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Research Article

Adaptive teaching: Latin and the use of digital parsing tools

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Abstract

The Initial Teacher Training (ITT) Common Core Framework (CCF) requires all teachers to adapt classroom teaching to support all students (Department for Education, 2024). While the Department for Education's previously-encouraged concept of 'differentiation' was well-intentioned, in that tasks were meant to be graded to support and develop all students' learning in a class where there were many different levels of prior attainment, it tended to mean that in practice in the classroom different tasks were often set to cater to the supposed different learning attributes of students. Differentiation has now been superseded by the concept of 'adaptive teaching'. Adaptive teaching is characterised by teaching that takes account of the range in prior attainment of students and anticipates barriers to learning by providing resources or specific support so that they may all achieve the same intended outcomes. Classics teaching is often characterised by the reading of large amounts of text, both in the original languages of Latin or ancient Greek or in translation. Students in the Classics classroom contain a wide range of prior attainment, cultural experiences and may have barriers to learning, such as Special Educational Needs and Disabilities. This article presents findings of how the use of a blended language approach, involving the digital parsing tools in the *Cambridge Latin Course* and *Suburani* Latin course books, improved the quantity of translation of Latin achieved by students of mixed prior attainment and encouraged a more effective use of classroom time to develop deeper comprehension and understanding of the translated texts.

Keywords: adaptive teaching, digital parsing tools, blended language approach, Cambridge Latin Course, Suburani

Introduction: blended learning and the *Cambridge Latin Course*

The use of technology in the classroom has undergone many changes over the last three decades. From an average of one computer to every 60 students in 1984/5 (Office for Standards in Education, 1993), we move to the present, when it is not unusual for every student to have their own device linked to an online learning platform such as *Google Classroom* or *Microsoft Teams*. Even in 2004 the use of technology was sporadic and not in line with the government's expectations for embedding the use of technology within schools:

> The government's aim for [technology] to become embedded in the work of schools is a reality in only a small minority of schools. More typical is a picture in which pupils' [technology] experiences across the curriculum are sporadic and dependent on teachers; in many schools, opportunities to exploit the technology are lost on a daily basis' (Office for Standards in Education, 2004).

Still today we find schools may possess digital resources, but their use varies from classroom to classroom and may be entirely dependent on the teacher.

Although greater use of technology continued to be desired for two decades, with a more blended approach to learning that could bring a wide range of learning resources and applications into the classroom, by 2013 technology was still not an easily embedded feature of the classroom, as Güzera and Canera (2013) note: 'The lack of technological availability prevented blending of traditional face-to-face learning with distributed learning environments.' Almost ten years after the Government had set out its aim for technology to be more embedded in everyday learning within schools, it was very much not the case, with technology still being kept as a separate resource such as a set of tablets or a technology suite that had to be booked by the teacher.

It was within a university setting that blended learning accelerated as an approach to learning via the use of distributed learning environments. Miyazoe and Anderson (2010) studied the effectiveness of forums, blogs and wikis in an English as a Foreign Language (EFL) blended learning course in a university in Tokyo, Japan. The study took place in three blended classes and data was collected through questionnaires, interviews and documentary analysis. The researchers found that students had positive feelings towards blended learning and that it was regarded as a supportive learning environment for the course as students felt they could

engage with discussion with peers and gain further support for learning outside the class, by means of accessing different digital platforms (Miyazoe and Anderson, 2010). In 2013 Güzera and Canera identified that blended learning would be limited over the years that followed by the fact that students by and large would be limited to accessing ICT via tablets or smartphones, but they did, however, feel there was hope for the future: 'As technological innovations spread, new types of blends will occur and education will be blended with different technologies…' (Güzera and Canera, 2013). In practice, *Google Classroom*, launched only a year later in 2014, immediately enabled teachers to direct students to targeted resources and distributed learning environments relevant to their courses, although this was still limited to access via tablets and smartphones and it would be several years before laptops for every student became commonplace in most schools.

The above findings are reflected in Coe's school-based experiences using a blended learning approach. Since they introduced blended learning with *Google Classroom* in 2019, Coe found that students were able to work much more independently and also seek out the support of their peers via the platform rather than solely relying on the teacher or the course textbook. Having a range of learning applications at their fingertips means that everyone could access the support they needed at any time.

