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Research Article

Cheating or learning? An investigation into Year 8 students' perceptions of the *Cambridge Latin Course* Explorer Tool and its role in both classroom teaching and online learning

David Titcombe

University of Cambridge, Cambridge, UK

Abstract

This article investigates the different uses of the *Cambridge Latin Course* Explorer Tool in the classroom, and students' perceptions of this, through a case study of a Year 8 class in an all-girls' comprehensive school. Student perceptions of this tool were a particular focus of the research, exploring its enhancement of students' enjoyment of the subject, its impact on vocabulary retention, and what they considered to be a reduced difficulty of translation. However, it also brought to light students' misgivings about the tool, including a sense of guilt in some pupils, who were of the opinion that their use of the Explorer Tool could be considered as 'cheating'. Others, meanwhile, felt that it detracted from the 'process' of translating to the point that they believed it actively hindered their learning.

Key words: Latin, pedagogy, electronic dictionary, online learning

Introduction

Having worked in two separate schools since the pandemic began, I have experienced what a key role technology can play in Classics teaching, in both the physical and the virtual classroom. Just some examples of these would include online quizzes, collaborative online documents, increased emphasis on students' research skills, and use of tools which are tailor-made for particular courses. It is this last type of resource which my research focuses on: in particular, the plethora of online resources made available as a part of the *Cambridge Latin Course* (*CLC*). While anecdotal evidence suggests that use of these resources had always been increasing in secondary schools, this has been accelerated by the recent climate. I have noticed clear positives in using these resources in the classroom and online: there has been a visible increase in students' independence, resilience, and self-motivation – skills which are important not only in education, but in life. However, it has also drawn attention to the tool's limitations: not every student has access to the same electronic devices and technology, which drives educational inequality – one student may be learning behind three different screens with key information on each, while another student may have access to no electronic device at all and have to work from the textbook.

My own experience of using websites (such as https://www.perseus.tufts.edu) to read Latin resulted in my choice to focus my research on one *CLC* resource in particular: the story Explorer Tool. This, put simply, is an electronic version of every single story which is available in the hard copies of the *CLC* textbook. It has a quick-click look-up function which enables the user to select any Latin word in the passage and immediately access the dictionary definition for the word as shown in the back of the textbook. Additionally, for Books Two to Five, it has a parsing tool which can be toggled on and off in accordance with the reader's preference. For every story, it keeps a record of all words clicked on which can be used to build a personalised vocabulary test for students (via the 'Word Check' function). The tool's aim is twofold: to improve acquisition and consolidation of vocabulary by making students encounter words in context with increased frequency (Griffiths, 2008, 82); and to enhance pupils' understanding and enjoyment of the story by engagement with the text, thereby helping to sustain motivation (Lister, 2007a, 112). Some key research already done on this tool includes Francis Hunt (2018) who investigated whether the tool achieves its aim of helping students to read stories quickly and understand them, and Laserson (2005) who led an investigation into pupils' use of and attitude towards the resource. I was particularly interested to find out if there had been any changes to Laserson's findings in the decade and a half since, given that technology is now much more prevalent in schools, especially as a result of online teaching. Thus, my investigation focuses on three key student perceptions of their learning in relation to the *CLC* Explorer Tool: their enjoyment (and therefore their motivation); how 'easy' they think it makes Latin; and how much they believe it helps them to learn.

Context setting

In conducting my research on student perceptions of the Explorer Tool, I elected to focus on the experiences of a mixed-ability Year 8 Latin class. My school is an academically non-selective, single-sex

girls' academy based in Hertfordshire, in an affluent catchment area. There are 1,267 students on the roll, of which 3.3% are eligible for free school meals and 7.3% receive some form of SEN provision. Parents of prospective students pre-select Latin, from a choice of languages, for their child to study from Year 7. In Key Stage 3, the school uses the *Cambridge Latin Course*.

I chose to focus my research on a Year 8 class (students aged 12-13) as they were experienced enough with Latin to have a more nuanced view of the subject and encompassed a wide range of attainment in Latin (with GCSE predicted grades ranging between 4 and 9[1]), ensuring all views were represented. In addition, the months of online teaching they had received as a result of the Covid-19 pandemic meant they were adept at using the online tool for reading Latin passages, and had a balanced experience of using it both in the classroom and as a part of online learning. The class comprises 28 mixed-ability students with a range of current and predicted grades. Three students in the class have special educational needs: one requires extra time in tests, one is on the autistic spectrum and one has a physical disability.

