Surfing the past: digital learners in the history class
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Chapter 7

Analytical Understanding of the Findings

The two case studies discussed in Chapters 5 and 6 revealed a number of uses and impacts of the Web in the history class. They shed some light on ways in which digital media in general, and the Web in particular, have made the history class more attractive, while at the same time stimulating forms of historical thinking and offering a wide variety of sources. In this chapter I want to discuss patterns that emerged from the case studies and provide an analysis for their understanding. The discussion will revolve around the three claims I explored during my field research in the two schools, namely that the Web makes the history class more attractive, fosters historical thinking, and offers a wider variety of historical sources to pupils. Unlike the previous two chapters, these claims will not be considered separately and successively, but rather in patterns, that is, in connection with one another. The first pattern I shall discuss centres on the fact that historical thinking was fostered *ipso facto* by the Web, because it made the history class more attractive. The second pattern stems from the observation that by offering access to a variety of sources, the Web was at the same time fostering historical thinking. The last pattern is linked to the previous ones in the sense that, among the sources used, conventional and unconventional sources were used to complement one another. I shall end this chapter by placing my findings in a broader discussion about the implications of the above-mentioned patterns.

7.1 Attractiveness Means Historical Thinking

Being with someone I love and thinking about something else; that’s how I manage to have the best thoughts, to invent the best of what is necessary for my work. The same is true with the text: it provokes the greatest pleasure in me when it manages to let itself be listened to indirectly; when, while reading it, I am often pushed to raise my head, to hear something else (Barthes, 1973: 41-42).

Some popular and, to some extent, expert, and scholarly opinions often decry the attractiveness of digital media technologies as having a bad influence on the learning process in children. The technolo-
gies have been presented as, among other things, diverting learners’ attention away from serious matters, favouring only the acquisition of artificial and fragmented knowledge and forming an obstacle to concentration. Other voices, however, including those whose claim on the attractiveness of the Web I explored, argue that the attractiveness of the Web can be turned into an asset, which is what appears to have taken place in the two case studies I presented in the previous two chapters. This section discusses the first pattern that emerged from my ethnographic research into the two classes, namely that the very fact that the Web was attractive to 13- to 14-year-old history-learners paved the way for forms of historical thinking. I shall discuss this pattern first with regard to the Web-based historical videos, which appeared to have not only a huge attention-capturing ability but also the power to take learners beyond what they have seen and heard. Second, I shall focus on multitasking-driven thinking which the Web seems to have made central to learning history.

To begin with, in the Baarnsch Lyceum [BL] case study (Chapter 5) it was obvious that Web-based videos, mostly originating from the Historical Canon of the Netherlands, were among the media texts that were most successful at captivating pupils’ attention. They constituted one important aspect of the ‘if it is attractive, then it triggers historical thinking’ pattern. In one case, as noted earlier, a pupil who attentively watched a clip about the alleged excesses of State Holder William V [1748–1806], subsequently responded verbally and with revealing gestures. Instead of raising his head [which was already raised and directed towards the screen] as Barthes did to hear something else (see epigraph), this pupil raised his hand to do something else: make an imaginary pistol and shoot. This shooting gesture could be interpreted as a visible indication of the relationship between the attractiveness of a medium and the thinking process it triggered. On some occasions such thinking was creative as with the shooting gesture, while at other times it would exteriorise verbally, for instance, when the pupil said out loud [and to himself] ‘Guillotine!’ in reaction to the abuses of William V.

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246 Cognitive psychologists have suggested that ‘to overcome their limited knowledge’ which affects their thinking, children ‘use the tools provided by the culture in which they live’ (Siegler & Alibali [1986] 2005: 66). From this perspective, it could be deduced that the shooting gesture was inspired by the pistols and shooting scenes to which the Internet Generation is constantly exposed either through games, films or the Web.
The video clip facilitated historical thinking not only by capturing and holding the pupil’s attention, but also by ensuring speedy and smooth information-processing. The information captured by the sensory memory – through the eyes and ears – was quickly processed in the working memory, in which on the one hand associations were made with information already stored in the long-term memory, namely the story about the Guillotine, and on the other hand connections were established with the prevailing popular culture among pupils – hence the shooting gesture. It could be assumed that a piece of information that goes through such a process is likely to be stored in the long-term memory where it expands the prior knowledge reservoir for future information or events that the sensory memory will encounter.

The verbal and gestural reactions described above are similar to what Jenkins et al. (2009: 52-53) termed ‘improvisational performance’, a major feature of role-playing activities that is also observed in interaction with digital media:

Performance brings with it capacities to understand problems from multiple viewpoints, to assimilate information, to exert mastery over core cultural materials, and to improvise in response to a changing environment.