The Cambridge School Classics Project team made their Story Explorer available for the *Cambridge Latin Course* as early as 2000. The Story Explorer is a digital parsing tool which can be turned on. Click on the Latin word, and it can show the form and meaning of the word the same as it appears in the course book's vocabulary.[1] Additional help may be found by switching the tool to parse the word itself: for nouns, case, gender and number are given; for verbs, person, number, tense and (in the later stages) voice and mood. The form on the screen retains its dictionary form. Developed by Tony Smith the Story Explorer is one of the most popular tools on the *Cambridge Latin Course* website (Lister, 2007).

In 2005 Coe's school adopted the use of the Explorer Tool on a sporadic basis when they could access a computer room. In 2011 the school invested in a set of 30 iPads for our department so that all students in a class could access the Story Explorer as they worked through the *Cambridge Latin Course* stories. In 2019, the whole school, adopted a blended learning approach through *Google Classroom*. At that stage the access to distributed learning environments was largely encouraged at home through homework set via the platform, but as a Classics Department they were one of the few in the school who started to experiment with the use of blended learning within the classroom via the iPads, using a range of approaches to encourage collaborative learning, independent research and adapt our teaching and resources to the needs of all. The Covid-19 pandemic accelerated the need for the whole school to be creative and consistent in the use of this technology and since September 2022 every student has had their own Chromebook and every department has adopted a blended approach to teaching. The *Cambridge Latin Course* Story Explorer is just one resource they use as part of this package of distributed learning environments to adapt teaching to the needs of all students.

Context of research

The aim of this research was to explore how effective digital parsing tools are in aiding all students in the reading and translation of Latin texts. Many critics of the Story Explorer have dubbed it 'cheating', or seem ambivalent about its effectiveness as a tool for learning to read and translate the Latin stories in the *Cambridge*

Latin Course (and, by implication, in other texts) (Hunt, 2018; Laserson, 2005; Titcombe, 2022). Coe and Cope were unconvinced by their arguments. Instead, they wanted to compare the speed of students' reading and translation, the quantity of vocabulary, word order and grammatical errors when using the *Cambridge Latin Course* Story Explorer against students' traditional use of the vocabulary list at the back of the textbook. They hypothesised that the use of the Story Explorer would enable more students than otherwise to attain the desired outcomes.

The research was conducted in two different schools that use different Latin reading courses. Both schools compared two parallel classes. School 1 is an all-girls comprehensive academy in Hertfordshire. School 2 is an all-girls selective grammar school in Essex. Both schools teach Latin to mixed-ability class groups so CATs data[2] was utilised to compare and identify classes in order to find two parallel classes in each school of a similar ability range. School 1 conducted the research with two parallel Year 7 groups, whereas School 2 conducted it with two parallel Year 8 groups. School 1 uses the *Cambridge Latin Course* in the teaching of Latin and School 2 uses *Suburani*. Both schools gave both parallel classes 20 minutes to translate a story from their respective Latin course. In each case, one class used the Story Explorer and the other class used the dictionary provided at the back of the course book.

The only notable difference between the two schools in their pedagogical approach to the teaching of Latin is that School 1 had adopted blended learning throughout the school with every student having their own Chromebook and all departments teaching via a blended approach. Therefore, every student has access to the Story Explorer on their own laptop in every Latin lesson, if required. Access in School 2 had been limited to individual mobile phones, sometimes shared. In order to allow individual access for the research, a computer room was booked for the class using the Story Explorer.

Research findings

School 1 used the *Cambridge Latin Course* story *in foro* (p. 28); School 2 used the *Suburani* story *post ludos* (p. 50) from the line *omnes popinae sunt plenae* (to provide parity of length).[3] Samples of the passages can be seen in Figures 1 and 2 below.

The first area that was looked at for comparison was the rate of errors to see if there was a clear advantage to using either the dictionary or the Story Explorer in terms of accuracy of translation. As you can see from the Figure 3 the findings were fairly negligible, in that in School 1 all attainment groupings made more errors using the dictionary, whereas in School 2 the High and Low attainers made more errors in the Story Explorer Group and the middle attainers made more errors in the Dictionary Group. Furthermore, the actual differential is tiny with around 0.1–0.85 average difference in terms of numbers of errors per sentence when comparing the two different translation aids. It would appear the difference is fairly negligible in terms of the number of errors a student will make using either translation aid and that neither method is infallible.