I conducted my investigation around a single lesson on Stage 16 of Book 2 of the *CLC*. In this lesson, I asked a colleague to teach the class so I could observe as students used the tool to answer a series of comprehension questions around the final story of the stage, *Quintus de se*. I took in their marks and answers as documentary evidence, and the students completed a questionnaire on the Explorer Tool at the end of the lesson. It should be noted that while the questionnaire was answered as part of an individual lesson, pupils have used the tool consistently since beginning Latin in Year 7 (students aged 11-12), and the questionnaire related to their overall experience using the tool as opposed to this specific lesson. During the subsequent lesson, I held brief, individual interviews with a number of students relating to answers which they had given in the questionnaire.

Literature review

ICT and Classics

Over the past few decades, attitudes towards the use of Information and Communication Technology (ICT) in the Classics classroom have undergone a massive transition. Bob Lister has written extensively on the relationship between Classics and ICT in schools, and his work has outlined the change in stance over time. In 1994, he wrote at a time when programmes such as the *CLC* Explorer Tool (known at the time as 'Transparent Language') and the Perseus Project were in their infancy. He discussed the use of ICT in the previous decade, where it had not really been possible – in 1984-5 there was an average of one computer for every 60 pupils (OFSTED, 1993). In addition, both pupils and teachers were lacking in computer skills, and the technology in question was difficult to use, with little educational software available (Lister, 1994, 20).

As technology advanced into the 1990s, Lister stated that the accessibility of ICT in schools had increased, but, despite this, the growth of ICT in the next ten years had not been welcomed by secondary school Classics teachers, especially compared to other subjects (Lister, 1994, 20). He cited the statistical evidence, from just a year previously, that classicists were shunning ICT – with 28 of 34 Classics departments surveyed making no use of ICT in their teaching (OFSTED, 1993). It is likely that this was largely down to a lack of access to Classics-specific electronic resources, but also potentially reflects the attitudes of Classics teachers at the time – many of those involved in the subject had received little exposure to ICT in their own education and so believed this was unrelated to their teaching of the subject. Lister ultimately suggested it was crucial for Classics teachers to integrate ICT into their teaching in order to secure the future survival of Classics in schools (1994, 21).

Writing on the topic again in 2007, Lister detailed how, 13 years on, Classics teachers' attitudes to ICT had changed significantly: it could be used to speed up tasks, enliven activities, and help students improve the presentation of their work. There was now a wider range of ways to use ICT as well as accessibility for almost every child, but Lister still believed Classics classrooms had not seen the sort of transformation expected by politicians and policy-makers in return for their massive investment in ICT (2007b, 4). This was not just a Classics-based issue, as an OFSTED[2] report found:

> 'The government's aim for ICT 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' ICT experiences across the curriculum are sporadic and dependent on teachers; in many schools, opportunities to exploit the technology are lost on a daily basis.' (OFSTED, 2004, 6).

The report emphasised that there were two factors for this: difficulties in accessing computers for individual departments within schools, and shortcomings in ICT training for teachers (OFSTED, 2004).

While we see that in the 1980s, use of ICT in the Classics classroom was neither practical nor possible, over the next two decades usage slowly began to increase (albeit ICT was still being massively underutilised). If we compare the situation to the present day, one can now walk into a modern-day secondary school and the sight that greets them would not be that dissimilar from scenes in some 1980s' sci-fi films. Today, lessons which do not involve ICT in some form are almost unheard of, whether taking an online register, using electronic presentation tools, or creating lessons which are immersive online experiences. Nigh-on every student has permanent access to an electronic device of some kind, and the teachers of today are those who have had access to ICT at every stage of their own education – as such, the factors which were identified by the 2004 OFSTED report as limiting use of ICT in the classroom are no longer proving to be obstacles. Classics lessons now feature the use of ICT on a regular basis, and it has become a question not of whether it is used, but of how beneficial it can be.

Cox (1999), a researcher of information technology in education, lists the main aspects of pupils' motivation as 'an enhanced sense of achievement, increase in self-directed learning, enhanced enjoyment and interest, enhanced self-esteem, and an increased commitment to the learning task' and states that research suggests ICT has a positive effect in all of these key areas (Cox, 1999, 33). Deaney *et al.* (2003) focused this even further, finding that interactive courseware (designed specifically for educational use) was particularly useful with students, and that ICT not only helped overcome some difficulties surrounding production of work, such as scribing by hand, but also that it could help support certain students' requirements more effectively. This includes students with specific identified special educational needs. A student with a visual processing disorder, for instance, can be differentiated for successfully using ICT through strategies as simple as changing font sizes or colours, while a student with dyslexia can be differentiated for by providing targeted vocabulary assistance (Hay, 2019, 231-2). It should be noted that these are all forms of differentiation which are available to users of the *CLC* Explorer Tool.

