



**The impact of learning Latin on primary school pupils:  
Review of existing data**

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## The impact of learning Latin on school pupils: Review of existing data

This article reviews a century of US data on the impact of learning Latin and explores to what extent the collected findings demonstrate Latin can play a vital role in improving pupils' educational attainments, particularly L1, MFL, and cognitive development. Contextualizing the data allows us to explore their aims, findings, and shortcomings. We argue that, while the collated data do provide significant evidence for the beneficial impact of learning Latin on L1 development of English native speakers, evidence for impact on MFL and cognitive development is less substantial. It is therefore pivotal to acknowledge that these data must therefore be applied with caution, as a meaningful starting point for new research based on modern methodologies.

Keywords: Latin; literacy; review; foreign languages

**Latin, ideology and pedagogy**

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3 Latin is not a neutral subject for either a school to teach or a pupil to study. Shaped by  
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5 centuries of association with the ideological elite – such as the British Empire or the  
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7 Catholic Church<sup>1</sup> – Latin has become a symbol of contradictions. On the one hand, it is  
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9 praised as an aspirational subject that opens doors to modern languages and European  
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11 history. On the other, it is attacked for being a tool of social exclusion and a difficult  
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13 dead language without practical application. Latin has indeed divided opinion for at  
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15 least a century, since it finally ceased to be the lingua franca of the Western world, and  
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17 the battle concerning its value for young people’s education continues among teachers  
18  
19 and governments. This has currently led to a situation of extremes: while the subject is  
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21 marginalized in some educational curriculums which are focused on STEM practicality  
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23 (such as in France and Wales), other governments are placing it centre stage (such as  
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25 the Netherlands and Wallonia).  
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30 Because of the ideologically loaded status of Latin, teachers have long had to –  
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32 or felt the need to – justify the existence of Latin on the curriculum. Approximately a  
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34 century ago, this led to research exploring the quantifiable value of Latin for young  
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36 people’s education, particularly with regard to linguistic and cognitive benefits.  
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38 Research set out to demonstrate the following three hypotheses regarding the  
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40 advantages of studying Latin, based on circumstantial evidence reported by teachers.<sup>2</sup>  
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44 First, since Latin lies at the root of 60% of English words, studying it will have a  
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46 beneficial impact on development of native speakers’ English vocabulary in specific  
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48 and language skills in general, more so than studying a modern foreign language. In an  
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50 article expounding the virtues of studying Latin, Colligan (1944: 15) argued that ‘High  
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52 school students should be led to recognize that so long as the English language lives the  
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54 Latin language cannot die, and that the practical values of Latin thus equal or exceed  
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56 those of any course in the secondary school curriculum’. Secondly, since Latin lies at  
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3 the root of modern Romance languages and has impacted the development of Germanic  
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5 and even Celtic languages,<sup>3</sup> studying Latin (first) will have a beneficial impact on the  
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7 acquisition of modern foreign languages. In a 2013 article in *The Guardian*, Livingstone  
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9 argues that ‘according to the same principle that your great-grandfather had children  
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11 and grand-children and great-grandchildren, learning a language that occupies a place  
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13 farther up the family tree will mean that younger languages will have grown up out of  
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15 it’. Thirdly, since Latin is a logical, almost mathematical language and is considered the  
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17 ‘prototype of phonemic writing’ (Coulmas (1989: 93)) with high correspondence  
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19 between spelling and pronunciation, its study will have a positive impact on general  
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21 cognitive skills, beyond languages. As Morgan (2010: 6) posits in a report written by  
22  
23 the Politeia think-tank concerning the potential to offer Latin at primary school level in  
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25 the UK, Latin is ‘the maths of the Humanities: a training in analytical thought for which  
26  
27 no preparation is required’.

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31 Since 1915, fifty US tests have aimed to gauge the impact of learning Latin on  
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33 pupils with regard to one or more of these premises. Only two studies from outside the  
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35 US currently exist:<sup>4</sup> one from Germany and one from the UK. That the data derive  
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37 primarily from the US may be explained largely by the financial impetus that the two  
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39 major US Classics organisations have long provided for quantitative testing.<sup>5</sup>

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42 The findings of the US tests are still mentioned unreservedly as clear evidence in  
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44 favour of the teaching of the subject by proponents of Latin.<sup>6</sup> The positive findings,  
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46 however, relate to Latin teaching in specific contexts, both historical, socio-economic  
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48 and pedagogic. The aim of this article is therefore to review the findings of the US data  
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50 by contextualizing the findings and methodologies of the studies. This will provide  
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52 substantiation concerning the reliability of the past century of data, as well as a starting-  
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54 point for further research.  
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### US research: Quantifying the value of learning Latin

Assessing and synthesizing the existing US data is a complex task. First, it is possible to identify the majority of the evidence: to our knowledge, results of fifty US studies regarding the impact of Latin have been published since 1915.<sup>7</sup> Unpublished studies must exist, however, and it has been difficult to track the details particularly for the earlier evidence, so while this review aims to be extensive, it cannot claim to be complete. A list of all the studies in chronological order can be found in the Appendix.