However, the more interesting finding of this research was the huge disparity in completion of the translation in the 20 minutes given to each class. The data for School 1 showed that the whole class completed the translation in the time given using the Story Explorer, but 40% of the Dictionary Group completed less than 50% of the overall translation (see Figure 2 below for the huge range in number of sentences translated by individual students). Additionally, the Dictionary Group made more vocabulary and
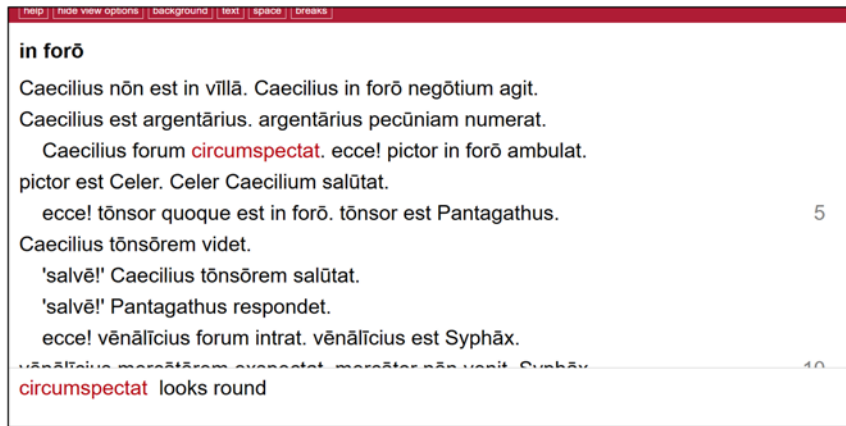
Figure 1. Screenshot of 'in foro', from Cambridge Latin Course.

word order errors overall than the Story Explorer Group. Most errors within the Story Explorer Group were in the lowest attainment grouping, but errors were also made across all attainments in the Dictionary Group.

The data for School 2 also showed a huge disparity between the two groups in regard to the numbers of students completing the translation in the 20 minutes given: 89.3% of students completed the translation in the Story Explorer Group, which equated to 2 students who did not complete the translation, compared to when 44.8% of the Dictionary Group completed the translation (see Figure 4). Interestingly the Story Explorer group made slightly more errors in all attainment groupings than the Dictionary Group. Again, this shows that neither approach is infallible in terms of errors made, but the Story Explorer clearly does speed up reading of Latin for all, allowing most, usually all, students to complete the reading

task and ensuring that students are not 'left behind' when the teacher wants to discuss the story and highlight any key learning points.