In role-playing activities pupils adopt fictive identities and ‘think through scenarios from those characters’ perspectives’ (Ibid.: 53. Italicisation is mine). The ‘shooting pupil’, who also ‘sentenced’ William V to the ‘Guillotine’, had obviously mentally assumed the identity, and was playing the role, of the French revolutionaries. He assumed the identity and role of the Patriots when, like them, he said ‘Echt niet!’ [No way!] in rejection of the alleged abuses. This example shows two important aspects of historical thinking, namely ‘the moral response stance’ and ‘the identification stance’ (Barton & Levstik, 2004: 45 and 91). Sentencing William V to the ‘Guillotine’ is a way of condemning him and his deeds as described in the clip. Exclaiming ‘Echt niet!’ is identifying with the morally good side.

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247. Sensory memory is the capacity to briefly retain information just encountered, using the five senses; working memory is ‘where active thinking occurs’, combining information that comes from sensory memory with information stored in the long-term memory; long-term memory, for its part, is the capacity to store information over a longer period (Stigler & Alibali, [1986] 2005: 68-72).

248. The ‘Patriots’ was the name given to the citizens who criticized and opposed State Holder William V in the early 1780s. They considered him to be a dictator and blamed him for the decline of the Republic, which was then at war with England. They took up arms and forced William V to flee to the East [Nijmegen] from whence he returned with the military support of Prussian troops. (The Canon of the Netherlands, ‘De patriotten 1780–1795: Crisis in de Republiek’. http://entoen.nu/patriotten [Accessed 17 February 2011]).
Assuming these identities and roles because of a historical detail in the clip is exactly what Huizinga (1948: 566) meant with ‘historical sensation’, the one that suddenly makes one cease to be oneself [by making one assume another identity and role] and puts one in contact with the past. Unlike ordinary role-playing activities, this one involved interaction between media texts and pupils, or, if one assumes that those texts represented foregone figures and characters, between the latter and the pupils. The suggestion here is that performance is an external sign of understanding, assimilation, and mastery, which all result from historical thinking.

There are also instances in which such thinking could, to repeat the words of Barthes, be about ‘hearing something else’, or to quote Huizinga (ibid.), consist of ‘flowing in the world outside [one]self’. This was the case at the moment when the narrator of a Web video announced that the Beemster had been reclaimed in order to obtain arable land. At that particular moment, one pupil heard something else, or flowed into a world different from the one described by the clip, and realised that fishermen were forced by the new situation to convert to other trades. This media text provoked a sort of ecstasy (Ibid.) when it managed to let itself be listened to indirectly. The narrator never mentioned the fate of fishermen directly or explicitly but the pupil heard it indirectly, because the Web-based video provoked ‘the greatest pleasure’ (Barthes, see epigraph) in her and pushed her to listen to the parallel, indirect, voice. The Web-based clip, with its maps, paintings, and pictures, triggered conditional reasoning, the sort based on ‘if p then q’ reasoning (Klaczynski, 2001: 848; see also Kuhn & Franklin, 2008: 523) both before and after the reclamation. In this case the reasoning took a deductive form, since from the premises provided in the clip – that the water was completely pumped out – the pupil drew a logical conclusion (Kuhn, 2009: 159-160; see also Byrnes, 2003: 231), namely that no further fishing activity would be possible. It could be suggested that the presence of water on some maps and images and its absence on others were central to this syllogistic reasoning, but this was only possible mainly because the medium managed to get the pupil engaged and facilitated her deductive thinking beyond the images provided.

It is in this same ‘if it is attractive, then it triggers historical thinking’ pattern, that I would place the attitudes of pupils in the Helen Parkhurst Dalton School [HPDS] case study. Unlike the teacher at the BL, his colleagues at the HPDS never used the Web during their short instruction time [at least not during the period of my field research]. However, during the 10–35 minutes of teacher-led instruction time, the Web was omnipresent in the one-pupil-one-laptop class. A comment on Louis XIV’s high-heeled shoes provoked not
only laughter but also, and most importantly, immediate searches on the Web for more details or more images. The teacher’s explanation about the Palace of Versailles was provided while pupils simultaneously searched for images of the palace on the Web. I would call this the second type of the ‘if it is attractive, then it triggers historical thinking’ pattern.

