin lesson. It must also be considered that other factors, such as their mood or experience in a different subject that day, may have affected how students responded. No one found reading very easy in questionnaire 1, but one student rated it as very easy in both questionnaire 2 and 3, though it is not possible to know if it was the same student in both.

Table 5: Q2 – Perceived difficulty of Latin

	Questionnaire 1		**Questionnaire 2**		**Questionnaire 3**	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Very easy	0% (0/54)	0% (0/31)	2% (1/45)	0% (0/30)	2% (1/50)	0% (0/30)
Easy	44% (24/54)	29% (9/31)	40% (18/45)	23% (7/30)	36% (18/50)	33% (10/30)
Difficult	54% (29/54)	65% (20/31)	51% (23/45)	57% (17/30)	52% (26/50)	60% (18/30)
Very difficult	2% (1/54)	6% (2/31)	7% (3/45)	20% (6/30)	10% (5/50)	7% (2/30)

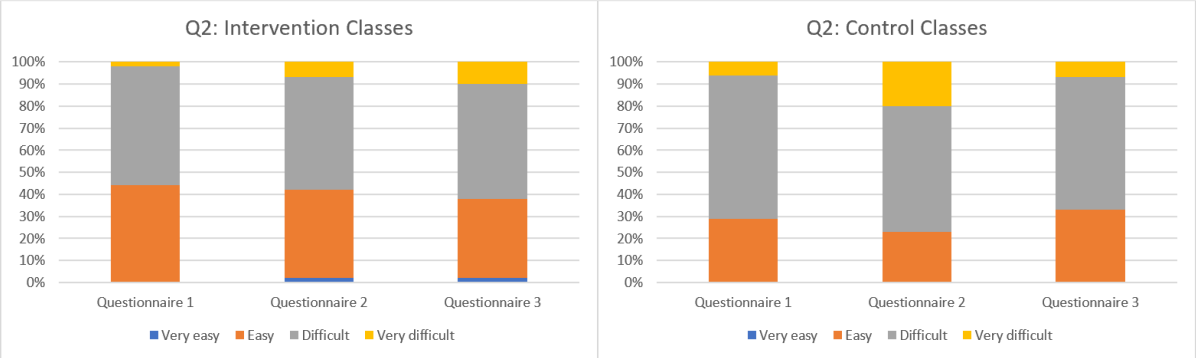

Figure 2: Q2 – Perceived difficulty of Latin

Question 3 of the questionnaire asked students to explain their reasons for this perceived level of difficulty. Students gave fewer positive reasons for finding Latin easy than they did negative ones for finding it difficult. The top five positive reasons identified were vocabulary, class or group work, derivatives, context, and using pictures to give context (see Table 6). This was supported by the answers students gave in the Think, Pair, Share activity with students in Sets 1 and 2 identifying knowing vocabulary well, vocabulary support, and using derivatives as important aids for reading Latin stories.

Table 6: Q3 – Positive reasons for perceived level of difficulty

	Questionnaire 1	Questionnaire 2	Questionnaire 3	Total
Vocabulary	6	5	5	16
Class or group work	1	1	6	8
Derivatives	4	2	1	7
Context	3	0	2	5
Pictures	2	2	1	5

Finding vocabulary easy was most often referred to across all three questionnaires, particularly when key words are revised before a story or when students are allowed to use the dictionary at the back of the textbook:

> *I find it quite easy because we learn the vocabulary that is needed for the text before, so it is easier than just seeing the text straight up without learning vocabulary before.*[1] *(Set 1, questionnaire 1)*
>
> *I know quite a lot of the vocab and if i get stuck i just look it up at the back of the book. (Set 3, questionnaire 2)*

Conversely, vocabulary was also the most-cited reason for finding reading Latin stories difficult (see

Table 7). Students reported that they often forgot what words meant:

> *I find it difficult as I find it hard to remember vocabulary so when I read in latin I often forget what the words mean. (Set 1, questionnaire 1)*
>
> *It's just difficult when you don't know what some words and you can't translate them. (Set 4, questionnaire 2)*

During the Think, Pair, Share activity, the students in Sets 1 and 2 specifically identified words that are easily confused as an obstacle that made vocabulary difficult when reading in Latin. They also reported vocabulary as an obstacle during the interviews: “It’s usually just the hard words that get me confused” (Student C, interview 1); “If it’s a new subject [topic]

[1] Student responses are presented as they typed them in the questionnaire.

that we haven't learnt before then sometimes it makes you feel quite frustrated as I don't know what anything means" (Student F, interview 1).

Table 7: Q3 – Negative reasons for perceived level of difficulty

	Questionnaire 1	**Questionnaire 2**	**Questionnaire 3**	**Total**
Vocabulary	27	15	17	59
Word order	13	18	18	49
Accidence	12	15	13	40
Tenses	9	5	4	18
Translation	0	5	7	12

Other obstacles identified in the questionnaires included word order, accidence (the inflection of words), tenses, and the process of translation itself:

> *I find learning the different endings such as bat bamus and overall endings in Latin very confusing and hard. (Set 5, questionnaire 1)*
>
> *Translating is difficult or knowing the order of the words. (Set 3, questionnaire 2)*
>
> *i get confused with word order and the endings and who is doing what. (Set 1, questionnaire 3)*

Similar obstacles were also reported by the students who were interviewed: "[Latin stories] just make me feel a bit angry. I see a word and I think I know a word but then I translate it and I don't know it. It frustrates me to know where to place the words to make the story proper." (Student E, interview 1). Word order, accidence, long sentences, and pronunciation were also identified as obstacles during the Think, Pair, Share activities.

From the interviews, it also became clear that other obstacles beyond the nature of the stories themselves made reading stories in Latin difficult. Students G, H and I in Set 1 and Student A in Set 2 had a fear of making mistakes ("It's a bit scary": Student G, interview 1) and they felt under pressure to get the answer right:

Because we are in top set and because, even though it may not be embarrassing, you feel like everyone else will know the right answer so it's a lot of pressure. (Student H, interview 1)

[I feel] some pressure as if everyone is doing it and you don't know what to you, you feel isolated and pressure. (Student A, interview 2)

A significant obstacle for students in Set 4 was their lack of understanding: "I don't understand, I know it's going to be reading, I can read it like its letters but I don't always understand it." (Student D, interview 2). Their lack of interest in reading in any language, not just Latin, also emerged as an obstacle: "[It makes me feel] annoyed. I don't want to read a lot. I don't like learning new languages in general, not just Latin, if it comes to me having to read words that aren't in English it's just hard […] even in English I don't like reading it." (Student E, interview 2).

When students found reading stories difficult, they felt a range of negative emotions:

Angry	Student E, interview 1
Annoyed	Students E and F, interview 2
Challenged	Student I, interview 2
Confused	Student D, interview 1; Student E, interview 2
Embarrassed	Student H, interview 1
Frustrated	Students E and F, interview 1
Scared	Students G and I, interview 1
Stressed	Student B, interview 1 and 2
Under pressure	Students C and H, interview 1; Students A, H, and I, interview 2

By contrast, understanding a Latin story made them feel happy (Students A and D, interview 1; Student G, interview 2), proud (Students A, E, and F, interview 1), accomplished (students B, C, and E, interview 1; Student B, interview 2), or that they were smart (Students H and G, interview 1).

The findings of this research question suggest that students perceive reading Latin stories to be difficult and the most significant obstacle they face is lack of vocabulary knowledge. There is a strong link between vocabulary knowledge and L2 reading comprehension and students with limited vocabulary knowledge will find it difficult to read fluently (Yamashita & Grabe, 2022). Low-proficiency students are also more likely to become demotivated by vocabulary and grammar and the difficulties they face in learning them than high-proficiency students (Falout, 2021). However, these feelings of difficulty can be utilised to trigger the metacognitive control processes that lead students towards strategy choice (Efklides, 2011). It is therefore vital for teachers to engage students in discussing the obstacles they face so they are aware of these areas of difficulty and can make informed decisions about strategy use to overcome them.

Research Question 2: Understanding of Strategies

What understanding do Year 8 Latin students have of the strategies that can be used to read a Latin story?

The second research question aimed to assess how a metacognitive intervention could improve students' understanding and use of strategies when reading Latin stories. By discussing strategy use with students they can develop a better understanding of which strategies to use and why, and also feel a sense of autonomy when choosing which strategies to use. This student involvement should help improve their motivation for using strategies and overcoming obstacles to reading (Hill et al., 2019).

The research question was addressed by questions 4 and 5 in the questionnaire and in the interviews. The first item in question 4 asked students to rate the statement 'If I get stuck

when reading Latin stories I know which strategies I can use to help me understand what is happening' according to a 4-point Likert scale (always, sometimes, occasionally, never) (see Table 8 and Figure 3). This was balanced by the opposing statement 'I don't know what to do when I find reading Latin stories difficult.' Across all three questionnaires, less than a quarter of students said they always knew what strategies to use, suggesting that understanding remained low and fairly constant. The questionnaire which saw the lowest response was questionnaire 2, which followed the intervention. This either suggests that students in the intervention classes had less understanding of strategy use following the intervention or that the students who did not complete questionnaire 2 because they attended a sports fixture during this lesson were the ones who in both questionnaires 1 and 3 reported 'always' to this item. There was also change within the control group as 6% and 7% of students in questionnaires 1 and 2 said they always knew which strategies to use rising to 13% in questionnaire 3, suggesting that factors separate from the intervention will also have played a role in students' understanding of strategy use (or their reporting of it) over this time.