The Cambridge Latin Course Explorer Tool

The Explorer Tool is one of the most popular features of the *CLC* website. Lister (2007a) states that since the stories have been made available in this way on the Cambridge School Classics Project (2000) website, it has been among the most commonly used resources, alongside vocabulary testers. Looking up unknown words in the dictionary at the back of the textbook is time-consuming and, from my experience as a teacher, can take students up to a minute per word. Sometimes, they are unable to identify the word in the dictionary at all. The Explorer Tool is designed to speed up this process and save students a lot of time which could be used to read more Latin, improving their reading fluency and comprehension. Indeed, the technology originally blossomed 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, 2007a, 108).

However, Steven Hunt (2016) demonstrates how the *Cambridge Latin Course* Explorer Tool can be used as much more than simply a resource to help speed up reading of Latin texts. He identifies three key teaching strategies using the Explorer Tool:

- as a teaching tool, where the teacher selects appropriate words to click on to provide sufficient scaffolding for students to understand a phrase, sentence or grammar feature in tandem with their own knowledge;
- as a diagnostic tool, where the teacher hovers the cursor over individual words and checks if students can recall them, only clicking on the word if students cannot remember;
- as an assessment tool, where the teacher asks individual students to recall the meanings of words and clicks if a wrong answer is given, providing an instant corrective.

Additionally, there are a range of innovative practices with the Explorer Tool and whole-class teaching, including: allowing students to come to the front of the class to demonstrate their own knowledge by clicking on certain words; allowing students to use the tool for themselves while the class uses the printed course book material; allowing small groups of lower-attaining students to access the Explorer Tool throughout the lesson; and encouraging individual students to peer teach with the support that the tool gives them (Hunt. S., 2016, 103). These lists are by no means exhaustive, and demonstrate the versatility that the Explorer Tool provides. However, it does mean that any research into the use of the tool faces limitations, as one cannot investigate the effect of all these different uses simultaneously. Despite this, there are two key pieces of research which should be looked at in relation to the Explorer Tool: that of Francis Hunt (2018) and Tenley Laserson (2005).

Francis Hunt (2018) conducted research into how the Explorer Tool achieves its objectives, through a study of 16 Year 9 students in an all-girls' state school. The lessons consisted of students answering comprehension questions while using the tool, with documentary evidence being collected about both their speed and accuracy of translation. Francis Hunt states that while without the tool he would expect students to take approximately two minutes to translate a line of Latin, while using the tool they can progress through the story over twice as fast (Hunt, F., 2018, pp. 45-46). He found that when he asked his students the dichotomous question of whether the Explorer Tool makes comprehension too easy or too difficult, they unanimously chose the former, and there was uneasiness from some higher-attaining students that use of the tool could be construed as a form of cheating (Hunt, F., 2018, 47). I felt this would be important to investigate as part of my research: whether students see reading Latin using the Explorer Tool as a form of cheating or a form of learning.

This student perception can be further seen in the research of Laserson (2005). As part of a wider examination of pupils' use of the *CLC* online resources, she investigated 47 pupils' use of and attitudes towards the Explorer Tool. These students were aged 13 and 14 and from three state schools, in which Latin was run as a weekly session for one hour after school, under the supervision of a non-specialist teacher. Laserson (2005) found that around two-thirds of the class preferred using the tool for translation and believed they translated faster, more accurately and with better understanding of plot and grammar. However, like with F. Hunt's research, Laserson (2005) found that while they appreciated that the tool removed the 'drudgery' of looking up words in the back of the book, it made them feel as if by using it they were not doing 'real' work. Frances Hunt (2018) and Laserson (2005) both suggest that this highlights the need for students to learn to use the tool in a mature way and be discriminating in their use of it, exercising restraint, as opposed to just clicking on every word and piecing translations together like a jigsaw puzzle. Fortunately, although students tend to overuse the facility at first, as they progress through the course they seem to use it more selectively (Griffiths, 2008, 82). Laserson (2005) suggests that students combine this idea of using the tool not constituting 'real' work with the idea that the process of acquiring information is as critical as the information itself – as Laserson says: 'According to students, the process of 'real' learning demands time and labour – looking words up at the back of the textbook, writing out translations and memorising vocabulary' (Laserson, 2005, 61). Lister (2007a) suggests this student perception needs to be challenged: it is not the amount of effort pupils put into locating a word which determines whether they will remember it; rather, it is the thought they put into working out from context what it might mean before looking it up, and the strategies they employ for moving it into their long-term memory once they have worked out what it means. As such, a key part of my investigation into students' perceptions of the Explorer Tool was around how they use it (whether they click on every word, whether they try and work out what a word means before clicking on it, or whether they even use it at all) and whether they see this use of the tool as a form of cheating or a form of learning.