Secondly, meta-analysis (collation of data from previous studies and re-analysis of the results) on the existing studies is impossible, since some of the data are no longer available. A systematic review – which identifies the evidence, selects studies based on eligibility criteria, assesses their quality, synthesizes and interprets findings, and provides an impartial summary – is equally impracticable. Most of the existing 1970s and 1980s studies would be insufficient in quality, not only because very little information is provided concerning the entire testing process, but also because the variables – such as aims, pupil age, extent of Latin instruction, testing method, pedagogic methodology, socio-economic context and others – are often withheld or summarized.<sup>8</sup> With regard to the testing method, while the 1970/71 study in Philadelphia, for example, used the Iowa Test of Basic Skills (Mavrogenes 1977), the early 1970s test in Boston used a general vocabulary test as well as a test of vocabulary of Latin-derived words (Mavrogenes 1977); the 1975 Los Angeles study used the Comprehensive Test of Basic Skills (Masciantonio 1977); the 1981 Brooklyn study used the California Achievement Test (vocabulary and comprehension) (Fromchuck 1984); and the 1980s Illinois study used SATs and composition tests (Reinhardt 1983). Studies have also used different quantifiables, such as percentage, years, or points on a

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3 certain scale to determine pupil progress. Pedagogy ranged from traditional grammar-  
4 translation approach to the oral-aural approach, multisensory approach, and the reading  
5 approach. Comparing the various findings is thus challenging. Nevertheless, by  
6 performing a tentative retrospective review of the data and gathering evidence  
7 concerning specific outcomes, it is possible to distinguish prevailing correlations.  
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### 13 14 15 16 *Findings*