Table 8: Q4 – Strategy use

If I get stuck when reading Latin stories I know which strategies I can use to help me understand what is happening:						
	Questionnaire 1		**Questionnaire 2**		**Questionnaire 3**	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Always	22% (12/54)	7% (2/31)	20% (9/45)	7% (2/30)	24% (12/50)	13% (4/30)
Sometimes	48% (26/54)	61% (19/31)	56% (25/45)	33% (10/30)	54% (27/50)	50% (15/30)
Occasionally	26% (14/54)	32% (10/31)	20% (9/45)	53% (16/30)	18% (9/50)	37% (11/30)
Never	4% (2/54)	0% (0/31)	4% (2/45)	7% (2/30)	4% (2/50)	0% (0/30)

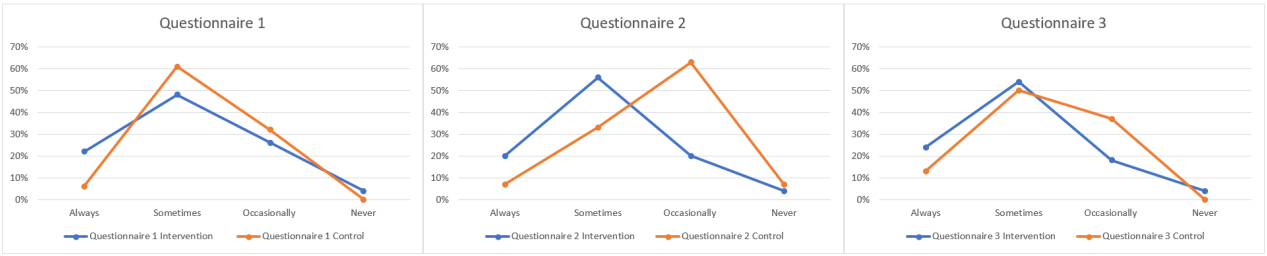

Figure 3: Q4 – Strategy use

In all three questionnaires, two students in the intervention classes reported that they never knew which strategies to use, despite repeated lessons which talked about strategy use. However, when these responses are considered in relation to the students' answers to question 5, it suggests that their response of 'never' in question 4 was not accurate. In questionnaire 1, the two 'never' responses came from students in Sets 2 and 4 and they reported that they did not know any strategies in question 5. However, in questionnaire 2, the two responses came from students in Set 4 and whilst one reported that they did not know any strategies in question 5, the other answered "I just search up or ask the person next to me" showing that they did understand some strategies to use but didn't report it in question 4. In questionnaire 3, one response came from a student in Set 1 and their response to question 5 "I go to the back of my latin exercise book where my vocabulary sheets are stuck in and I read off of those and gather information. I also go to the back of the Suburani textbooks and look at the alphabetically organised vocabulary" clearly shows that they understood which strategies to use and likely chose the wrong answer for question 4. The other response came from a student in Set 4 and their answer to question 5 shows that whilst their understanding of strategy use is minimal they did have some: "I mean when i look at the back of the suburbani books i feel like its quite difficult to understand it so its easier to look on my iPad at suburbani." Moreover, when rating the opposing statement 'I

don't know what to do when I find reading Latin stories difficult' only one of these students answered 'always' while the others answered 'occasionally' or 'sometimes'. This example shows the difficulty of using self-report measures as participants may not give accurate answers or truly understand what it is they are answering. It also highlights the benefits of using qualitative data alongside quantitative data to cross-check results (Denscombe, 2017).

If we turn to the qualitative data gathered in question 5 and the interviews, it is possible to develop a clearer picture about the students' understanding of strategy use. The strategies reported in question 5 were analysed by coding according to the type of strategy mentioned and the number of strategies each student referred to (see Figure 4). The intervention classes reported on average 1.91 strategies each in questionnaire 2 immediately following the intervention, an increase from 1.69 in questionnaire 1. This suggests that they had a greater understanding of strategy use following the intervention.

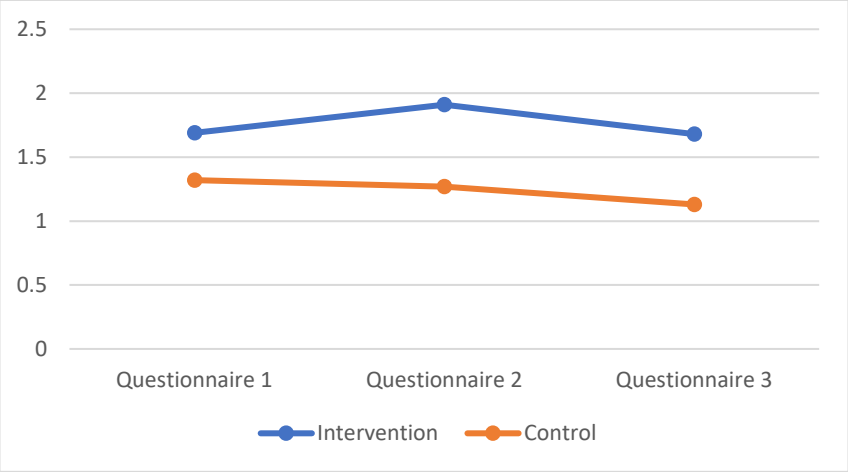

Figure 4: Q5 – Average number of strategies used

When the data is split according to set (see Table 9), this increase is more noticeable; for set 1 increased from 2.28 in questionnaire 1 to 2.67 in questionnaire 2, and set 4 increased from 0.86 to 1.57. In comparison, the control classes reported fewer strategies on average in

questionnaire 2 than in questionnaire 1. Moving to questionnaire 3, the increase in strategies reported by the intervention classes was not sustained as both the intervention and control classes reported fewer strategies on average. This suggests that any understanding of metacognitive strategy use gained by the students through the intervention did not continue after the teacher stopped scaffolding the strategies for them. However, there is the possibility that the students wrote fewer examples of strategies to use in questionnaire 3 as it was the third time they completed the questionnaire and they may have become fatigued with completing it and so have written less, rather than their understanding of strategy use becoming worse.

Table 9: Q5 – Average number of strategies used

Questionnaire	1	2	3
All classes	1.52	1.65	1.48
Set 1	2.28	2.67	2.35
Set 2	1.39	1.4	1.29
Set 3	1.3	1.25	0.95
Set 4	0.86	1.57	1.15
Set 5	1.38	1.3	1.5
Intervention	1.69	1.91	1.68
Control	1.32	1.27	1.13

The type of strategy that the students referred to did not change significantly over the intervention period (see Table 10). The majority of strategies students referred to were support strategies, such as dictionary use and checking notes, rather than more metacognitive global and monitoring strategies (Cohen, 2021). The most commonly referred to strategy was the use of the dictionary which is located at the back of the textbook. This is in contrast to Zhang et al. (2008) who found that the students in their study were averse to using practical strategies such as dictionaries. They concluded that learners have different

patterns of preferred strategy and so we should expect a range of strategies to be used in different contexts.

Table 10: Q5 – Most common strategies referred to

Questionnaire 1		**Questionnaire 2**		**Questionnaire 3**	
Strategy	*No.*	*Strategy*	*No.*	*Strategy*	*No.*
Dictionary	21	Dictionary	31	Dictionary	31
Ask teacher for help	13	Ask teacher for help	16	Ask teacher for help	15
Ask peers for help	10	Ask peers for help	10	Vocabulary knowledge	8
Vocabulary list in exercise book	10	Notes in exercise book	7	Online textbook	8
Exercise book	7	Online textbook	7	Ask peers for help	7
Learn vocabulary	6	Pictures	7	Vocabulary lists in exercise book	7
Pictures	6	Vocabulary knowledge	6	Notes in exercise book	5
Words already know	4	Vocabulary list in exercise book	5	Pictures	5
Grammar	3	Accidence	4	Textbook	5
Online vocabulary tool	3	Context	4	Accidence	3
				Break into smaller parts	3

The students' repeated reference to vocabulary tools in their responses to question 5 (e.g., the dictionary, chapter vocabulary lists which students stick into their exercise book for reference, using their own vocabulary knowledge, the vocabulary list given in the textbook at the side of each story) suggests that this is the part of reading Latin for which they need the greatest number of strategies. It clearly reflects the concerns they raised about vocabulary as an obstacle to reading Latin stories in their responses to question 2.

A number of students answered that they didn't know any strategies or did not give an answer (see Table 11). Whilst this number did go down for those in the intervention group, a number of students in these classes were not able (or did not want to) list any strategies to use even after the intervention.

Table 11: Q5 – Number of students who reported no strategy use

	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Don't know	7	1	5	4	4	1
No answer	1	0	0	0	2	0

Most of these students came from set 4 who appeared to be the least motivated of the classes. Students in set 4 rated themselves as enjoying Latin the least in question 1 (see Table 12 in the next section), and those interviewed expressed a feeling of despondency and said they were not motivated. When asked about strategy use they did give some suggestions in interview 1 (e.g., derivatives [Students F and D] and looking up vocabulary [Students D and E]). However, in interview 2, the main strategy they reported using was guess work. Guessing vocabulary or sentence meaning from context can be a useful strategy when reading L2 texts, particularly when meeting new vocabulary (Yamashita & Grabe, 2022). However, the students' comments about how hard Latin was in relation to guess work suggest that they were using this as a last resort rather than as a conscientious and calculated strategy:

Interviewer: *What strategies do you use?*
Student E: *Me personally even in English I don't like reading it. But in Latin there are lots of words that look similar so I get mixed up.*

(Students pause and look at each other.)