Methodology, ethics and research focus

In carrying out my investigation, I accumulated a 'smorgasbord' of evidence in order to gain an impression of students' perceptions of the *Cambridge Latin Course* Explorer Tool, and decided on a case study approach.

All research activities took place within regular lesson time and were permitted in advance by the teacher who regularly teaches the class. In addition, this research was undertaken in accordance with the guidelines set by the British Educational Research Association (BERA, 2011).

Questionnaire

Perhaps the most crucial facet of my smorgasbord of evidence was the online questionnaire which the class completed after their comprehension activity on the *Quintus de se* story. This was key to

getting students' perceptions on the Explorer Tool as it meant students could give their frank opinions based on first-hand experience using the tool. This questionnaire focused on students' use of the tool and whether it aligned with its stated purposes, and whether they believed the tool benefitted their Latin education both in terms of their enjoyment of the subject and their actual learning. I elected to undertake this questionnaire online (through Microsoft Forms) as it encourages completion from students, reduces potential human error in terms of transcribing results, and speeds up data processing, as findings can instantly be exported into an Excel spreadsheet (Denscombe, 2017, 197). It also meant each set of answers could be immediately linked to individual students as they completed the Microsoft Form via their school internet accounts.

I divided the questions within the Form to investigate two things: Section 1 looked at how students use the Explorer Tool, while Section 2 looked at students' perspectives on the effect of the tool on their Latin education as a whole. I will now go on to detail the specifics of each section below.

Section 1 contained four questions. In question 1, students were asked to estimate how many words they thought they clicked on while completing the comprehension task. I then cross-referenced this with students' online submissions where they had screenshotted the Explorer Tool's 'word check' feature (where the tool creates a list of all words clicked on for vocabulary revision). The purpose of this was to gain an insight into how students use the tool in relation to its stated primary aim of reading words in context, and whether this aligned with students' perceptions of how they thought they used it. In questions 2 to 4, I featured images of the *CLC* Explorer Tool in use for three different types of word: verbs, nouns and adjectives. I labelled the different aspects of the parsing tool at the bottom of the screen for each question: for all three, I labelled the dictionary form of the word, the English translation, and the word type; for verbs, I also labelled the person and tense; for nouns, I labelled case and number; for adjectives I labelled case and number as well as 'extra' information (such as comparative and superlative). I labelled each item with arrows and numbers so students would not be intimidated or confused by the use of grammatical terminology, and asked them to tick which features they looked at when reading the story. My reasoning behind these questions was to discover whether students simply looked at the English translations of words and pieced them together like a jigsaw puzzle (a perhaps unfair preconception I always held about the tool) or whether they used the grammar information to help them read the story. To supplement this, I collected in their worksheets at the end of the lesson, so I could use documentary evidence to make links between how they stated that they used the tool and the accuracy of their answers.

Section 2 featured a series of six statements, with a Likert scale ranging from 'strongly disagree' to 'strongly agree' for each. The first three of these focused specifically on students' perspectives about the tool's effect on their own learning, enjoyment and challenge, while the latter three focused on whether students felt the tool benefitted their education more generally. Beneath this, there was an additional comment box enabling students to explain their reasoning for certain answers. It was important to include this as it allowed my questionnaire to combine open and closed questions: closed questions are easier to analyse, but open questions allow respondents to give answers which better match their views (Taber, 2013, 266-267). This was important as it would enable me to both identify general trends within students' perspectives but also infer more specific reasoning behind the trends.

Student interviews

I supplemented the results of this questionnaire with individual student interviews. I elected to interview students individually rather than in groups for four key advantages, as outlined by Denscombe: they were easier to arrange, the opinions I received would come from just one source (the interviewee), it was easy to control the direction of the interviews, and they were easier to transcribe (2017, 204-205).

These students were hand-picked based on their questionnaire responses. I elected to use this form of purposive sampling for a number of reasons: I only had limited time (a single 55-minute lesson) to interview students, so it was sensible not to interview those who seemed to have little to say, speak quietly, or are easily embarrassed (Taber, 2013, 255). I was careful to ensure that interviewees constituted a range of pupils with mixed attainment, some with special educational needs, some who intend to continue Latin to GCSE and some who intend to drop it.

The ultimate aim of these interviews was to gain more qualitative data explaining students' answers.

Informal observation

In addition to my questionnaire, collection of documentary evidence, and student interviews, I elected to have the lesson taught by a colleague instead of teaching the lesson myself. This enabled me to observe student behaviours as they worked through the story using the Explorer Tool. I wanted to gain an insight into whether the students' stated use of the tool was accurate in line with their actual use. Thus, I chose to undertake an open-ended observation of the lesson in order to assess the accuracy of students' responses.