Story explorer tools as part of a reading course

The Story Explorer is designed to speed up reading and translation and improve general reading fluency and comprehension; instead of spending excessive amounts of time looking up words in the dictionary, it enables students to read more quickly and fluently so that they do not lose the sense and plot of what they are reading. The technology originated as a support method for first-year undergraduate students at the University of Cambridge who were struggling to read large volumes of Latin (specifically, Tacitus' *Annals*), after research showed they spent around 70% of their time looking up words and just 30% translating (Lister, 2007). Griffiths
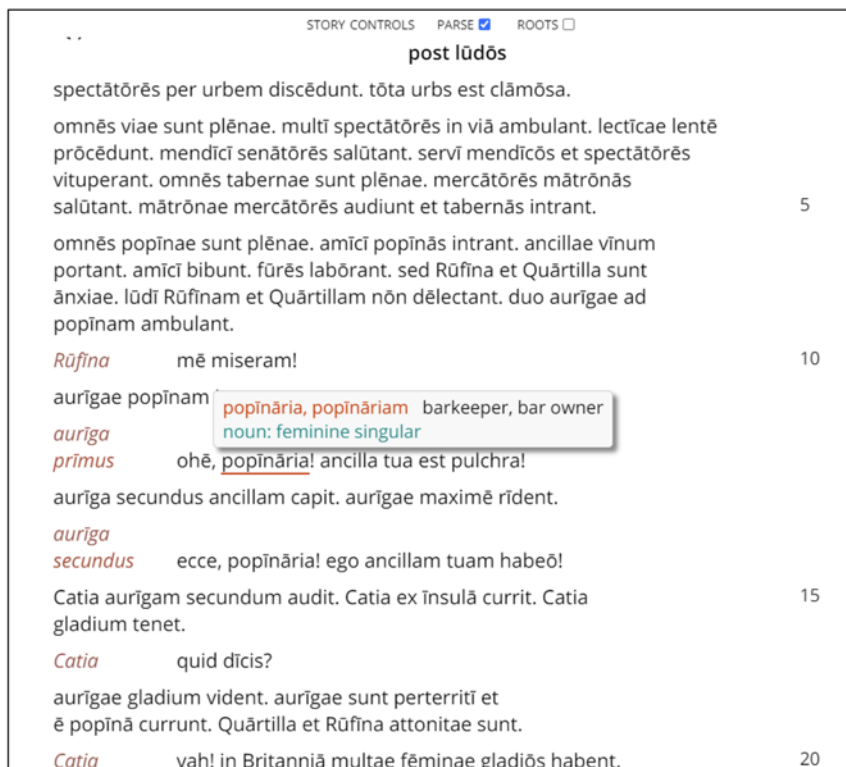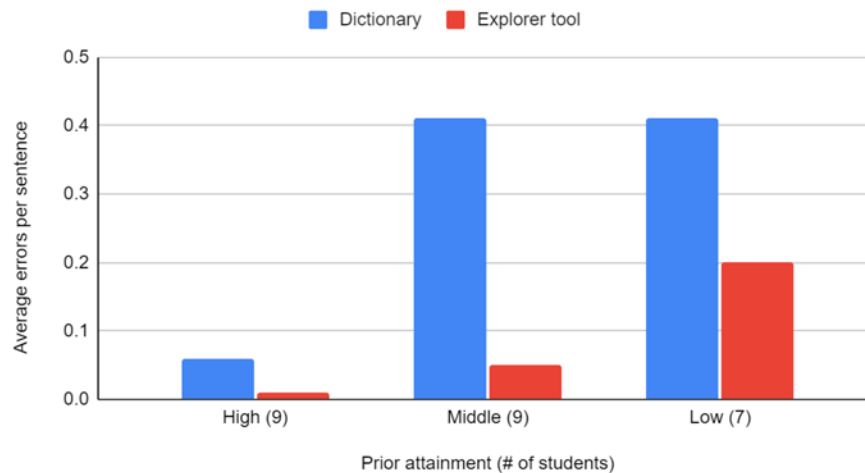

Figure 2. Screenshot of 'post ludos', from Suburani.

School 1 Errors per sentence
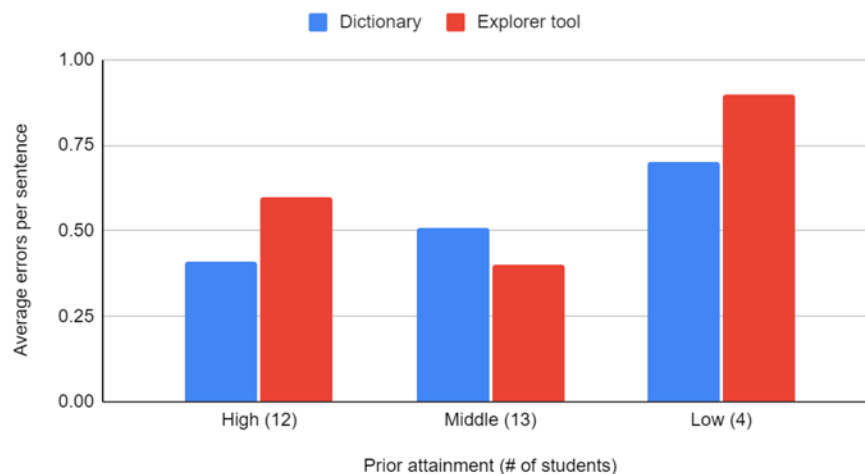

School 2 Errors per sentence

Figure 3. School 1 and School 2: Errors per sentence translated.

asserts that one of the aims of the tool is 'to improve acquisition and consolidation of vocabulary by making students encounter words in context with increased frequency' (Griffiths, 2008, 82). It would appear that within this small sample study that the Story Explorer does speed up the reading of Latin, enabling all in the class of School 1 to complete the translation in the 20 minutes given and all apart from two students to complete the translation in School 2, now leaving time in the lesson to correct errors, consolidate any key grammar points or explore relevant background history.