Interviewer: *What steps do you take to help you understand?*
Student F: *Like translate one or two words and if you don't understand one then guess what it means.*
Student E: *I won't really understand. I'll try to figure out what I know but the rest I'll just guess.*
Student F: *Learning a new language is hard. Some people memorise things more easily so find it easier.*
Student D *Asking other people.*
Student F: *Guessing what it means from similar words.*

The demotivation that the students in set 4 expressed may have led to them having a fixed mindset, whereby they think 'I am not good at languages' and so there is no point in engaging with the strategies that were discussed during the intervention (Dörnyei & Ushioda, 2021). Therefore, the disengagement these students felt in lessons may have prevented them from engaging with and benefiting from the intervention. This will be discussed further in relation to research question 3.

A final point to consider about the students' strategy use is why they use the strategies they reported. Most reported that they used them because they were the ones that worked best for them:

> *I use it because it's the best one that helps me. Other ones, like, I, if I do it all in one go it doesn't help me process it. (Student E, interview 1)*
>
> *It just suits the way I learn. If a strategy doesn't make sense I try and suit it to what works for me but other people might use other strategies. (Student F, interview 1)*

Other reasons given were that they were helpful (Student H, interview 1), or easier to find than other ones (Student G, interview 1). Student A also showed a concern for making sure that she was using the right strategies and wanted confirmation from the teacher:

> *I focus on my strategies and then I ask the teacher if the strategy is correct and then I can understand what the correct strategy is. Most of the time I stick with what I'm doing until I know it's wrong. (Student A, interview 1)*

Student B also said she used strategies as she couldn't always rely on the teacher to help and so needed to find ways to be able to the work on her own ("If the teacher is going around helping others then it's good to try and work out how to do it on your own first", interview 1).

The findings in relation to research question 2 suggest that strategy use was not consistent amongst the students, even after the intervention. It is particularly concerning that those who would most benefit from improved strategy use were those who did not appear to engage with the intervention and so did not develop their understanding of strategy use. Moreover, the types of strategies that students used did not change following the intervention. The students continued to use the strategies that they had learnt to use before the intervention rather than the newly taught metacognitive strategies. Reasons for this may be that learners tend to use automated strategies even if they are less effective, and they tend to avoid using new strategies if they do not have sufficient knowledge and understanding or if they believe the outcome of the strategy is not worth the effort required to use it (Garner, 1990).

Research Question 3: Effectiveness of Intervention

How effective is a metacognitive intervention for strengthening motivation for and confidence in reading Latin stories?

Metacognition can improve motivation for task completion (Efklides, 2011) and metacognitive beliefs have a positive relationship with confidence (Jiang & Kleitman, 2015). The third research question therefore addressed the effectiveness of the metacognitive intervention by asking whether it improved the students' motivation for and confidence in reading Latin stories. It was addressed by questions 1 and 6 in the questionnaire and during the interviews.

Question 1 asked students to rate the statement 'I enjoy learning Latin' and 'I enjoy reading stories in Latin' according to a 4-point Likert scale (very true, true, not very true, not all true). In questionnaire 1, the students in the intervention classes reported a slightly higher

enjoyment for Latin in general (see Table 12 and Figure 5). However, the gap between their reported enjoyment of Latin grew bigger in questionnaire 2 and again in questionnaire 3.

Table 12: Q1 – Enjoyment of learning Latin

	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**[2]	**Control**	**Intervention**	**Control**
Very true	17% (9/54)	10% (3/31)	13% (9/45)	7% (2/30)	18% (9/50)	3% (1/30)
True	39% (21/54)	35% (11/31)	40% (18/45)	37% (11/30)	44% (22/50)	30% (9/30)
Not very true	39% (21/54)	29% (9/31)	33% (15/45)	43% (13/30)	30% (15/50)	57% (17/30)
Not at all true	5% (3/54)	26% (8/31)	13% (6/45)	13% (4/30)	8% (4/50)	10% (3/30)

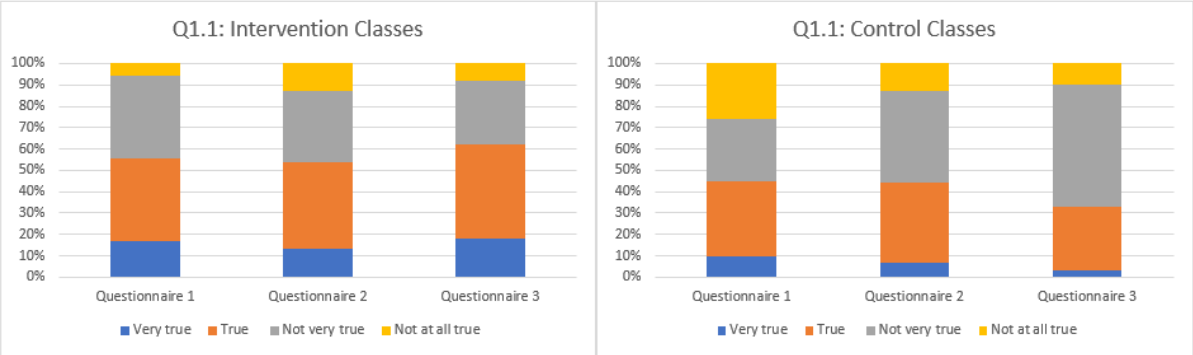

Figure 5: Enjoyment of learning Latin

When asked whether they enjoyed reading Latin stories, again the control classes reported lower levels of enjoyment than those in the intervention classes (see Table 13 and Figure 6). The intervention classes saw a drop in enjoyment of reading in questionnaire 2 immediately following the intervention, but this reported enjoyment increased again in the final questionnaire. The dip in reported enjoyment in questionnaire 2 cannot be explained by the students who did not complete that questionnaire as the drop in those reporting 'very true' or 'true' is 11 and nine students did not complete the questionnaire; moreover, this would

[2] The percentage figures for this column as stated total 99% but when the figures are given to two decimal places they add up 100%: very true 13.33% (9/45); true 40.00% (18/45); not very true 33.33% (15/45); not at all true 13.33% (6/45).

assume that all nine students would have reported 'very true' or 'true' if they had completed the questionnaire. This suggests that the students in the intervention classes did not enjoy reading Latin during the period of the intervention and so the intervention may have had a negative effect on their motivation. However, as the control classes also saw a drop in motivation over this period, other variables may also have been involved.

Table 13: Q1 – Enjoyment of reading Latin stories

	Questionnaire 1		**Questionnaire 2**		**Questionnaire 3**	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Very true	11% (6/54)	10% (3/31)	9% (4/45)	7% (2/30)	14% (7/50)	3% (1/30)
True	46% (25/54)	22% (7/31)	35% (16/45)	27% (8/30)	50% (25/50)	37% (11/30)
Not very true	37% (20/54)	52% (16/31)	38% (17/45)	53% (16/30)	26% (13/50)	50% (15/30)
Not at all true	6% (3/54)	16% (5/31)	18% (8/45)	13% (4/30)	10% (5/50)	10% (3/30)

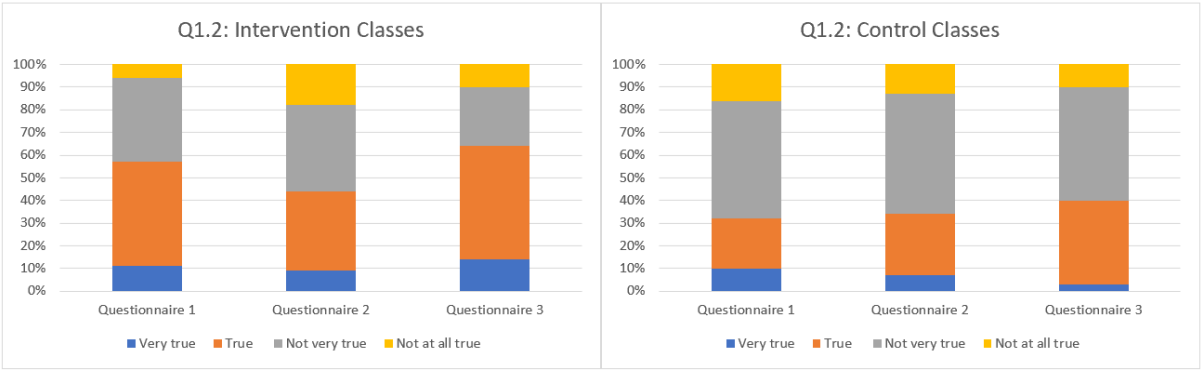

Figure 6: Q1 – Enjoyment of reading Latin stories

Question 6 addressed students' motivation and confidence to work by asking them to rate five statements relating to reading by themselves, reading with a partner, sharing their translation with the class, giving a summary to the class, and asking for help from the teacher. The statements were rated according to a 4-point Likert scale (almost always willing, usually willing, sometimes willing, almost never willing). The responses to this question do not suggest that the intervention had an effect on student motivation or confidence to read as changes between the three questionnaires were minimal. Moreover,

the control classes saw increases in reported levels of willingness to engage with reading tasks which suggests that other factors may have had an impact on the students' willingness to read during the intervention period, such as the difficulty of the stories being studied at that time, the atmosphere in the classroom, or events outside the Latin classroom. Due to this lack of clarity, the data from question 6 will not be focused on in more detail here, but the data is provided in the for reference (see Appendix Eight – Question 6 Data).