I chose to make my observation open-ended instead of structured, as structured observations will only find out about whatever categories have been built into the observation schedule. In order to gather a more holistic view, my observation was made open-ended; this could produce useful hunches about use of the tool, which I could then triangulate against other data sources as detailed above (Taber, 2013, 272).

Research questions

These forms of data collection (questionnaire, documentary evidence, student interviews and informal observation) all contributed to the construction of the smorgasbord of evidence required to conduct my case study. This plethora of data collection methods was selected in response to my main research question:

Main research question: Do students perceive the Explorer Tool as an aid which enriches their experience of Latin?

In addition, it allowed me to investigate the answers to four subsidiary questions, all of which contribute in some way to the main research question:

Subsidiary research question 1: How do students use the Explorer Tool?

Subsidiary research question 2: Does the use of the Explorer Tool enhance students' enjoyment of Latin?

Subsidiary research question 3: Do students believe the use of the Explorer Tool enhances their ability to learn Latin grammar and vocabulary?

Subsidiary research question 4: Do students find it easier to read and translate Latin using the Explorer Tool, in comparison with the textbook?

The chart below illustrates which methods of data analysis and collection contribute to the answering of which research questions:

Table 1: Research question-data collection chart.

Research question	Data analysis/collection method
Main research question: *Do students perceive the Explorer Tool as an aid which enriches their experience of Latin?*	Questionnaire; student interviews
Subsidiary research question 1: *How do students use the Explorer Tool?*	Questionnaire; student interviews; documentary evidence; informal observation
Subsidiary research question 2: *Does the use of the Explorer Tool enhance students' enjoyment of Latin?*	Questionnaire; student interviews
Subsidiary research question 3: *Do students believe the use of the Explorer Tool enhances their ability to learn Latin grammar and vocabulary?*	Questionnaire; student interviews
Subsidiary research question 4: *Do students find it easier to read and translate Latin using the Explorer Tool, in comparison with the textbook?*	Questionnaire; student interviews; documentary evidence; informal observation

As the table indicates, the questionnaire and student interviews were a crucial aspect of the investigation in answer to every question; meanwhile documentary evidence and informal observations were used as supplementary material for subsidiary questions 1 and 4.

Findings and analysis

In this section, I shall first analyse my findings in relation to the four subsidiary questions, before supplementing these results with further data in order to answer the main research question.

Subsidiary research question 1: How do students use the Explorer Tool?

An obvious area of investigation relating to students' use of the Explorer Tool focuses on which words they clicked on. We can draw conclusions about the use of the tool based on the proportion of words students selected to be displayed at the bottom of the screen. According to the answers to question 1 of the questionnaire ('Approximately how many words do you think you clicked on while completing the task?') students estimated they clicked on an average of around 40 words (the full passage featured 130). This is not an unreasonable number; students had recently returned from a prolonged period of online learning in which teachers had been instructed not to set homework (including memorising vocabulary). Naturally, students had fallen behind on this as there had not been an opportunity to cover it in lessons, resulting in their realistic average of 40 words. However, ten of the 19students who submitted screenshots of their 'word check' function on the Explorer Tool had underestimated the number of words which they had clicked on. Conversely, no student overestimated their total. The majority of pupils who had underestimated did so significantly, often clicking on at least double their prediction. Indeed, Student A estimated that she clicked on 20 words while reading the story, yet when looking at her uploaded screenshot it became clear that she had clicked on all 130. Some students who were interviewed offered explanations as to why they had underestimated their own total, with Student B saying, 'If I don't know a word, I click on the other words around it to work out what it means before I click on that one'.

Other students, however, had a much more realistic grasp of their use of the Explorer Tool when interviewed. Student C answered in the questionnaire that they click on 'Almost all of them, I'm probably going to try and use the word check less in the future though'. This comment suggested she felt an element of guilt about using the tool as much as she did. This implies that perhaps some of those students who had underestimated their total

number of words clicked on may have done so because they were self-conscious and perhaps even embarrassed over the number of words they did click. However, not every student expressed this view: one high-attaining pupil (Student D) indicated in the questionnaire that she clicked on 'most' of the words in the story, and when asked about the reason for this in interview, reflected very honestly: 'I normally click just to double-check because I can't be bothered to think'. Several other students also said they clicked on every single word in the story. This is backed up by my own observations, where many students seemed to use the tool to cycle through every word using the arrow keys. It seemed that many students clicked on words even if they knew what they meant (for example, names of characters such as Quintus, who features heavily in previous stages of the *CLC*, were still clicked on even though the name is the same in both English and Latin). Although some students were realistic with the number of words they clicked on, many seemed to underestimate this due to one of two reasons: either being unaware of their reliance on the tool, or stemming from guilt that using the tool too much might count as a form of cheating.