Unlike the first type, which centred on the use of the Web by the teacher, this one consisted of two parallel processes: a no-Web instruction time on the teacher’s part and a listen-and-check-it-on-the-Web process on the learners’ part. Multitasking was central to this process, as surfing the Web did not mean pupils were not listening to the teacher or not reading from the textbook. Multitasking in educational settings has been explained as consisting of ‘scanning for relevant shifts in the information flow while simultaneously taking in multiple stimuli’ (Jenkins et al., 2009: 61-62). Unlike popular opinions that by offering a variety of resources at the same time the Web affects learners’ attention and their ability to concentrate, multitasking is presented as being complementary to attention, as a way of ‘mapping where different information is externally stored within their immediate environment’ (Ibid.)

In some cases, this particular phenomenon took the form of a triangle: as shown by the arrows in Figure 7.1, the textbook served mostly as a starting point, not only prompting explanations and comments on the part of the teacher, but also often triggering Web searches. The teacher’s comments would also trigger Web searches. As the arrow in the middle of the triangle indicates, after searching the Web, the pupils would shift back to the instruction or to the textbook.

Figure 7.1: Triangular learning process, consisting of a combination of reading from the textbook, listening to the teacher’s explanations, and searching for more details on the Web.
It is important to note that no direct arrow links ‘The Web’ to ‘Instruction’ or to ‘Textbook’, because I did not observe a single Web-triggered question to the teacher, or a Web-triggered search in the textbook. In other words, I did not detect any instance whereby the teacher or the textbook provided clarification of a detail found on the Web. I am not suggesting that a Web-to-textbook or Web-to-teacher path is impossible or non-existent, but rather that nothing occurred to substantiate it. The nature of the Web could partly explain why there is no evidence of this path: being a huge reservoir of all sorts of information, the Web does not present its infinite number of resources in an ordered way that forms a coherent narrative. It relies largely on search engines to introduce some order, depending in part on, among other things, the user’s search terms and increasingly on search history and behaviour.\footnote{249} As such, it serves more as a clarification provider rather than a clarification trigger. Unlike the Web, textbook narratives and the teacher’s instructions have a pedagogical structure that consists of tight selections and summaries of resources, in particular due to time constraints on the part of the teacher, who does not have the time to say and show everything. Textbooks for their part have restricted space and cannot, for example, display all relevant pictures or texts and are not even capable of including audiovisual materials. For this reason, the selections and summaries made by the teacher and the textbook are clarification triggers rather than clarification providers.

In Chapter 6 (Section 6.2) I cited two examples of Triangular Learning in connection with a lesson about Louis XIV, his high-heeled shoes and his Palace of Versailles, but there are marked indications leading to the general hypothesis that the Dalton approach to media favours this kind of textbook–teacher–Web interaction. Once again, the fact the pupils were learning like ‘swimming ducks’ (Van Velzen, 2002: 6) did not always make it possible to detect which detail from the textbook or from a comment made by the teacher triggered which search on the Web. Further research is thus needed to map the connections among the three elements of the triangle and their impact on outcomes, but it is already safe to present this model as a tentative framework for understanding the respective roles of the teacher and the learners. The learning process navigated between the teacher-controlled part, which was when it was initiated, and the pupil-controlled one, which mostly took place on the Web.

\footnote{249} In recent years, search engines have started offering personalised search results based on the user’s demographic data, and his or her browsing and clickstream history. In other words, two people using the same search terms on two different computers will most likely obtain different results (Batelle, 2005: 37; Van Dijck, 2010: 583).
Web. The pupils seem to find the latter appealing as, according to
digital media and culture scholars, they ‘learn more through direct
observation and experimentation than from reading about some-
thing in a textbook or listening to a lecture’ (Jenkins et al.: 2009: 42.
Italicisation is mine).

Although not as openly encouraged as at the HPDS, multitask-
ing also emerged as a major characteristic in the BL case study.
Pupils would watch Web-based videos while taking notes and, at the
same time, repeatedly turn the video contents over in their minds in
order to make notes reflecting the ‘something else’ they had heard
from the video. Writing down that fishermen would convert to oth-
er trades, instead of a more to-the-point note on the reclamation
of the Beemster, meant that three processes had taken place simulta-
neously: the pupil [1] watched the video; she [2] reflected on its
content and [3] she wrote down the conclusion of her reflections.
Reflecting and writing did not mean that she stopped watching
completely. Otherwise she would have missed other aspects on poli-
tics, culture, and economy. Similarly, the ‘shooting pupil’ watched,
reflected, ‘made a gun’ and mimed ‘shooting’. The last three phases
did not prevent him from watching. Indeed, the same process took
place on three successive occasions: he made the shooting gesture
after the verbal ‘Echt niet’ and ‘Guillotine!’ exclamations.