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18 The strongest case can be made for the impact Latin has on increased linguistic skills in  
19 English native speakers (L1), both at primary and secondary school. The seminal study  
20 in this area, by Rudolph Masciantonio (1977), documents a number of local studies  
21 from the early 1970s. In Philadelphia, for example, 4,000 primary school children were  
22 given twenty minutes of Latin instruction per day during one school year, using the  
23 'multisensory' approach (Masciantonio (1977: 376)). Pupils were assessed by means of  
24 the vocabulary part of the Iowa Test of Basic Skills to test their English vocabulary  
25 level: in comparison with the control group (pupil number not specified), those pupils  
26 who had studied Latin 'was one full year higher than the performance of matched  
27 control pupils' (Masciantonio (1977: 377)).  
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41 Around the same time, Judith LeBovit organised a similar programme of Latin  
42 in Washington D.C. high schools. Pupils who had studied one year of Latin were tested  
43 by means of the Comprehensive Test of Basic Skills and compared with not only with a  
44 control group without foreign language, but also with a control group who had studied  
45 four years of French or Spanish. Latin teaching was 'based on modern linguistic theory  
46 and typified by the oral-aural approach with special attention paid to word derivations  
47 and cultural background' (Sussman (1978: 346)). As Sussman (1978: 348) reports, the  
48 English reading scores of Latin pupils were 'significantly higher' – no level is specified  
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3 – than those of both control groups, and the report particularly highlighted the ‘positive  
4 transfer effect to the mastery of English reading skills’ of Latin.  
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8 Similar findings regarding the impact of Latin learning on literacy skills of  
9 English native speakers abound from between 1015 and the 1990s, both at primary and  
10 secondary school level: Harris (1915), Gilliland (1922), Thorndike (1924), Douglas and  
11 Kittleson (1935), Josephina (1963), Lebovit (1967), Bowker (1975), Masciantonio  
12 (1977), Polsky (1986), Lafleur (1981 and 1985), Offenbergs (1982), Townsley (1985),  
13 Barber (1986), Van Tassel-Baska (1987), Sparks (1996), and DeVane (1997) all report  
14 significant improvements in English vocabulary among Latin learners in comparison  
15 with control groups without a foreign language or with a modern foreign language.  
16 Similarly, Lebovit (1967), Cederstrom (1974), Masciantonio (1977), Polsky (1986),  
17 LaFleur (1981 and 1985) and Polsky (1986) report significant progress with regard to  
18 reading and comprehension in comparison with control groups. The degree of  
19 significance does differ, however – and indeed often the precise degree is omitted – but  
20 the findings are nevertheless substantial. There are outliers, such as Otis (1922), Miller  
21 and Briggs (1923) and Coxe (1924), which only testify to minor or insignificant  
22 differences. Yet considering the large number of tests over a large period of time, this  
23 minority of exceptions confirms the general trend. Interestingly, Polsky (1986: 77-83),  
24 Sparks et al. (1996), Ashe (1998) and Hill (2006: 50-67) report the particular use of  
25 Latin instruction for improving the English language skills of pupils with special  
26 educational needs.<sup>9</sup>  
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52 For the second hypothesis, that Latin prepares pupils for modern foreign language study  
53 – at least Romance and, to a lesser extent, Germanic and Celtic languages – because it  
54 has impacted on Western culture and languages for the past millennium, the evidence is  
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3 more circumstantial. Findings such as those by LeBovit, LaFleur (1981 and 1985) and  
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5 Wiley (1985), which compare the L1 skills of Latin students to that of modern foreign  
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7 language students, suggest that students studying Latin outperform modern foreign  
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9 language students. No studies have been conducted on the precise impact of learning  
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11 Latin on MFL acquisition of native English speakers, however, and further research into  
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13 this area is required. One study on the subject exists; however, it assesses German rather  
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15 than English native speakers. Haag and Stern (2003) tested German L1 speakers with  
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17 regard to the preparation for Spanish study through Latin or French. Those German  
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19 speakers who had studied French outperformed the Latin students. The impact of Latin  
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21 learning on MFL development is thus not a claim which can currently be substantiated.  
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25 Finally, regarding cognitive transfer, the evidence is again less persuasive. Only  
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27 two studies – Sheridan (1976) and Masciantonio (1979: 377) – acknowledge  
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29 mathematical improvements alongside linguistic development among Latin learners.  
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31 Recent negative findings, conversely, conveyed by Carlisle and Liberman (1989: 179-  
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33 91) and Carlisle (1993: 339-53), have been attributed explicitly to the lack of  
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35 transferability of Latin skills to other subject areas. Haag and Stern (2003: 175) argue  
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37 that transfer of knowledge depends on the pupils' ability to detach specific activities  
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39 from their context, which may not be present in every pedagogic approach. A modern  
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41 UK study, discussed by Woolcock (2016) may provide more methodological evidence  
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43 for transfer of Latin skills to mathematics.  
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#### 49 ***Latin and English native speakers***

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51 On the whole, the findings of the existing studies provide the strongest case for the near  
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53 transfer of Latin study to native language (L1) development, particularly vocabulary  
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55 and comprehension. This needs to be contextualized in current understanding about  
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3 language learning, however. Evidence concerning the positive influence of foreign  
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5 language (L2) learning on L1 proficiency – coined ‘multicompetence’ by Cook (1991) –  
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7 is, indeed, still disputed. First, the Critical Period Hypothesis (CPH), which argues that  
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9 L2 learning should start as early as possible, has largely been discredited, as Hunt et al.  
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11 (2005: 371-372) maintain. Second, current research on modern foreign language (MFL)  
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13 learning suggests that there are many complex conditions which need to be fulfilled for  
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15 successful linguistic progress to take place, such as – among others – social, process,  
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17 and individual/group factors (Johnstone (2003)), availability of resources and  
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19 infrastructure (Powell (2001)) and teacher training (Burstall et al. (1974)). A recent  
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21 study by Murphy et al. (2015: 1134) highlights disparities between test findings  
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23 regarding the impact of L2 learning on L1 proficiency, which range from highly  
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25 beneficial to detrimental – though Murphy et al.’s own test (2015: 1139-1151)  
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27 demonstrates a positive impact of French and Italian learning on English aptitude. There  
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29 is thus some evidence concerning the impact of L2 on L1 proficiency which supports  
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31 the findings concerning Latin.  
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36 The reason for the significant impact of Latin learning on L1 development is still  
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38 unclear. It might be explained by Murphy et al. (2015), who argue that the beneficial  
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40 impact of L2 on L1 learning is greater when L2 is a language with high grapheme-  
41  
42 phoneme correspondence (GPC). This confirms the findings which suggest that Latin  
43  
44 learning has the potential of bringing more benefit to primary language learners than  
45  
46 modern European languages. Another reason might be the particular pedagogy: in many  
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48 of the studies mentioned above, a multisensory approach focusing directly on  
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50 orthography, phonology, and syntax was applied in Latin study (e.g. Sparks et al.  
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52 (1996)). Among pupils who had hitherto not been taught grammar, a direct  
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54 confrontation with such concepts might indeed lead to improvements in those areas.  
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3 While researchers have posited such reasons for the impact of Latin on L1 learning,  
4 these are deductions and cannot be generalized, as the existence of tests which report no  
5 differences between Latin learners and control groups. Latin itself, it seems, is thus not  
6 sufficient: certain conditions – whether social, pedagogic, or other – must be present for  
7 Latin instruction to have an impact on L1 which outstrips that of control groups.  
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### 13 *Contextualization*