In the interviews, the students were also asked how motivated they felt to read Latin stories. The views of the students in the three intervention classes (Set 1, 2 and 4) varied greatly. During the second interview, the students in Set 1 said that they were motivated as they found the subject interesting and enjoyable and that their motivation had increased over the Spring term (when the intervention had taken place):

Interviewer:	*How motivated have you been over the last term?*
Student G:	*Actually more. It's become more interesting for me for some reason.*
Student H:	*At the start I loved Latin and then was more 'meh' it's just another language, but then I started really enjoying it and even then wanted to do it off timetable.*
Student I:	*Exams have been a big motivator.*
Student H:	*Exams make it for me seem like more work than learning a language. Learning a language is more fun but working for exams is more pressure and focused on getting it right rather than the language itself.*
Interviewer:	*Has metacognition helped?*
Student G and H:	*Yeah a lot.*
Student G:	*It helps you when you don't know a word.*
Student I:	*It helps you solve a problem if you don't know what to do.*
Student H:	*It helps plan out what to do. If you do the different steps it works pretty well and goes in.*

Student I saw the upcoming end-of-year examinations as a motivating factor, but Student H disagreed. All three set 1 students thought that learning about metacognition had helped motivate them as it gave them a process for problem solving and moving on from difficulties when reading.

The students in set 2 were only motivated when the story was exciting (Student B) or if it wasn't too long (Student C). The students in Set 4 said that they were not motivated to read and not just in Latin but in any language ("Not just in Latin, in anything. It makes me sleepy." Student E).

Set 2's teacher thought that the intervention had improved their confidence as the students became better at using strategies such as the dictionary and their past notes, and they enjoyed framing a text with a sense of purpose and discussing how to approach it. Her comment here again highlights the contrast between global strategies, such as thinking about the purpose of a task and deciding the best way to attempt it, and support strategies, such as using the dictionary and checking notes (Cohen, 2021). Using a dictionary and checking notes by themselves are not metacognitive strategies and there is a danger that teachers may improve the student's learning strategies rather than their metacognition (Sato, 2022). This suggests that greater care should be taken when instructing teachers in how to teach their students metacognitive strategy use so they can distinguish between different types of strategies and encourage those which are metacognitive.

Overall Discussion

In their interviews, both colleagues said that they thought the intervention had gone well and it had been well resourced and organised:

It was nice and clear, and I could flash that slide up every time. It broke it down nicely and was sequential.

I think particularly by the end when they had the physical bookmarks in their books it was a good reminder. Seeing the PPT, I think when some of them saw it repetitively they knew what was coming up and would think about it. In a good way they were actively thinking about strategies to read Latin.

I think it was really well organised, directed clearly and straight forward to follow.

However, the results from the questionnaire suggest that the intervention had little effect on students' understanding of strategy use or on their motivation for and confidence in reading Latin stories. It will now be considered what understanding the students developed of metacognition itself and how this may have affected how they responded to the intervention.

During the second interview, the students were asked what they understood metacognition to be and whether they had used the intervention. Students in set 1 had the best understanding:

Interviewer:	*What is metacognition?*
Student H:	*Like the brain.*
Student I:	*How the brain thinks and works.*
Student H:	*That's more neuro. Metacognition is more what you do with the resources around you. I think it's something to do with learning.*
Student I:	*It's the process of learning.*
Student H:	*It's the process of learning, figuring out what you know, looking up what you know and you put it all together.*
Student G:	*I thought it was something with the brain. How it works with translating with reading and using the resources you have. We looked at what we knew before.*
Student I:	*We had some sheets and a bookmark.*
Student H:	*It's what do you know, what do you not know, what can you do to find out, what will you do next time.*

This was supported by question 7 in questionnaire 3 which asked students to write a definition for metacognition (see Table 14). Unfortunately, Set 4's teacher did not give them the updated version of the questionnaire and so they did not complete this question but the data for Sets 1 and 2 suggest that students in Set 1 had a better understanding of metacognition, although half the class had only a vague or no understanding following the intervention. The students in Set 1 who were interviewed also said that they used the metacognitive strategies they had been taught in their Latin lessons, for example by rereading work (Student I), and had also used these techniques to help them in other subjects, such as languages (Students H and I), English (Student E), and Maths (Student H).

Table 14: Q7 – Understanding of metacognition

	Set 1	**Set 2**
Understood	35% (7/20)	6% (1/17)
Partially understood	20% (4/20)	12% (2/17)
Vague understanding	20% (4/20)	29% (5/17)
No understanding	25% (5/20)	53% (9/17)

Set 2 had some understanding of metacognition but were not as confident in defining it and said they didn't use it again:

Interviewer:	*What is metacognition?*
Student A:	*A bit, the thing with the brain…?*
Interviewer:	*Do you understand what it is?*
Student A:	*Something to do with the brain. And…*
Student B:	*It was about what to do before, during, and after.*
Student A:	*Oh yeah, this is the task, this is what to do before, this is what to do during and after.*
Student B:	*We only did it once, we didn't use it again.*
Student C:	*We don't really remember.*
Student A:	*Maybe if we did more lessons on it would stick in our heads better.*

Their teacher said that Set 2 had been very keen and eager when the metacognitive strategies were first introduced and they enjoyed being helpful to others in the class by suggesting strategies. The teacher thought that most had understood the concept, and even if they had not understood the word metacognition itself they had understood the importance of strategies. All three students in Set 2 said that they did not monitor their understanding during a task as they just focused on what they were doing but Student A said that she might do so afterwards to compare what she did with previous tasks.

Set 4 however had no understanding of metacognition and could not remember the intervention:

Interviewer:	*What is metacognition?*
All students:	*What's that?*
Interviewer:	*It's the steps you take before, during, after reading to help monitor your understanding. Miss showed you on a PPT.*
Student F:	*Oh yeah you try to remember what it means but I don't remember what the rest is.*
Interviewer:	*Did you get a bookmark with the strategy on?*
All students:	*Yes*
Interviewer:	*Did you use it?*
Student E:	*I just thought it was a bookmark.*

When set 4 were asked if they ever monitored their understanding to check their progress, Students D and F said they would sometimes ask others in the class to check their work with them but wouldn't use any other monitoring strategies. Their teacher thought the intervention was useful but didn't think set 4 was in the right mindset to benefit from it:

> *Those who had an open mind and were willing to try gained more from it. Once they thought it through and started using the resources available they found it better. They are very low in confidence so even if they are doing well they think they are doing badly. There wasn't enough time to build up their confidence and to see if there was any improvement.*

Students who have low language proficiency are more likely to blame any demotivation to internal factors (e.g., not being able to learn vocabulary or grammar well), whereas high-proficiency students tend to blame external factors (e.g., the course content or teacher) (Falout, 2021). This internal attribution of low-proficiency learners impedes their capacity to respond adaptively to negative learning experiences, and they become less able to remotivate themselves and choose positive strategies to improve learning (Dörnyei & Ushioda, 2021). This corresponds with the teacher's observations that Set 4 were not in the right mindset to benefit from the intervention.

Students in Set 1, taught by myself, had a greater knowledge and understanding of metacognition following the intervention than the students in other sets which were taught by the other two teachers. One potential reason for this difference may be due to their level of attainment as Set 1 are a higher-attaining class. This is in line with the findings of Hattie et al. (1996) and Yerdelen-Damar and Eryilmaz (2021) who found that students with higher attainment benefitted most from metacognitive instruction. Moreover, as they were more motivated to learn they may have engaged more closely with the intervention.

Another potential reason for this was that each class was taught by a different teacher and a teacher's own level of metacognitive awareness is likely to affect how successfully they introduce metacognitive strategies (Ozturk, 2017). During the teacher interviews both colleagues understood what metacognition was, although one teacher had not met metacognition before I introduced it to them as part of the intervention and they thought they had lacked sufficient understanding at the start of the intervention: "I needed to know more about it to be able to make it more effective. I feel maybe I should have read up on it more […] But now I know it I think I will be better at explaining it and better at using it in

other classes as well." The other teacher had learnt about metacognition during their teacher training but had not used it in their teaching since. As metacognition needs to be modelled by the teacher to be effective (Wall & Hall, 2016), the teachers' lack of understanding and experience with metacognition may have impacted how well they were able to deliver the intervention and in turn its effectiveness for improving the students' strategy use and motivation and confidence when reading.

I asked my colleagues how they thought the intervention could be improved if it were used across the department. One suggested that the intervention should be imbedded from the start of Year 7:

> *If it was introduced from the beginning of Year 7 and introduced in the lessons from the start it would work better. If they were given the bookmarks from the start of Year 7 it would be easier to embed and get them to use to it. And it would be easy to give them time to think them through before reading a story.*

The Year 8 curriculum is very congested as we have lessons only three times a fortnight. This meant that the main scaffolding phase of the intervention was delivered over four to five lessons and reading was not the only skill that needed to be practised in each lesson. The effectiveness of short-term interventions has also been questioned as cognitive development requires long-term scaffolding for internalisation to occur (Pressley et al., 1992), with some estimates that it can take several months, up to one year to become strategic readers (Mokhtari & Reichard, 2002). Moreover, reading strategies should be learned to the point of automaticity so they become a skill (Mokhtari & Reichard, 2002). It is likely therefore that there was insufficient time to embed the metacognitive strategies and a longer intervention period may have seen more positive results.