We can also study the answers to questions 2 to 4 to investigate how students use the Explorer Tool. These questions featured screenshots of the tool being used, and asked which grammatical information students looked at. Unsurprisingly, 24 out of 25 students said they look at the English translation when clicking on a word. This is to be expected as it aligns with the tool's stated aim of enabling students to read more Latin in less time (the time being saved by not having to flick to the back of the book to check translations of words). By comparison, fewer than half of the students said they looked at the parsing features of the tool when reading the story. This is exemplified by the worksheets which students answered in the lesson: 16 students out of 25 got question eight wrong, stating that the reason Quintus wanted to leave Italy was because he was sad. In fact, the correct answer was 'very sad', as the Latin word used was *tristissimus*, which is a superlative. Only ten students stated that they look at whether an adjective is a comparative or superlative when they click on it, which, when combined with the documentary evidence, indicates that they do not use the tool in a way which improves their accuracy. In the interview stage, Student E suggested, 'You don't have to try that much using the website because you can work it out based on the English.' This pupil had got the question involving the superlative incorrect, which seems to reflect a complacency that they do not need to pay attention to Latin grammar in the same way when using the Explorer Tool. Therefore, the teacher must remind students to use the grammar analysis aspect of the tool when reading stories.

Subsidiary research question 2: Does the use of the Explorer Tool enhance students' enjoyment of Latin?

In order to answer this question, we must look at the first of the questionnaire's Likert scale statements ('I have more fun reading and translating stories with the online tool than I do without it.') If assigning numbers to the different response options (one being 'strongly disagree', five being 'strongly agree') we find the answers to this question averaged at 3.84, the equivalent of 'agree' on the scale. Indeed, 18 out of 25 students answered the statement with 'agree' or 'strongly agree'. Multiple factors contributed to this.

14of these 18 students cited faster reading speed in order to aid understanding of the story as the main reason their enjoyment was increased. Student F exemplified this view in the comments section of the questionnaire, stating, 'I find it more fun to translate when the vocabulary translation is just a click away, which is a lot easier rather than having to flip through a textbook to try and find the right word. This allows me to focus more on the fun part which is reading the story.' This was echoed by other students (Student G: 'You can allow yourself to have fun with the story'; Student H: 'More time to understand and make sense of the actual story'). In the interview, Student C linked use of the tool to online learning, saying, 'In lockdown I was struggling to concentrate so it was important to get to the end to follow the storyline.' It seems, based on these responses, that the motivation provided by being able to better understand the story is a key reason many students enjoy using the Explorer Tool. This applies to its use in both the physical and virtual classroom.

Another factor which students seemed to appreciate was the ability to be more independent during online learning, with Student B saying in interview, 'You feel like you've done more, which is good online because it was more complicated to ask the teacher'. This increased independence was especially important to two pupils. Student B indicated, 'I didn't want to speak in Teams [the online software used to conduct online learning] in case there's a loud noise'. This idea of being able to read the story independently from the teacher was cited as also being a factor with in-person teaching. In the questionnaire, Student I expressed a preference for working with her peers instead of getting help from a teacher: 'I find myself more interested (having 'fun') when we're using the online tool and even more so when we work together in pairs using the Latin tool. I prefer the way Latin is taught in general to the way other languages are taught.' In both online and in-person contexts, students seem to take pleasure from reading Latin with increased independence and reduced reliance on the teacher's help.

However, a minority of students (four out of 25) disagreed with the statement that the Explorer Tool enhanced their enjoyment of Latin. These pupils all indicated a preference for the 'process' of translating Latin. In her interview, Student D said, 'It's less fun because you're not thinking about the Latin' and Student E indicated in their questionnaire: 'It feels more like proper Latin using the book'.

Therefore, while many students find Latin more enjoyable when using the Explorer Tool, through increased understanding of the story and increased independence, some higher-attaining students are less positive. These students have a 'purist' view and feel use of the tool detracts from their enjoyment of the 'process' of reading Latin.

Subsidiary research question 3: Do students believe the use of the Explorer Tool enhances their ability to learn Latin grammar and vocabulary?

This question can be answered using the second of the Likert scale statements ('I learn more about Latin vocab and grammar when I am reading stories with the online tool than when I am reading stories without it.') The average score for this statement was 3.72 (between 'neutral' and 'agree'). 16 out of 25 students agreed or strongly agreed with the statement, with students largely focusing on its usefulness in learning vocabulary.