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16 It is not just the methodology which must be reviewed to assess accurately the value of  
17 the existing studies. With just over a century of evidence and more than 17,000  
18 participants tested, it is important to contextualise the studies' historical and  
19 geographical background. Graph I (**INSERT Figure I**) highlights two chronological  
20 peaks of studies: first in the 1910s-1920s, and then again between the 1960s-1980s; the  
21 main gap corresponds to WWII and its aftermath. A second graph (**INSERT Figure II**)  
22 demonstrates the strong correlation between the decade during which tests were  
23 conducted and the results. In the early testing period, the results – drawn from high  
24 schools alone, as Latin was not part of the elementary curriculum – were almost  
25 exclusively negative. In the second period, conversely, results regarding the impact of  
26 Latin on L1 progress were predominantly positive. If one considers the results from the  
27 two periods together, 63% of studies found Latin instruction has a positive impact on  
28 pupils, 10.8% a negative impact, and 26% was inconclusive. When one considers only  
29 the results from the 1960s onwards, there is a significant shift, and indeed the  
30 elementary school data produced more significant positive results than those from high  
31 schools: 86% of the elementary results were positive versus 75% of high school data. A  
32 number of factors have been put forward to account for this chronological discrepancy.  
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3 In the antebellum and interbellum periods, Latin was an established and  
4 conservative part of the US grammar-school curriculum preparing middle and upper  
5 class young men for university.<sup>10</sup> Pedagogy was founded on the principles of the  
6 traditional grammar-translation approach. Fear of failure, anxiety and even lack of  
7 interest in what is compulsory often creates a high affective filter between pupil and  
8 study<sup>11</sup> and Latin may be a case in point.

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16 From the 1960s onwards, while the grammar-translation pedagogy continued to  
17 hold sway in traditional backgrounds, Latin was also brought to deprived inner-city  
18 children in both elementary and high schools. This approach incorporated the  
19 abovementioned oral-aural approach, for example, rather than the traditional grammar-  
20 translation approach<sup>12</sup> and was strongly founded on left-wing principles, as can be  
21 gleaned from a lesson extract in Rudolf Masciantonio's humanistic course book *How*  
22 *the Romans lived and spoke* (1970):

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34 Ask how many children have ever heard of BLACK POWER. Ask the same question  
35 about WHITE POWER and FLOWER POWER. Tell them that Latin gives them a  
36 power which is greater in many ways than all three put together, viz. WORD POWER.  
37 Say WORD POWER in a loud voice and have the children repeat it. Tell them that  
38 Latin words are like sticks of dynamite. Every time you learn one Latin word it  
39 explodes into many English words. Breaking up some chalk into small pieces and  
40 letting the chalk scatter when you say the work "explodes" is an effective dramatic  
41 device at this point.<sup>13</sup>

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48 The correlation between Latin teaching and movements such as the Civil Rights  
49 Movement and Flower Power is a clear demonstration of the ethos of 1960s-1980s Latin  
50 teachers in the US. Masciantonio (1977: 382) indeed attributes the more positive results  
51 of the 1960s-1980s studies to their innovative teaching styles, as he considers the  
52 grammar-translation method outdated and counter-productive.