Conclusion

Research Question 1

What obstacles do Year 8 students believe they face when reading Latin stories?

Year 8 students perceive reading Latin stories to be difficult, with a lack of vocabulary knowledge their biggest obstacle. Conversely, when they found reading easy it was because they knew sufficient vocabulary. It is suggested that we need to know around 95% vocabulary in a text to be able to understand its content (Quigley, 2018). Reading in any language is therefore difficult for those who do not have a good standard of vocabulary knowledge. However, reading in a secondary language becomes even more difficult as alongside unfamiliar vocabulary readers also have to process unfamiliar syntax, idiom and cultural references (McKeown & Gentilucci, 2007).

The intervention did not appear to change the students' perception of the difficulty of reading Latin stories. The intervention period was perhaps too short for it to have had sufficient effect, for the students may not have had sufficient time to practise metacognitive strategy use so that it became a usual part of their approach to learning and its benefits were felt. For example, Mokhtari and Reichard (2002) found that reading strategies take time to develop and their use will not become a functioning skill until they are practised to the point of automaticity.

Alongside the practical obstacles that arise from the task, such as knowledge of vocabulary and grammar, the students also faced mental and emotional obstacles to their learning when reading Latin stories. The students reported feeling angry, confused, frustrated, scared, and stressed when they found reading difficult. Set 1 students also expressed nervousness and a sense of embarrassment in case they made an error. Girls, especially

those who are high attaining, often feel pressure to achieve and to present a image of perfectionism which can lead to anxiety and self-criticism (Luthar & Kumar, 2018). However, when the students felt that they were doing well, they would feel a range of positive emotions, such as pride and happiness, and felt that they were smart. Emotions play a key role in learning (Tyng et al., 2017) and can promote either adaptive or maladaptive learning behaviours depending on the type of emotion felt. For learners' self-efficacy beliefs and task-value beliefs will influence how they approach a task (Donker et al., 2014).

Research Question 2

What understanding do Year 8 Latin students have of the strategies that can be used to read a Latin story?

The students' knowledge and use of strategies while reading was mixed and whilst the intervention seemed to have led to students in the intervention classes reporting on average more strategies following the intervention, this increase was not sustained in questionnaire 3. The type of strategies that the students used also did not change significantly following the intervention. And following the intervention, none of the students specifically mentioned the metacognitive reading strategy in questionnaires 2 or 3 or the process of monitoring understanding or evaluating their work once completed. These processes of monitoring, controlling, and evaluating learning are key for metacognition (Akturk & Sahin, 2011) and so the metacognitive intervention will have a lesser effect if students are not engaging in these higher-order skills and instead are continuing to use those they are more familiar with, such as vocabulary support and asking for help. For strategy development is more than just learning how to perform a strategy; the more habitual mode of response has

to be inhibited and the more advanced (and initially weaker) response has to be consolidated and strengthened (Kuhn & Pease, 2009).

Research Question 3

How effective is a metacognitive intervention for strengthening motivation for and confidence in reading Latin stories?

The questionnaire data suggested that the intervention had little effect on strengthening the students' motivation for and confidence in reading. Any changes in their reporting were minimal and the control classes also saw similar changes, suggesting that other variables were likely at play. However, in the interviews, students in Set 1 spoke positively about the metacognitive strategy and said that they had used it in their Latin lessons and in other subjects. They also had the best understanding of what metacognition was. Two reasons were suggested for why Set 1 responded more positively to the intervention: firstly, that higher-attaining students may benefit most from metacognitive instruction. Research has conflicted about whether metacognitive strategies are beneficial for all students (Donker et al., 2014; Mannion & Mercer, 2016) or whether those with higher attainment or higher language proficiency respond to them best (Hattie et al., 1996; McKeown & Gentilucci, 2007; Yerdelen-Damar & Eryılmaz, 2021). However, it is not possible to say from this study whether it was the students' higher proficiency in Latin or their greater motivation as a result of feeling that they are doing well in the subject that led to them engaging more closely with the intervention. Questions of how motivation influences students' responses to interventions are important as students need to have both the will and the skill to be successful in classrooms (Pintrich & De Groot, 1990, p. 38).

Secondly, that I had a better understanding of metacognition than the other teachers and so set 1 may have benefited more from the intervention. Teachers play a vital role in modelling metacognitive thinking and behaviours for students (Wilson & Bai, 2010) and so a teacher's own metacognitive knowledge will impact how effectively they utilise metacognitive strategies in the classroom (Ozturk, 2017).

Limitations

One limitation of this study already discussed is that it was not possible to measure the students' levels of metacognition itself. Future research in this area would help monitor to what extent metacognitive reading strategies develop students' metacognitive knowledge and skills. This would provide a greater understanding of what worked and what didn't work about the reading strategies and may suggest ways for it to be improved.

There were further limitations in the research design. The wording of the questionnaires could be improved to make differences between the items and points on the Likert scale more distinct and further questions about the students' understanding of metacognition could be included. Moreover, if there had been more time, a third round of interviews, immediately following the end of the main intervention period would have provided more evidence for its initial impact.

Implications for Future Practice

The intervention itself had mixed results but the research illustrated areas where changes could be made to make future use of metacognitive strategies more effective. Firstly, the intervention should be introduced earlier, for longer, and across the whole school. Children

begin to develop metacognitive skills at ages 11-12 (Veenman & Spaans, 2005) and so Year 7 may be the ideal age to introduce and start developing these skills with students. If the intervention was conducted over a longer period of time, the strategies could be modelled more regularly by the teacher, and they would become more embedded in the students' learning practices. Students needs to be taught not just what metacognitive strategies to use, but how and when to use them to best effect (Donker et al., 2014; Veenman et al., 2006). Moreover, metacognitive interventions that have been used as a whole-school approach to learning have seen better results than those in isolated classrooms (Mannion & Mercer, 2016). This would require further collaboration with colleagues in my department and the whole school, and those I have shared my research with already are keen to explore it further.

Secondly, if it was introduced earlier, before the students develop feelings of helplessness and demotivation in Latin, they would likely engage more closely with the intervention and lower-attaining students would benefit more from it. For once students have developed a fixed mindset and believe that they are not good at languages, it becomes more difficult to engage them with strategies to improve (Dörnyei & Ushioda, 2021).

Thirdly, there should be greater training for teachers who are implementing the intervention so they can do so effectively. Teachers are learning role models and to be effective this should centre on the authenticity and transparency of the teachers' learning stance (Wall & Hall, 2016). A conversation about teaching and learning should be opened up with students. Talking with students about the process of lesson planning and teaching a class will help them gain insight into the teachers' metacognitive processes and in turn gain a new perspective on their roles as learners (Wall & Hall, 2016).

Although this intervention may not have worked to the extent I hoped it would, the research has given me the necessary knowledge to improve it so I can better help students within my own department and across the school become more metacognitive. Alongside the intervention, I have introduced metacognitive strategies to students in my GCSE and A Level classes who have responded well and enjoyed using them to improve their understanding of their own learning. I now look forward to using metacognitive strategies to develop not only my own teaching practice but also that of my colleagues within school.

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Appendix One – Metacognitive Prompts

Metacognitive prompts used by Teng (2022)

Metacognitive prompts:
(1) Comprehension Purpose: familiarise students with articulation of the main ideas in the text. *What was the text about?* *What were the purposes of this text?* *What specific points did I find important in this text?*
(2) Connection Purpose: guide students in contemplating the similarities and differences between an immediate text and previously read texts. *What were the similarities and differences between this and those I have read in the past?*
(3) Strategy Purpose: allow students to reflect on appropriate strategies for the exercise. *What strategies were appropriate for completing this text reading in time?* *What strategies were useful for grasping the gist of this text?* *What strategies were useful for inferring unknown words?*
(4) Reflection Purpose: guide students in evaluating their reading process during or at the end of the exercise. *Did my strategies for reading make sense?* *Did I focus on all the details of the text?* *Did I consider all relevant information while figuring out the purpose of this text?* *What prevented me from achieving the correct answers?*

Appendix Two – Questionnaire

Year 8 Reading Latin Texts Questionnaire 1

Read each of the following questions. For each one, say how true it is for YOU by choosing one of the four options given. The questions are focused on your experience in Latin.

Your responses are anonymous so please be honest. There are no right or wrong answers.

By completing the questionniare you give your consent for your answers to be used by [redacted] as part of her master's research. Please speak to her if you have any questions or concerns.