Nine of these 16 students gave rather unconvincing explanations, with generic comments such as, 'I can remember the translation easier if I can see what the word is in English' (Student J) and, 'I can just click onto it and see and can sometimes be memorable' (Student A). Six pupils commented on the availability of additional information, with Student K saying, 'I still learn about the word with the added information' and Student L asserting, 'The online version includes more information about each individual word, which makes it easier to learn vocab'. Interestingly, no students made a reference to one of the main aims of the tool of improving acquisition and consolidation of vocabulary by encountering words in context with increased frequency (Griffiths, 2008, 82). Student I did indicate that the tool helps them to learn grammar, commenting: 'Whilst I don't usually need to use the function, the tool does allow me to check grammar and see the declensions/cases/tenses in a practical scenario'.

Three students out of 25 strongly disagreed with the statement that using the tool helps them to learn grammar and vocabulary. These students all cited the absence of the process of looking up words as the main reason for this. Student M said, 'I feel that I remember the words more when translating from the text book because I have to search for the Latin word then read the translation' while Student E suggested, 'When you have to search for it, you have to go through a whole process, online you don't have the process.' This pupil elaborated on her point when interviewed, saying: 'When you use the online tool you just look at the English without the Latin'. This suggests there is potential for laziness from some students, not even looking at the Latin when translating stories.

While a good proportion of students perceived that the online tool helped with their learning of Latin vocabulary and grammar, there was no convincing answer as to why they believed this. In comparison, the minority who felt the tool hindered learning all linked internalisation of vocabulary with the process of looking up words. Six students also responded as 'neutral' on the matter, as they felt their learning of vocabulary and grammar was unaffected regardless of the resource they were using to read the story.

Subsidiary research question 4: Do students find it easier to read and translate Latin using the Explorer Tool, in comparison with the textbook?

For this research question, we must examine the third Likert scale statement: 'I find it easier to read and translate Latin passages with the online tool than I do without it.' The average for this was extraordinarily high, at 4.40 – between 'agree' and 'strongly agree'. An overwhelming majority of 21 out of 25 agreed or strongly agreed with the statement, while not a single student expressed disagreement.

Four students attributed this to a lack of thinking as they read the story. Comments which indicated this included: 'I can just look at the answers… don't think about it' (Student D); 'You don't do any work to translate it… I don't have to try' (Student E). This view is understandable and shows a level of complacency when it comes to using the Explorer Tool. The documentary evidence reiterated this as it showed that most students' answers lacked some accuracy, with 80% of students dropping marks due to grammatical errors. Therefore, while it may feel to students like translation using the

Explorer Tool is easier, they may be blinkered by their increased speed of reading, and therefore unaware of their reduced accuracy.

17 of the 21 positive students indicated that the main reason they found Latin easier when using the Explorer Tool was increased accessibility to vocabulary. Often, they seemed to associate time taken to finish the task with its difficulty (Student I: 'I don't need to flick to the back of my book'; Student N: 'I can access the words faster'). Two students directly associated quick access to vocabulary with the opportunity to concentrate on more complicated Latin grammar. Student H said, 'It's much harder for me to remember all the vocabulary and if it's there for me I can spend time on working out if the tense is right and I don't need to worry about asking for words.' This is more promising as it indicates that, for this student at least, the Explorer Tool makes Latin easier by enabling them to interact with different grammatical features.

Student O raised a different point about how using the Explorer Tool made reading Latin stories easier. She suggested: 'My favourite part about the online dictionary is that when you press the word it turns red… unlike in the book where I usually get lost… it's really difficult when going back through the dictionary in the book as well as going through my own book and then have to re-find where I left off'. This accessibility and increased visual appeal is something which has perhaps gone underappreciated in other research about the Explorer Tool. As well as the comments from this student about different colour text making it easier to read, the tool also allows its users to change the size of text, background colours, and layout of the page. This increased accessibility can contribute greatly to ease of translation, as students are not hindered by factors which are unrelated to their interpretation of the Latin.

Main research question: Do students perceive the Explorer Tool as an aid which enriches their experience of Latin?

Overall, the data from the subsidiary research questions indicates that most students appear to have a positive perception of the *CLC* Explorer Tool. The majority believe it makes reading Latin stories more enjoyable, helps them to learn more, and makes Latin easier.

This is further emphasised by the responses to the final three Likert scale statements. When given the statement 'I wish we were able to use the online tool more in Latin lessons', the average score was 3.68 – between 'neutral' and 'agree', with only one student disagreeing. I believe that were it not for the recent months of online teaching (in which the tool was being used for every lesson as students did not have access to textbooks) this score would likely have been higher. In response to the statement 'I think it is a good thing that we are able to use the online tool in Latin lessons', the score was overwhelmingly positive at 4.24 – between 'agree' and 'strongly agree'. Only three students were 'neutral', while none disagreed, so this shows that overall, students believe the Explorer Tool is beneficial to their Latin education overall.