One thing that has become increasingly clear up to now is that
the computer – more than any other medium – facilitates multtask-
ing among adolescents (Roberts et al., 2009: 319). One point that
still needs clarification is how this multitasking – based on the at-
tractiveness of the computer and, by extension, the Web – implies
some forms of historical thinking among adolescents. Education
psychologist David Moshman (1999: 103-104), who suggested
that adolescent thinking is best understood from the rational con-
structivist perspective, maintained that rational constructivism
‘highlight[s] reflection, coordination, and peer interaction as key
developmental processes’. For the construction of rationality to be
possible, he argued, ‘individuals [must] have free access to informa-
tion and ideas and are encouraged to formulate, express, discuss,
and justify ideas of their own.’ (Ibid.: 113). The triangular process
reflected in Figure 7.1 shows some ways in which pupils’ reflection
and coordination took place. A certain level of reflection is required
in order to find the right search term[s], corresponding or relating
to either comments made by the teacher or the contents of the

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250 According to David Moshman (1999: 103-104) ‘Rational constructivism construes
the construction of knowledge and reasoning as a rational process that generates
justifiable outcomes … In particular, rational constructivism directs attention to
the active role of rational agents in constructing higher levels of understanding and
reasoning.’
textbook, that would lead to the clarification they sought. Similarly, searching, digesting the results found, while at the same time keeping an eye on the textbook and an ear open for the teacher’s explanations, requires a high level of coordination to keep all those tasks in harmony.

Peer interaction, which developmental and cognitive psychologists have presented as a key characteristic of early adolescence [10–14 years] (Moshman, 1999: 5), was also observed. According to developmental and educational psychologist Judith Torney-Purta (1994: 110), early adolescents are best at organising and processing historical information while interacting with peers, since

Their understanding of what they experience and their movement toward greater reflectivity are situated within a group of peers grappling with understanding the same material.

Therefore, from the perspective of developmental psychology, searching for a detail on the Web and sharing the results found with peers – for instance by turning the laptop to show it to a classmate – transforms the Web into an attractive, thought-triggering tool that enables pupils on the one hand to move back and forth between the teacher’s instruction and the textbook, and on the other hand to engage in peer interaction around historical contents.

In addition to the above, multitasking implies negotiation between continuity and discontinuity in a way that makes both of them complementary. Salvucci and Taatgen (2011: 114-115) called this negotiation ‘suspension and resumption’, which means that

When a task is suspended, the task’s thread remains active to maintain awareness of the task. Critically, this awareness allows for background processing of the suspended task when needed or desired … (Ibid.: 116).

The various shifts shown in Figure 7.1 involve this kind of suspension and resumption, as the reading or listening task would be briefly paused – that is, the teacher’s instruction or the reading task was being processed in the background – and resumed after the Web search. Given the short suspension time between the shifts, this type of multitasking would not be called ‘sequential multitasking’, which supposes that a task is paused until a later time (Ibid.: 115), but rather ‘concurrent multitasking’, because the interruptions were brief and the switches did not prevent any task from progressing (Ibid.: 8-9). Instead, it could be said that the switch to the Web clarified and made the teacher’s explanation or the textbook narrative less abstract [disabstracted], thereby contributing to the continuity of the reading and listening processes. The disabstraction that result-
ed from this Web-driven multitasking means that the HPDS pupils managed to have an almost concrete experience of Louis XIV’s high-heeled shoes and the Palace of Versailles, as they were rendered less abstract to the pupils’ through the digital, online accessible representations. In other terms, the pupils went further with the teacher’s or textbook narrative with a mental image of what Louis XIV and the Palace of Versailles looked like. This discontinuity in continuity was only possible because the pupils were able to negotiate between suspension and resumption, a process that integrated self-sought, Web-based, concrete objects to elucidate the teacher’s and the textbook’s accounts.

In sum, the above has presented and explained one important pattern that emerged from the two case studies, namely that the attractiveness of the Web triggers forms of historical thinking. It appears that Web-based videos, where used, not only have the power to get pupils to watch and listen, but also to make them think beyond what the historical clip showed and said. A few thinking processes of pupils and their verbal or gestural manifestations were discussed and presented as indications suggestive of the idea that Web-based moving images stimulate creative and deductive thinking in addition to other forms of thinking. I also discussed the attractiveness of the Web as a triggering factor for a thinking process that integrates more than one task at the same time. The Web appeared to be the motor behind multitasking-driven historical thinking, either in the form of triangular learning or in other forms. I pointed out that navigating between the teacher’s instruction, textbook’s accounts, and the Web, and eventually sharing information with peers, necessitated a considerable level of reflection and coordination, as well as a sense of harmonisation between continuity and discontinuity. In the next section, I shall discuss another pattern, one that relates to the forms of historical thinking triggered by the variety of Web-based sources.