* Required

1. Rate the statements below according to this scale:
   1 = very true
   2 = true
   3 = not very true
   4 = not at all true *

	1	2	3	4
I enjoy learning Latin.	○	○	○	○
I enjoy reading stories in Latin.	○	○	○	○

2. Complete the statement below with one of these phrases:
   1 = very easy
   2 = easy
   3 = difficult
   4 = very difficult *

	1	2	3	4
I find reading stories in Latin...	○	○	○	○

3. Please explain your answer to question 2. For example, what aspects of reading Latin do you find easy or difficult? *

4. Rate the statements below according to this scale:
   1 = always
   2 = sometimes
   3 = occasionally
   4 = never *

	1	2	3	4
If I get stuck when reading Latin stories I know which strategies I can use to help me understand what is happening.	◯	◯	◯	◯
I give up when I'm not sure what to do when reading Latin stories.	◯	◯	◯	◯
I don't know what to do when I find reading Latin stories difficult.	◯	◯	◯	◯
I keep trying to find the correct answer when I find reading a Latin story difficult.	◯	◯	◯	◯

5. What strategies could you use to help you understand a Latin story? Write your answer. You do not need to write in full sentences. *

6. Rate the statements below according to the following scale:
   1 = almost always willing
   2 = usually willing
   3 = sometimes willing
   4 = almost never willing *

	1	2	3	4
Reading a Latin story by myself.	◯	◯	◯	◯
Reading a Latin story with a partner.	◯	◯	◯	◯
Reading out my translation of a Latin story to the class.	◯	◯	◯	◯
Explaining what I understand is happening in a Latin story to the class.	◯	◯	◯	◯
Asking the teacher for help when reading a Latin story.	◯	◯	◯	◯

7. Which set are you in: *

- ◯ 8A
- ◯ 8BX
- ◯ 8BY
- ◯ 8CX
- ◯ 8CY

Appendix Three – Introduction to Metacognition PowerPoint

What is Metacognition?

Metacognition is the process of thinking not just about WHAT you are learning, but also HOW you are learning.

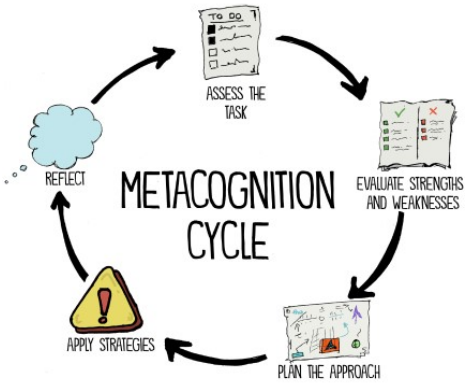
It is the ability to organise, monitor, and modify how you think about and approach a task.

It is proven to improve attainment and motivation in all areas of learning. This is not going to be useful just for Latin!

2

The Metacognitive Process

THIS PROCESS SOON BECOMES SECOND NATURE, AND YOU DON'T REALISE YOU ARE EVEN DOING IT.



3

Reading Latin Texts

- What do you find easy or difficult about reading a Latin story?
- What strategies or tools can you use to help you read a Latin story?

Strategies for Reading Latin Texts

Before you start:

- What do I already know about this topic or these characters?
- What information have I been given (e.g., pictures, vocabulary, introduction) and what do they suggest the context of the story might be?
- What do I want to achieve (e.g., answering comprehension questions, summarising the story, working out an accurate translation)?

During the task:

- What do I understand about the story so far? How does it relate to what I already know?
- What tools do I have to help me when I'm stuck (e.g., dictionary, grammar tables, others around me if discussion is allowed)?
- What can I do to improve my understanding of what is happening (e.g., reread a section, make notes as I read)?

After the task:

- What helped me to understand the story?
- What could I have done differently?
- How can I apply what I've learnt next time I read a Latin story?

Now let' get reading

Appendix Four – Bookmark

Reading Latin Stories

Metacognitive Strategies

Before you start:

- What do I already know about this topic or these characters?
- What information have I been given (e.g., pictures, vocabulary, introduction) and what do they suggest the context of the story might be?
- What do I want to achieve (e.g., answering comprehension questions, summarising the story, working out an accurate translation)?

During the task:

- What do I understand about the story so far? How does it relate to what I already know?
- What tools do I have to help me when I'm stuck (e.g., dictionary, grammar tables, others around me if discussion is allowed)?
- What can I do to improve my understanding of what is happening (e.g., reread a section, make notes as I read)?

After the task:

- What helped me to understand the story?
- What could I have done differently?
- How can I apply what I've learnt next time I read a Latin story?

Appendix Five – CUREC Approval

UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION
15 Norham Gardens, Oxford OX2 6PY
Tel:+44(0)1865 274024
general.enquiries@education.ox.ac.uk
www.education.ox.ac.uk
Director Professor Victoria Murphy

30th November 2023

Dear [redacted]

RESEARCH ETHICS APPROVAL

Research title: Improving Year 8 students' motivation for and confidence in reading Latin stories using a metacognitive intervention

Research ethics reference: EDUC_C1A_23_294

The above research has been considered on behalf of the Department of Education Departmental Research Ethics Committee (DREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to confirm that, on the basis of the information provided to the DREC, ethics approval has now been granted for this research.

Please note the following:

Reference: Please ensure that you **use this ethics reference number** on all your own consent processes with participants.

Personal data: It is the responsibility of the PI to ensure that all personal data collected during the project is managed in accordance with the University's guidance and legal requirements.

In-person activities: Any data collection involving in-person interactions with participants must have an up-to-date fieldwork risk assessment in place; further guidance is available from the Safety Office's website.

Amendments: Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval, as all changes must receive ethical approval prior to implementation. The amendment form is available on the SSH IDREC webpage.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to staff.curec@education.ox.ac.uk / student.curec@education.ox.ac.uk or ethics@socsci.ox.ac.uk.

Yours sincerely

Dr Nigel Fancourt, Associate Professor of Education and Values

DREC member

cc: student.curec@education.ox.ac.uk velda.elliott@education.ox.ac.uk

Appendix Six – Parent Information Letter

UNIVERSITY OF OXFORD
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general.enquiries@education.ox.ac.uk
www.education.ox.ac.uk

Director Professor Victoria Murphy

[redacted]

Improving Year 8 students' motivation for and confidence in reading Latin stories using a metacognitive intervention

INFORMATION SHEET FOR PARENTS / GUARDIANS

Central University Research Ethics Committee Approval Reference: EDUC_C1A_23_294

I am [redacted] Head of Classics, and I am studying for a master's degree in Learning and Teaching at the University of Oxford. [redacted] School has agreed to take part in a study investigating how metacognition can be used to improve Year 8 students' reading comprehension of Latin texts. I would like to invite your daughter to be part of this study. I very much hope you would like your daughter to take part, but before you decide, it is important that you understand why the study is being done and what it will involve.

Why is this research being conducted?

The Classics department will be delivering an intervention in the Spring term to assess the impact that explicit teaching of metacognitive strategies has on students' motivation for and confidence in reading Latin stories. Metacognition is best described as 'thinking about thinking' or 'learning about learning'. It is the process by which students are encouraged to think about how they learn, what strategies are best used to overcome a problem, and what they might do differently next time to improve their work.

Metacognition has been shown to have a significant impact on student progress and is the highest rated strategy in the Education Endowment Foundation Teaching and Learning Toolkit. It's application for supporting reading comprehension in English has been widely studied. However, there is limited research into its effect on reading comprehension in a second language, and even less in the specific context of learning Latin. I therefore hope to use this research to further understand how metacognition can be used to support our students in reading Latin texts.

The intervention will be delivered to three out of five classes in Year 8, with the other two classes being used as a control group. Your daughter may therefore not benefit from the teaching of this strategy during the intervention period in the Spring term. However, if found to be successful, the strategy will be used by the department with all classes after Easter.

Why has my child been invited to be involved in this research?

I am inviting your daughter to take part because she is a young person, aged between 12 and 13, learning Latin in Year 8 at [redacted] School. We are inviting 82 young people to take part.

Does my child have to be involved?

No, your daughter does not need to be involved in my research. You can ask questions about the study before deciding whether or not to allow her to participate. If you do agree to participation, you may withdraw your daughter and her data from the study at any time, without giving a reason and without penalty, by advising me of this decision. If you do withdraw your daughter from being a participant in my research, she will still remain in her Latin class and receive the same teaching as the other students during the intervention period.

What will happen if my child takes part?

To monitor the effectiveness of the intervention, I will ask your daughter, regardless of whether she is in the intervention or control classes, to complete three questionnaires. The questionnaires will be delivered through Microsoft Forms, which the girls are already familiar with. The questionnaires will take 10 minutes each to complete and will be delivered during three Latin lessons at the start, middle, and end of the Spring term. The questionnaires will be completed anonymously and no identifiable data will be collected.

I will also invite three students from each of the intervention classes to attend a group interview in Classics 1 after the lessons in which the questionnaires are completed. These interviews will last no longer than 30 minutes and will be either at lunchtime or after school if they are boarders. The time of the interview will be arranged so that is it suitable for the students and they will not need to miss any clubs or school activities.

Your daughter's Latin teacher will collate notes from lessons, but these will not contain any identifiable data from your daughter.

Consent for this research project is being gathered through an opt-out process. There is a link to a Microsoft Form at the end of this letter for you to complete if you would like to withdraw your daughter from taking part in my research. You can opt for her to not take part in the questionnaire, the interviews, or both. I will also give your daughter the option to opt-out herself before completing the questionnaire or taking part in an interview.

What are the possible disadvantages and risks in taking part?

There are no foreseen disadvantages or risks to your daughter taking part. Your daughter's identity will not be identifiable from the research data.

Are there any benefits in taking part?

The results of the research will help the Classics department develop their teaching practice and use of metacognitive strategies. This will allow them to better support your daughter's reading comprehension in Latin.