The final statement was: 'Overall, reading stories with the online tool is better than reading stories without it.' Through the responses to this, I could work out which aspect of the subsidiary research questions students found most important. Of the three students who disagreed with this statement, Student E had been generally positive about the tool, with the main drawback being the decreased enjoyment. Meanwhile, the other two students who disagreed with the statements (Students D and M) had been previously negative about the enjoyment and amount learned using the tool. Therefore, it became apparent that in assessing how beneficial the Explorer

Tool was to their Latin education overall, students perceived enjoyment and how much they learned as the most important factors, and were generally unaffected by how 'easy' it made Latin. Overall, the average score for this last Likert scale statement was 3.80 (close to 'agree') and 18 of the 25 students agreed or strongly agreed with the statement.

Conclusion, limitations of research and recommendations for future research or practice

In conclusion, my case study investigation into students' perceptions of the *CLC* Explorer Tool suggests that in general they perceive it as an aid which enriches their overall experience of Latin. The data from my smorgasbord of evidence (questionnaire, student interviews, documentary evidence and informal observations) suggest that the Explorer Tool normally enhances students' enjoyment of Latin through increased engagement with the story and decreased dependency on the teacher. In addition, students perceived the tool as enhancing their learning of vocabulary (although the evidence for this perception being correct is tenuous). However, the data also suggest there was a significant minority of students who believed in the 'process' of translating as an important facet of Latin, and so the absence of certain tasks, like turning to the back of the book to find words or cross-referencing with verb and noun tables, decreased their enjoyment and made them feel as if they were learning less. The students were almost unanimous in the idea that the Explorer Tool makes Latin easier, but this was seen to occasionally cause issues: some seemed to perceive that it made reading of stories almost too easy; for others it resulted in complacency, meaning their accuracy was reduced. In addition, the data collected in relation to the use of the Explorer Tool suggested that for some students, clicking on words was often treated with guilt, and interviews with students created the impression that some perceived using the Explorer Tool in this way as a form of cheating. Despite these drawbacks, the consensus from students seemed to be a positive one overall, so the *CLC* Explorer Tool can certainly play a role both in the classroom and online teaching.

However, this research was not without its limitations. I conducted my research on a single Year 8 class of all girls, with the majority of the data stemming directly from one task in a single lesson, so it is incredibly difficult to make generalising statements based on my findings. In addition, I only interviewed seven students, so while I hand-picked these in order to maximise the range of opinions, their views cannot be considered as representative of the entire student body. The last limitation stems from the way the Explorer Tool is usually used in the school environment: as detailed in the literature review, Steven Hunt (2016) identified a wide range of ways in which the tool can be used; however, in this class, the tool has been utilised almost exclusively as a vehicle to help with reading comprehension. As such, classes which have used the tool in a wider variety of ways may have perceptions which differ from those identified by this study.

If I were to make recommendations for future research in this area, I would suggest leading a case study around a class which has used the tool in a greater range of ways. Additionally, due to the recent situation of online learning amidst the pandemic, this particular class has experienced using the tool for almost every *CLC* story. As such, it would be worth undertaking similar research with a class who have much more experience in reading the *CLC* stories in ways which do not require the Explorer Tool. In addition, it may also be useful to gather teachers' perceptions of the tool and

how they believe it affects their own classes. This could provide an alternative perspective to offer a further insight into students' experiences of the tool both in the classroom and as a part of online learning.

If I were to use the conclusions of this case study to make recommendations for future practice, I would suggest that teachers make clear to their students the precise purpose of using the Explorer Tool for Latin stories. This would reduce much of the apprehension from students that using the tool may constitute a form of 'cheating'. Equally, it would encourage students not to become complacent when using the tool, through piecing the English words together like a jigsaw. As other studies have indicated, students need to be educated in how to use the tool in a mature manner – this will maximise the benefits of using it in their Latin studies as well as reducing negative perceptions that exist from some high-attainers.

Notes

1 GCSE examinations are taken in the UK at age 16. In England and Wales, the Latin examination comprises assessment in translation and comprehension of unseen, adapted Latin, comprehension and appreciation of unadapted Latin literature, and, optionally, appreciation of literature in translation and material culture. The GCSEs are graded 1-9, with 9 being the highest grade. A grade 4 is considered a 'pass'.

2 Ofsted is the Office for Standards in Education, Children's Services and Skills. It is a non-ministerial department of government which inspects services providing education and skills for learners of all ages. These include state-maintained schools in England.

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