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3 When considering the geographical spread of the 1960s to 1980s testing, Figure  
4  
5 III (INSERT Figure III) reveals that studies are largely centred on the East coast of the  
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7 US, alongside California in the West.<sup>14</sup> The North East coast is historically more  
8  
9 European-focused and intellectually liberal – and California, in its own way, is quite  
10  
11 similar, as argued by Gottmann (1961: 45) – so it should come as no surprise that  
12  
13 pedagogic innovation was driven by these regions.  
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16 Considered together, the chronological and geographical discrepancies suggest  
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18 that in the 1960s-1980s, results were affected positively by changes to the teaching  
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20 approach in particular social strata in the US. It is possible that taking part in innovative  
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22 studies which were undoubtedly promoted strongly and taught by dedicated teachers  
23  
24 increased the positive effect on the pupils, while conversely, as Smith (2007: 119)  
25  
26 argues, disengaged teachers and/or a traditional pedagogy might have an adverse effect  
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28 on learning. This demonstrates that teaching engagement and a more pupil-led  
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30 pedagogy has a clear impact in comparison with a traditional teacher-led teaching style.  
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34 After the 1980s, however, findings from nationwide studies comparing SAT  
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36 (Scholastic Assessment Test) results of Latin students with those of Modern Foreign  
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38 Language students – often used to demonstrate the comparative success of Latin  
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40 students<sup>15</sup> – are less persuasive:<sup>16</sup> though they demonstrate an advance of Latin students  
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42 over MFL students, they do not differentiate regarding the social background of  
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44 students: while Latin has been introduced in deprived areas as well, current Latin high  
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46 school students are still largely from an affluent background. Hence Latin – while it  
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48 may have had an impact – may not be the (only) decisive factor of their success, and  
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50 further research is required.<sup>17</sup>  
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### *Absent data*

Considering the post-1960s studies, the evidence regarding Latin impact on L1 has been largely positive. The switch from predominantly negative results to predominantly positive results between the 1910s and 1980s appears to be linked to the shift from grammar-translation to reading method and Direct Response pedagogy as well as the different place of Latin in the curriculum, which corroborates Masciantonio's (1977: 382) argument concerning the impact of pedagogic approach.<sup>18</sup> Moreover, negative data often correlate with affluent areas and intellectual background with a greater likelihood of constructive pedagogic home input, which suggests that socio-economic background matters in learning and Latin can have a greater impact on deprived areas.<sup>19</sup>

There are, however, also important absent data. First, in most studies – for example in Douglass and Kittelson (1935: 28) and Holmes and Keffer (1995: 48) – a socio-economic spread of participants is mentioned without detailing how each stratum performed separately. While some studies mention a pedagogic approach, this is absent from most. And finally, while Masciantonio's course book refers to Black Power and Flower Power, data on race and gender are conspicuously absent from all of the studies.

### **Data for the future**

In gathering this evidence, we have aimed to explore to what extent the historical US data provide significant evidence for the beneficial impact of learning Latin. Our review has demonstrated that the majority of findings support the claim that Latin helps with vocabulary, comprehension, and reading development of English L1 pupils, even more so at primary than at secondary school. The specific impact on special educational needs pupils and socio-economically challenging areas is particularly noteworthy. Nevertheless, the two other claims regarding the transfer of Latin study – on MFL study

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3 and cognitive development – cannot be substantiated significantly and require further  
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5 research.  
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7 The question remains whether the findings from the past century can still be  
8 applied without hesitation to current Latin pedagogy. While this article does not wish to  
9 take away from the achievements of the teachers and researchers who undertook the  
10 laborious task of conducting the various tests, it must be acknowledged that any other  
11 academic field which would still rely on findings from more than ten years ago as its  
12 main body of evidence would be considered outdated. New research is therefore  
13 necessary, not only because educational contexts have changed, but also methodologies.  
14 Most of the tests conducted in the past century lacked a distinct methodology, and were  
15 instead based on ideological assumptions, some already presupposed by Classicists.  
16 While the existing findings can form a solid basis, they cannot be used as *quod erat*  
17 *demonstrandum*, but rather as a starting point for new research with modern  
18 methodologies. Two European studies point the way: Haag and Stern (2003) and the  
19 study outlined by Woolcock (2015). The clear methodologies need to be applied to  
20 future research regarding the impact of Latin.  
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38 One finding visible in a large proportion of the tests we have reviewed, however,  
39 is that Latin learning has a more positive impact in deprived areas than in average and  
40 affluent areas. Similarly to 1960s US, Latin has been already been introduced in  
41 deprived areas in the UK with an innovative pedagogic approach. Several on-going  
42 projects – such as in London, Norfolk, Glasgow and Swansea<sup>20</sup> – solicit comparative  
43 study. In further research, factors such as gender, social background, ability and  
44 teaching approach can now be integrated further. One might also pose the question why  
45 primary Latin instruction is more beneficial for L1 development than secondary school  
46 instruction. These factors must play a major role in twenty-first century Latin learning.  
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Finally, it must also be acknowledged that quantitative data only provide limited information, and learning Latin can be about much more than just language. While there is significant evidence for the impact of Latin learning on L1 development, it is also clear that *just* Latin is not sufficient, and other factors – from pedagogic to pastoral – must be present. Qualitative data collated in studies such as Wilhelm and Wilhelm (1991: 13–16), Harrington-Lueker (1992: 21–25), Sienkewicz (2004: 301-12) and Smith (2007) demonstrate tangible improvements in quality of life of pupils studying Latin, from confidence to global awareness and cultural appreciation. In an education system preoccupied with data, the clear aim that pupils should enjoy this learning must remain paramount.<sup>21</sup>