Several studies in modern foreign languages have investigated the most effective methods of second language acquisition. Krashen (1989) and Schwartz (1980) both assert that the most effective method of language acquisition is through large amounts of comprehensible input. In modern languages this is through a mixture of listening to and reading the language. In the case of Latin this is most often, in the classroom, through the reading of Latin, and it is the aim of reading courses such as the *Cambridge Latin Course* and *Suburani*. A significant part of language learning is vocabulary acquisition. Krashen (1989) observes that vocabulary and spelling acquisition can be done most effectively via comprehensible input in the form of reading and that the greater the amount and frequency of reading, the greater the acquisition of recurring vocabulary. Griffiths asserts this as one of the aims of the

Story Explorer: 'to improve acquisition and consolidation of vocabulary by making students encounter words in context with increased frequency' (Griffiths, 2008, 82). Various studies over the decades have compared the effectiveness of different approaches to language teaching and have shown that although all approaches can yield short term pupil success, pupils' retention over a longer-term period of more than a year is much higher via an approach where 'comprehensible input' is followed by grammar and vocabulary explanation, practice and correction (Trahey, 1996). In the small samples reported above, the Story Explorer Groups from both schools were able to utilise 20 minutes of a 60-minute lesson for receiving input from the story and the remaining time was then used for grammar correction and explanation. The groups that used the dictionary to aid translation in both schools had varied rates of input across the class and ability ranges, which meant that several students would struggle to access the grammar explanation and error correction when they have little understanding of the story to draw upon from the lesson.

Story explorer tools as part of adaptive teaching

It must be remembered that a key contributor to successful student outcomes is motivation and the further aims of the *Cambridge*
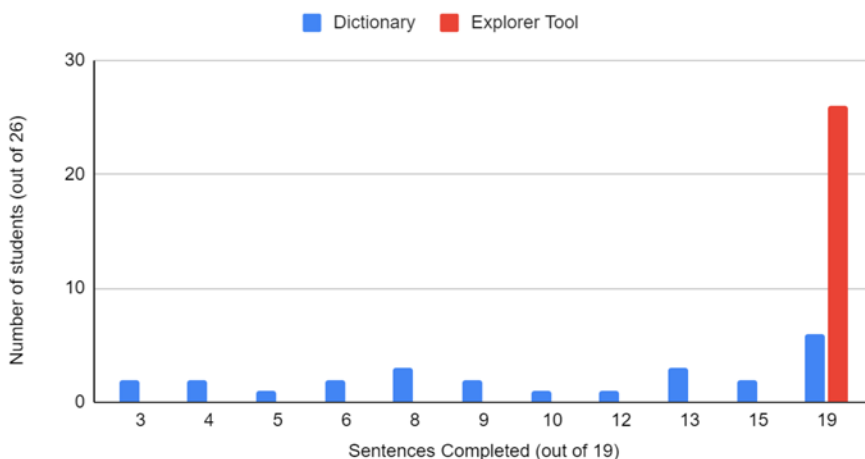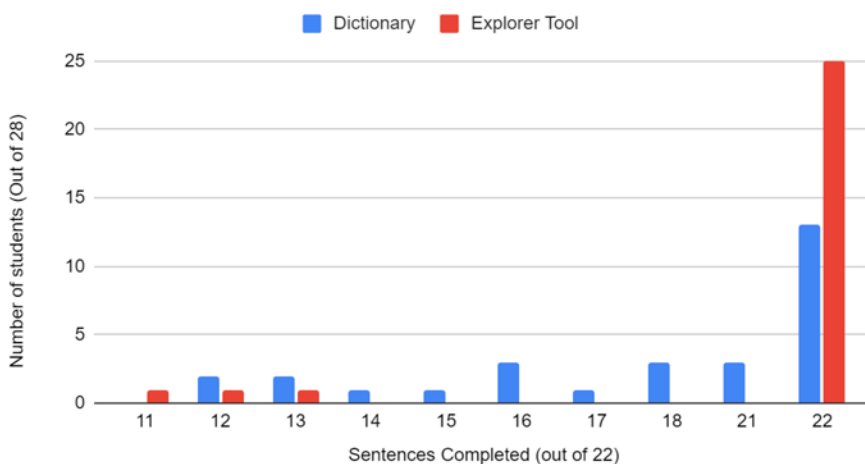
Figure 4. School 1 and School 2: Number of sentences translated.