What information will be collected and why is the collection of this information relevant for achieving the research objectives?

No personal data is being collected in this study except for whether you and your daughter have given your permission to take part. Your daughter will not be identifiable as the questionnaires will be completed anonymously and data from the interviews will be referred to by use of pseudonyms.

Data will be stored electronically on the university OneDrive for Business, which is password protected. Opt-out forms will be retained by the school for the duration of the research, and for as long as the school determines appropriate after research activities have concluded at the school. Other research data will be stored for 3 years after publication or public release of the work of the research.

I will ensure all other data collected in the research has identifying information removed as soon as possible after collection. Interview transcripts, notes, and all other data will be stored on the university OneDrive for Business. My supervisor and I will have access to the research data.

Regular summaries of my findings will be given to the school and will be available to interested families. I will not identify the school, teacher, or any students in any reports of the research.

Will the research be published? Could my child be identified from any publications or other research outputs?

A copy of my thesis/ dissertation will be deposited both in print and online in the Oxford University Research Archive where it will be publicly available to facilitate its use in future research. A version of the assignment may also be published.

Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your daughter's personal data is used in the research.

The University will process your daughter's personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest.

Further information about your rights with respect to your personal data is available from https://compliance.web.ox.ac.uk/individual-rights.

Who has reviewed this research?

This research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. (Ethics reference: EDUC_C1A_23_294).

Permission to carry out the research has also been given by the Headteacher, [redacted]

Who is organising and funding the research?

The research project is organised by [redacted] of Oxford University, who is a master's student. The research is not being funded.

Who do I contact if I have a concern about the research, or I wish to complain?

If you have a concern about any aspect of this study, please contact [redacted] or [redacted], and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Departmental Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Chair, **Departmental Research Ethics Committee**; Email: Elizbeth.wonnacott@education.ox.ac.uk; Address: 15 Norham Gardens, Oxford OX2 6PY

What should I do next?

Please fill in this Microsoft Form Wednesday 3rd January if you **would not** like your daughter to take part in this study. You have the option to withdraw her from the questionnaire, the interviews, or both. If we do not

receive an opt-out form from you by this date, your daughter may be invited to take part in this study, as described above. Please remember that you may withdraw your daughter at any time, without penalty and without giving a reason, by notifying the researcher.

Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

[redacted]
Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6PY

[redacted]
[redacted]

Appendix Seven – Information for Students

Introduction to Research Project PowerPoint

[redacted]'s Masters Research

- [redacted] is currently doing a Masters in Learning and Teaching at the University of Oxford.
- She is looking at how to use metacognition to improve Year 8 students' motivation for and confidence in reading Latin texts.

Your part in the research

- The research will be carried out throughout the Spring term.
- [redacted] will be asking you to complete three short questionnaires via Microsoft Forms during your Latin lessons next term.
- She will also invite some of you to be interviewed in groups of three.
- There are no disadvantages or risks to taking part.
- The benefits of taking part are that it will help [redacted] on to study how best to help support you in lessons.

If you don't want to take part…

- Your parents are being sent a letter this week to give them the opportunity to opt out for you taking part.
- A student information form also will be shared on your Team which has more information about what is involved.
- You can also decide for yourself if you don't want to take part:
  - You can choose not to complete the questionnaires.
  - You can tell her you don't want to be interviewed.
- If you choose not to take part, you will continue to go to your Latin lessons as normal.

UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION

[redacted]

Improving Year 8 students' motivation for and confidence in reading Latin stories using a metacognitive intervention

INFORMATION SHEET FOR STUDENTS AGED 11 TO 15 YEARS

Central University Research Ethics Committee Approval Reference: EDUC_C1A_23_294

I am currently studying for an MSc in Learning and Teaching at the University of Oxford and am inviting you to join in my research study.

Before you decide if you would like to join in, it's important to understand what the research is about, why I'm doing it and what it would involve for you. Please read and think about this leaflet carefully. Please feel free to talk to your family, friends, Head of Year, or tutor if you want.

If anything isn't clear or you have more questions you can ask your parent/guardian to send me an email and I can discuss it with you and your parent/guardian.

Why are we doing this research?

I am doing this research to assess how metacognition could be used to support Year 8 Latin students when reading Latin texts. Metacognition is often described as 'thinking about thinking' or 'learning about learning'. It is the process by which you are encouraged to think about how you learn, what strategies are best used to overcome a problem, and what you might do differently next time to improve your work. I will be looking specifically at the use of metacognition with reading Latin, but this is a tool which you can use in all of your subjects as it has been shown to improve student outcomes and promote progress.

Why have I been invited to take part?

You have been asked to take part as you are a student in Year 8 who is studying Latin.

Do I have to take part?

No - It is up to you to decide if you want to take part in this research. You are free to stop taking part at any time during the research without giving a reason by telling your teacher, me, or your parent/guardian. You do not have to say why and this will not affect your education.

If you decide to stop, no one will be upset with you.

If you do not wish to take part in the research, you will still attend your Latin lessons as normal but will not be asked to complete any of the questionnaires or be invited to be interviewed.

What will happen if I take part in the research?

The research will take place over the Spring term (January to March 2024). Three Year 8 Latin classes will receive the intervention and two will continue with their normal teaching. If successful, the intervention will be used with all classes after Easter and so you will not be at a disadvantage if you are not in the intervention class.

The research involves two types of data collection:

Questionnaires:

You will be asked to complete three questionnaires at the start, middle, and end of the intervention. These will be done via Microsoft Forms during your Latin lessons and will take no longer than 10 minutes to complete. By completing the questionnaire you are giving your consent to take part.

Interviews:

I will interview three students from each of the intervention classes to be interviewed on three occasions after the lessons in which you completed the questionnaires. Interviews will take place in Classics 1 either at lunchtime or after school if you are a boarder at a time that suits you so you do not miss any other clubs. You will be asked to give your verbal consent to the interview before we start.

What are the possible disadvantages and risks in taking part?

There are no disadvantages or risks to taking part.

Are there any benefits in taking part?

It is hoped that the research will benefit you by introducing you to metacognition and how to use it to support your learning. This will be done in the context of reading Latin texts, but it will be useful for all of your subjects.

What information will be collected and what happens to the results of the research?

Results are kept strictly confidential, and only the people doing the research, or helping with the research, can look at the data. The questionnaires will be completed anonymously and only a number will be used to identify those who are interviewed. All information and results are kept on the university OneDrive for Business. I will change the names of the school, teachers, and all the students when I write about the research. No one will know that you have taken part unless you tell them yourself.

The findings from the research will be written up as part of my Year 2 master's assignment. It may also be presented later as part of a conference paper or a journal article. You will not be identifiable from any of these outputs.

If I want to use the information for anything else, I will ask your permission. At the end of the research, I will write to school about what was discovered. You are welcome to read this if you are interested.

All research data and records will be stored for 3 years after publication or public release of the work of the research. Third parties may be given access to research data for monitoring and/or audit of the research, or for data storage purposes.

Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the research.

The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest.

Further information about your rights with respect to your personal data is available from https://compliance.web.ox.ac.uk/individual-rights.

Will anyone else know I'm doing this?

I will keep your information private. This means I will only tell those who have a need or right to know, such as the research team and your parent/guardian. I will only share information that has your name removed.

What if I don't want to take part in the research anymore?

Just tell your parent/guardian and the people carrying out the research that you don't want to take part. You don't have to give a reason and no one will be annoyed with you. It is YOUR choice.

Who is organising and funding the research?

The research is organised by [redacted]. It is not being funded.

Who has reviewed the research?

This research has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. (Ethics reference: EDUC_C1A_23_294).

What do I do now?

If you do not want to take part, you can either ask your parents/guardian to choose to opt you out from taking part by completing the Microsoft Form sent to them via school email. Or you can simply decide not to complete the questionnaire or decline from being interviewed if asked to do so.

What if there is a problem or something goes wrong?

Please tell me if you are worried about any part of this research, by contacting me at [redacted] You may also talk to your teacher/parent/guardian who will let the me know. If you are still unhappy or wish to make a complaint, either you or your teacher/parent/guardian can contact the Departmental Chair of the Research Ethics Committee at the University of Oxford:

Chair, **Departmental Research Ethics Committee**; Email: Elizbeth.wonnacott@education.ox.ac.uk; Address: 15 Norham Gardens, Oxford OX2 6PY

Further Information and Contact Details

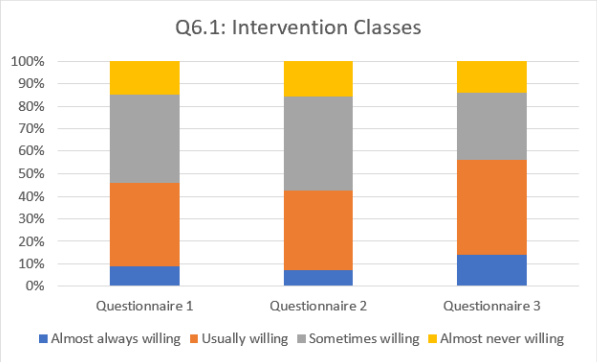
If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

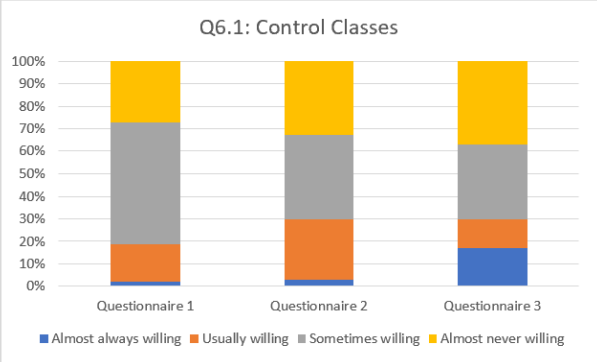
Thank you for reading – please ask me any questions.