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### Supplemental data

#### Appendix 1: Chronological list of US studies (X means data are missing)

Area	Documented by	Year	Number of students	Elementary/ high school	Amount of Latin instruction
Massachusetts	Barber 1986-‘87	1914	42	HS	2 years
US	Harris 1915	X	X	HS	3 years
US	Foster 1915	X	X	HS	X
US	Dallam 1917	X	X	HS	X
US	Orleans 1922	X	X	HS	X
New York	Otis 1922	1921	84	HS	X
US	Kirby 1923	X	X	HS	X
US	Thorndike and Ruger 1923	X	X	HS	1 year
US	Gilliland 1922	X	X	HS	X
US	Miller and Briggs 1923	X	X	HS	X
US	Thorndike 1924	1922	8,500	HS	1 year
US	Coxe 1924	X	58 schools	HS\	1 year
US	Hamblen 1925	X	X	HS	X
US	Clark 1932	X	X	HS	X
US	Douglass and	X	X	HS	X

	Kittelson 1935				
US	Pond 1938	X	208	HS	1-5 semesters
US	Josephina 1963	X	209	HS	7 months
Washington	LeBovit 1967	1966	600	ES	20 minutes weekly
Washington	LeBovit 1967	1966	258	HS	20 minutes weekly
Erie country, Pennsylvania	Masciantonio 1977	1969	352	ES	X
Columbia	Masciantonio 1977	1970- 71	132	ES	X
Washington DC	Cederstrom 1974	X	X	ES	8 months
Easthampton	<i>CW</i> 68, 1975	1973	250	ES	20 minutes three times a week
Philadelphia	Masciantonio 1977	1971- 1975	14,000	ES	20-minutes a day
Alexandria VA.	Masciantonio 1977	1972- 1974	X	ES	X
Boston	Bowker 1975	1974	X	HS	2 years
Indianapolis	Sheridan 1975	1973- 1976	400	ES	30 minutes daily
Washington	Human engineering laboratory, 1974	1973	220	ES	X
Los Angeles	Masciantonio 1977	1975- 1976	X	ES	20 minutes daily
Los Angeles	Sussman 1978	1975- 1976	X	ES	45 minutes 3 times a week
Worcester	Masciantonio 1977	1975	X	HS	5 times a week
California	Sussman 1978	1975- 1976	X	ES	45 minutes 3 times a week
Educational testing service	LaFleur 1981	1979- 1980	X	HS	X
Brooklyn	Fromchuck 1984	1981	120	ES	45 hours in 8 months
US	Offenberg 1982	1980- 1981	60	HS	X
New York	Polsky 1986	1982- 1984	X	ES	X
Tennessee	Wiley 1985	1983	306	HS	X
US	Reinhardt 1984	1983	X	HS	X
East Carolina	Bassman 1984	1983	30	ES	twice 30 minutes a week
US	LaFleur 1985	X	X	HS	X
X	Townsley 1985	X	X	HS	One semester
US	Morgan 1989	1987	X	HS	X
US	VanTassel Baska 1987	X	X	HS	1 year
US	Carlisle and Lieberman 1989	1988	30	HS	2 years
Cincinnati	Sparks 1996	1995	27	HS	X
US	Carlisle 1993	X	X	HS	X
Georgia	Holmes & Keffer 1996	1995	115	HS	twice 45 minutes a week for 8 weeks
X	Prager 2000	X	X	HS	2 years
Nuremberg,	Haag and Stern 2003	X	115	University	X