Latin Course Explorer Tool is 'to enhance pupils' understanding and enjoyment of the story by engagement with the text, thereby helping to sustain motivation' (Lister, 2007, 112).

Motivation plays a huge role in all learning and language learning is no exception to this. As Gardner says:

'Motivation is the primary determinant of whether or not someone will even involve themselves in informal language acquisition contexts. That is, once someone is in a context, formal or informal, both aptitude and motivation are expected to influence the relative degree to which the individual learns the language, but motivation will determine whether or not individuals will avail themselves of the opportunities provided by informal contexts. Of course, if the formal language acquisition context is optional, motivation will also play a big role in whether or not the individual even enrols in the program' (Gardner, 1985, 9–10).

In Dörnyei's (2001) taxonomy of motivational strategies, he hypothesised that in order to generate initial motivation for language learning there is the need to increase the learners' expectancy of success and in order to maintain motivation to present and administer tasks in a motivational way (Dörnyei 2001, 57–59). Taking the sample of the two Year 7 classes, all students in the Story Explorer Group had completed the translation of the story and could move on to the next part of the lesson, but in the dictionary class 76% had not completed the story and 48% had not even translated half the story. The task of reading the story takes most students in the dictionary task longer and many are completing relatively little in the 20 minutes given. Over time these students will start to feel that they are achieving very little and lack motivation for the subject. The class who used the Story Explorer are likely to come to the next lesson with an expectancy of success as all were able to access the meaning of the story and complete the translation task successfully in the time given. The class who used the dictionary are likely to have mixed levels of motivation as so many were unable to complete the task. Over time translating may become perceived as impossible and therefore some students will start to lack motivation for learning Latin.

Further areas for research

The research conducted here is a small test sample to explore the validity of further, longer term, research into the use of digital parsing tools in the adaptive teaching of Latin. Longer-term studies have been conducted in the teaching of modern foreign languages,

such as exploring the long-term retention of vocabulary and grammar and fluency of language use when comparing the use of 'input flooding' or 'comprehensible input' as pedagogical approaches. It would be interesting to see if a long-term study into such approaches in the teaching of Latin yielded similar outcomes as mentioned above. As Latin is an option subject in these two schools and indeed many schools, it would also be valid to explore how each approach leads to student motivation, successful outcomes and high retention rates of student numbers in the long term.

Furthermore, as we move into an age where the government vision of ICT provision in schools and blended learning is starting to become an everyday reality, are there other ways in which Latin teachers are using tools such as the Story Explorer to support adaptive teaching?

If we wish to motivate our Latin students and adapt our teaching to the needs, background and prior attainment of all, a wider exploration into the use of the Story Explorer and other digital aids and distributed learning environments to support adaptive teaching could help us better understand the resources we have available to achieve this.

Notes

1 The vocabulary in Book 1 of the *Cambridge Latin Course* is lightly adapted for the demands of that stage in the student's learning: nominative forms of nouns, present and perfect forms of verbs. The vocabulary list in Book 2 onwards follows standard Latin lexicon formats: nominative + genitive + gender for nouns, main principal parts for verbs, masculine + feminine + neuter for adjectives.

2 CATs data. Most secondary schools use Cognitive Abilities Tests (CATs) to test general intelligence and to stream overall or set for certain subjects. They are designed to assess a pupil's ability in three different areas: verbal (thinking with words); quantitative (thinking with numbers); and non-verbal (thinking with shapes and space).

3 *Cambridge Latin Course*, Book 1, 4th edition (CSCP, 1998); *Suburani* (Hands Up Education, 2020).

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