Appendix Eight – Question 6 Data

Reading a Latin story by myself:

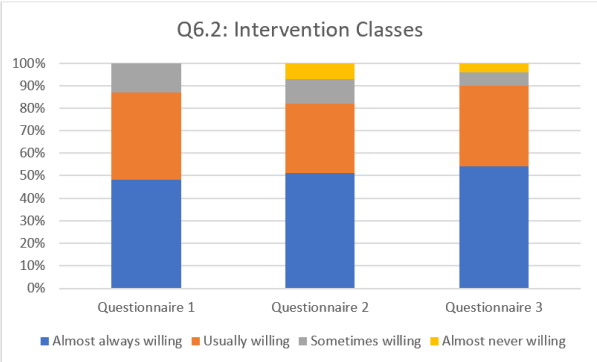
	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Almost always willing	9% (5/54)	6% (2/31)	7% (3/45)	3% (1/30)	14% (7/50)	17% (5/30)
Usually willing	37% (20/54)	16% (5/31)	36% (16/45)	27% (8/30)	42% (21/50)	13% (4/30)
Sometimes willing	39% (21/54)	52% (16/31)	42% (19/45)	37% (11/30)	30% (15/50)	33% (10/30)
Almost never willing	15% (8/54)	26% (8/31)	15% (7/45)	33% (10/30)	14% (7/50)	37% (11/30)

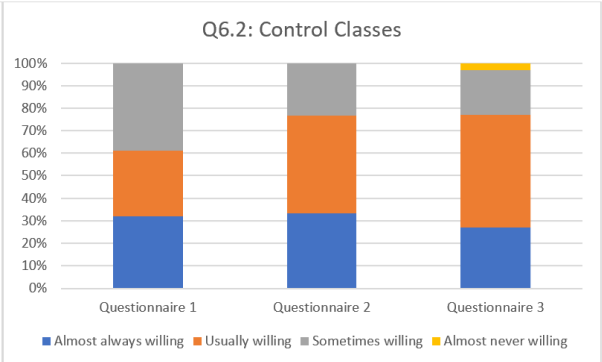




Reading a Latin story with a partner:

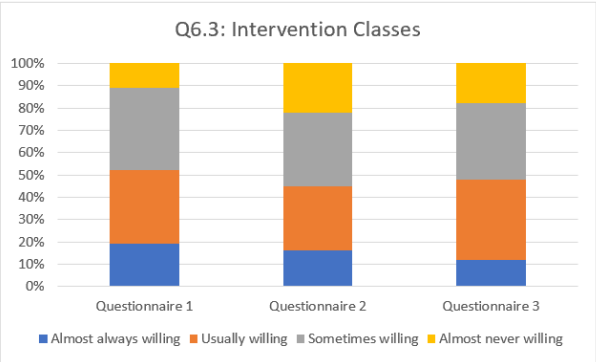
	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Almost always willing	48% (26/54)	32% (10/31)	51% (23/45)	33% (10/30)	54% (27/50)	27% (8/30)
Usually willing	39% (21/54)	29% (9/31)	31% (14/45)	43% (13/30)	36% (18/50)	50% (15/30)
Sometimes willing	13% (7/54)	39% (12/31)	11% (5/45)	24% (7/30)	6% (3/50)	20% (6/30)
Almost never willing	0% (0/54)	0% (0/31)	7% (3/45)	0% (0/30)	4% (2/50)	3% (1/30)

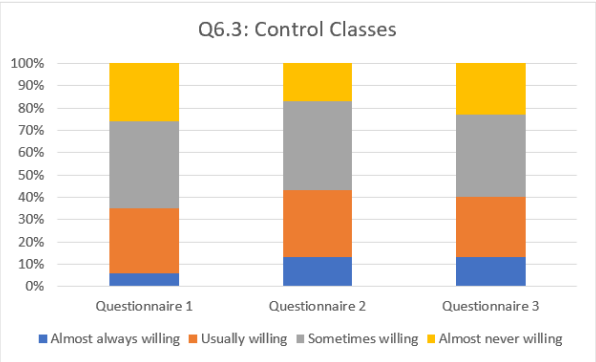




Reading out my translation of a Latin story to the class:

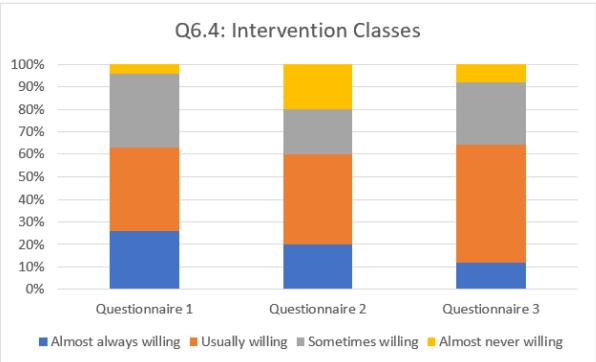
	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Almost always willing	19% (10/54)	6% (2/31)	16% (7/45)	13% (4/30)	12% (6/50)	13% (4/30)
Usually willing	33% (18/54)	29% (9/31)	29% (13/45)	30% (9/30)	36% (18/50)	27% (8/30)
Sometimes willing	37% (20/54)	39% (12/31)	33% (15/45)	40% (12/30)	34% (17/50)	37% (11/30)
Almost never willing	11% (6/54)	26% (8/31)	22% (10/45)	17% (5/30)	18% (9/50)	23% (7/30)

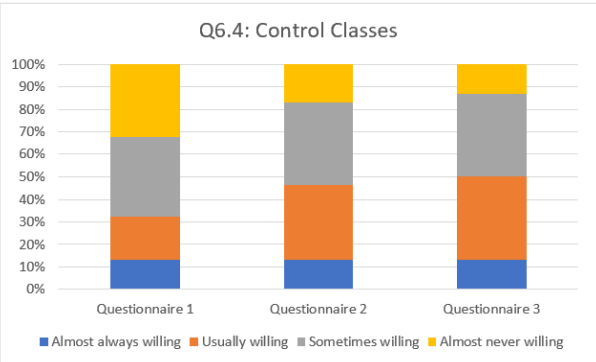


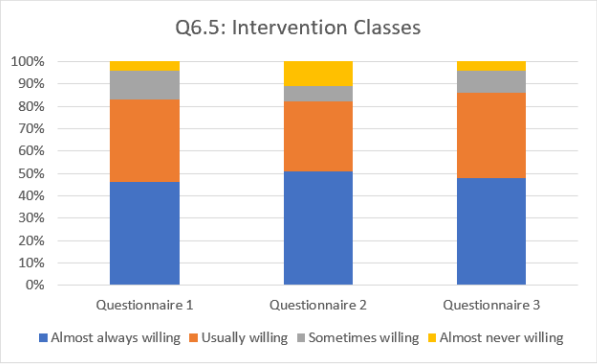
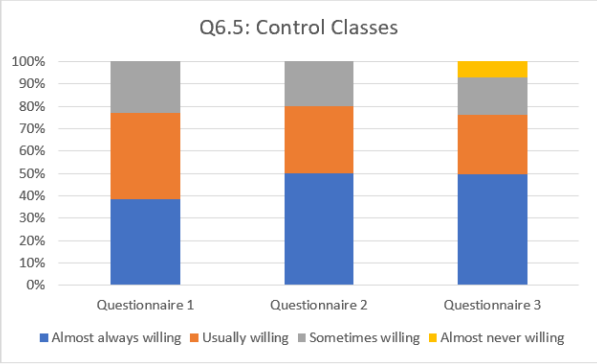


Explaining what I understand is happening in a Latin story to the class:

	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Almost always willing	26% (14/54)	13% (4/31)	20% (9/45)	13% (4/30)	12% (6/50)	13% (4/30)
Usually willing	37% (20/54)	19% (6/31)	40% (18/45)	33% (10/30)	52% (26/50)	37% (11/30)
Sometimes willing	33% (18/54)	36% (11/31)	20% (9/45)	37% (11/30)	28% (14/50)	37% (11/30)
Almost never willing	4% (2/54)	32% (10/31)	20% (9/45)	17% (5/30)	8% (4/50)	13% (4/30)





Asking the teacher for help when reading a Latin story:

	Questionnaire 1		Questionnaire 2		Questionnaire 3	
	Intervention	**Control**	**Intervention**	**Control**	**Intervention**	**Control**
Almost always willing	46% (25/54)	39% (12/31)	51% (23/45)	50% (15/30)	48% (24/50)	50% (15/30)
Usually willing	37% (20/54)	39% (12/31)	31% (14/45)	30% (9/30)	38% (19/50)	27% (8/30)
Sometimes willing	13% (7/54)	22% (7/31)	7% (3/45)	20% (6/30)	10% (5/50)	17% (5/30)
Almost never willing	4% (2/54)	0% (0/31)	11% (5/45)	0% (0/30)	4% (2/50)	6% (2/30)