Germany					
National	Bolchazy-Garducci	2011-2012	X	HS	X

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#### Footnotes

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45 <sup>1</sup> See e.g. Stead and Hall (2015) for a discussion of Classics in British ideology.  
46 <sup>2</sup> See Colligan (1944) for a good example of circumstantial evidence for the benefits of learning  
47 Latin.  
48 <sup>3</sup> See Bracke (2016b), for example, on the names of the days of the week in Welsh, which  
49 correspond to Latin more than those of Romance languages.  
50 <sup>4</sup> Various research projects are currently ongoing in the UK, and findings are expected to be  
51 published in the next few years.  
52 <sup>5</sup> This is mentioned by R. Wolverson in his presidential address of the Classical Association of  
53 the Atlantic States in 1975, 'Classics for the future': [http://0-](http://0-files.eric.ed.gov.opac.msmc.edu/fulltext/ED113976.pdf)  
54 [files.eric.ed.gov.opac.msmc.edu/fulltext/ED113976.pdf](http://0-files.eric.ed.gov.opac.msmc.edu/fulltext/ED113976.pdf), accessed 20 October 2015.  
55 <sup>6</sup> Butterworth (2016), Young (2011), and Morgan and Pelling (2010).  
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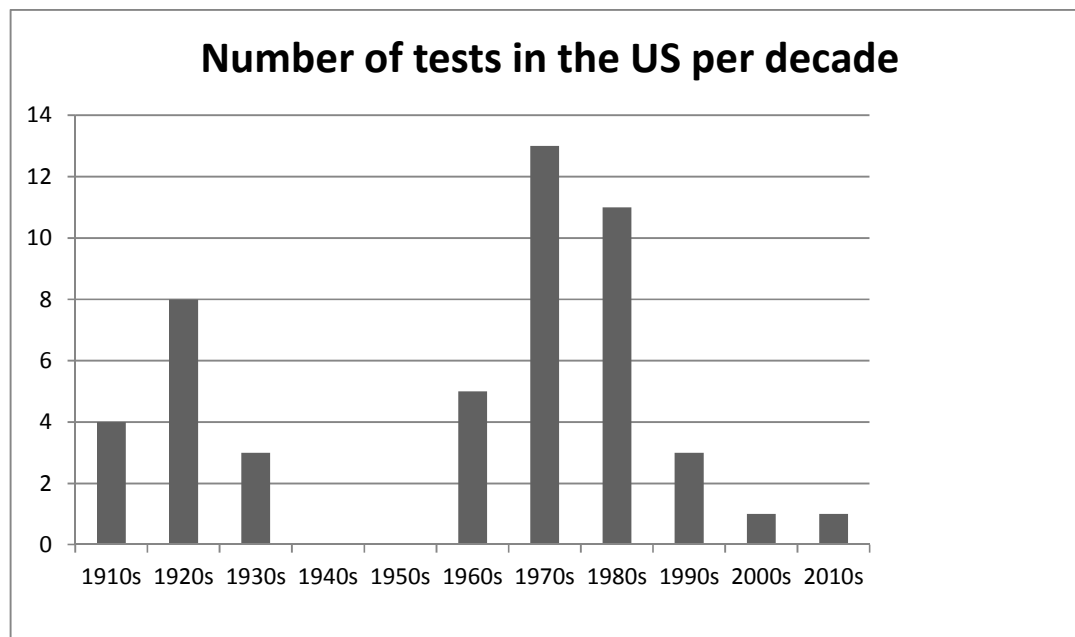
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- <sup>7</sup> Six articles have reviewed evidence, though in a cursory manner with incomplete information: Omrani (2010); DeVane (1997); Masciantonio (1977: 375-82); Mavrogenes (1977: 268-73); Pond (1938: 611-18); and C. K. (1922: 153-7).
- <sup>8</sup> See Smith (2007) for a comprehensive discussion.
- <sup>9</sup> See also Hubbard (2003) and Chanock (2006) for further discussion.
- <sup>10</sup> Richard (2009: 1-40).
- <sup>11</sup> This is an emotional barrier, documented by Krashen and Terrell (1983: 39).
- <sup>12</sup> For a summary of the development, see Sebesta (1998: 15-24).
- <sup>13</sup> Capital letters by Masciantonio.
- <sup>14</sup> Of the fifty tests done in the US, twenty-three are either concerned with national data on SAT results or offer no details regarding location (mostly in the pre-1960s tests). The other twenty-two give specific details about their location. This number is significant enough to discern a trend.
- <sup>15</sup> E.g. Bolchazy-Garducci Publisher (2012).
- <sup>16</sup> E.g. LaFleur (1981: 254); Townsley (1985: 4-8); Morgan (1989: 13); Holmes and Keffer (1995: 50). The most recent study is Bolchazy-Garducci (2012).
- <sup>17</sup> Simpson (2014). See also Foster (1917: 506-8); Thorndike (1924: 1-98); and Douglass and Kittelson (1935: 26-33).
- <sup>18</sup> Also see Bassman and Ironsmith (1984: 41). A similar argument has been made for the teaching of ancient Greek; see Koutropoulos (2011).
- <sup>19</sup> This is particularly apparently in the studies in Washington, Columbia and New York, all reported by Mavrogenes (1977).
- <sup>20</sup> London: BSix East End Classics Centre (<http://www.capitalclassics.org.uk/>); Norfolk: Primary Latin Project (<http://www.itv.com/news/anglia/2013-11-22/how-latin-is-making-something-of-a-comeback-in-norfolk-schools/>; accessed 20 October 2015); Glasgow ([http://www.heraldscotland.com/news/13108844.Latin\\_makes\\_comeback\\_in\\_schools/](http://www.heraldscotland.com/news/13108844.Latin_makes_comeback_in_schools/); accessed 20 October 2015) and Swansea (<http://www.literacythroughclassics.weebly.com>).
- <sup>21</sup> See Bracke (2016a) for such evidence regarding the Literacy through Classics project at Swansea University.



## The impact of learning Latin on school pupils:

Maps/graphs to be inserted into article:

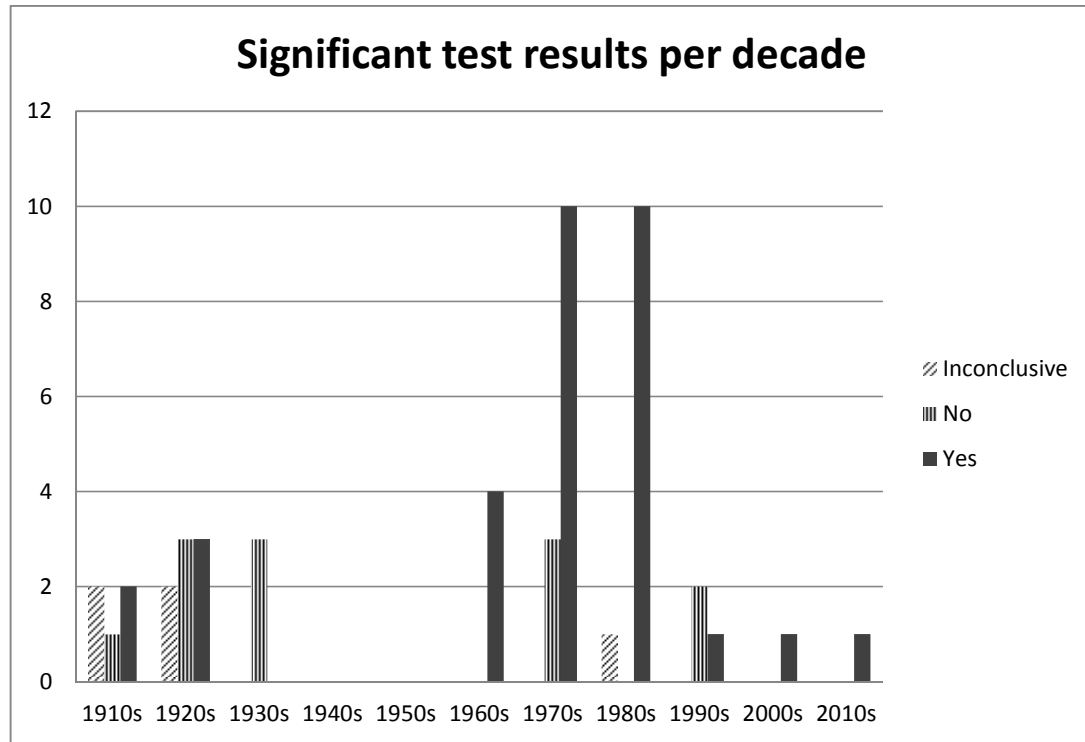
Figure I



**The impact of learning Latin on school pupils:**

Maps/graphs to be inserted into article:

Figure II



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3 **The impact of learning Latin on school pupils:**  
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6 Maps/graphs to be inserted into article:  
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9 **Figure III**  
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