7.2 Variety of Sources Fosters Historical Thinking

Each person formulates his questions from a given point of view, determined by the context of his own experience … The context of the experience of each one of us includes the influence of those with whom we come into contact (Stebbing, [1939] 1952: 28).

In this section I shall elaborate on another pattern revolving around the observation that the pupils’ encounter with a multitude of media texts via the Web resulted in a variety of thinking proc-
esses. Although not yet fully developed, the seeds of source evaluation, sampling, quoting, image selection, and summarising skills, appear to have fallen on fertile soil when the pupils in the two classes made use of multiple online sources. Quotations are of particular importance because public opinion tends to interpret their relatively excessive use by pupils as early signs of future plagiarism and unoriginal thinking. The case studies, especially the BL one, have shown that considerable historical thinking took place during the quote-compilation process, thereby challenging the popular view that equates quote-compilation with copy-paste thinking or writing. Having discussed the manifestation of historical thinking in connection with attractiveness during instruction time in both the BL and HPDS classes (see previous section), I shall now deal with its various manifestations in class assignments in relation to sources used by the pupils. In the first place I shall deal with the thinking process behind the compilation of quotations, especially their identification from multiple sources. I suggest that this process needs to be understood from the perspective of adolescent thinking, as early adolescents think differently from other age groups. In the second place I shall discuss the thinking process that underlies the summarising of texts which emanate from multiple sources.

The most important form of historical thinking in the BL case study resided in the use of quotations taken from various sources on the Web. I shall to call this the ‘Search for it and find a quote’ pattern. I have two reasons for refraining from using the words ‘Google it …’: first, the teacher had indicated to which sites the pupils should go directly, including the Canon of the Netherlands and regional canons, Wikipedia, and educational sites. Although more websites were used, there was no indication that the pupils arrived at them via Google. Second, unlike the situation at the HPDS, the class structure did not allow me to see the pupils working on their assignments. For that reason, there was no way to see how they arrived at their online sources. Two aspects of this pattern are worth noting: on the one hand the relatively high number of Web sources – on average about nine online sources per pair compared with four print sources [books and newspapers] – and on the other hand, the excessive use of quotations – 9 out of 13 pairs, 8 of whom made compilations of lengthy quotations. Quotations were excessive in two ways: first, most of the assignments [and in one case, the entire assignment] were comprised of uninterrupted quotations from online sources; second, most quotations were very long, leaving little room for the pupils’ own text (see Figures 5.4 and 5.5 in Chapter 5, Section 5.3).
The question that needs to be addressed is how this ‘Search for it and find a quote’ pattern is connected with historical thinking. One might assume that choices of fragments for use as quotes were motivated by their relevance to the subject, which means that pupils first evaluated the contribution of each quote to their argument. They had a puzzlement that needed resolving, namely to discuss various aspects of the Golden Century, and they asked – through search terms – the various recommended or non-recommended websites for help. They then decided which excerpts from the resources they had found provided the answer, or part of it, to the puzzlement. The result was a new narrative, different from each individual online text that was used as a source. Each of these different steps, taken for every website that was consulted, involved some level of historical thinking because, after all, following one particular path, stopping at a particular page, selecting some sentences or paragraphs, or even entire pages, did not happen automatically. These steps only took place after the pupils had answered such questions as: is it relevant to my topic? Does it contradict/confirm/clarify what I have already found? and other similar questions. Selecting which part to quote meant in the first place that the source had been evaluated as trustworthy (Van Drie & Van Boxtel, 2008: 94) and the selected part as worth appropriating.

The example of the written assignment on Huygens, Spinoza, and Eisinga discussed in Chapter 5 (Section 5.3) showed that the pair made a compilation of two quotations from Wikipedia and one from a book. However, the order in which these quotations were placed shows that the choices were not fortuitous: the first quotation placed Huygens’ scientific work within the broader context of the Scientific Revolution and stressed the key role played by Descartes; the second focused on Huygens’ efforts to make a time-keeping device that would be as precise as possible; the last [from a book] discussed Huygens’ astronomical findings and connected them to Galileo’s ground-breaking discoveries. In this compilation one perceives a certain reasoning as the pair sought connections between the various historic figures – Huygens, Descartes, and Galileo – and their works. In some ways, the pair had attempted to find a historical background and an explanation for the work of Huygens, even though the words they used to describe it were not their own.251 The process they engaged in

251 This aspect of the history class is what Barton and Levstik (2004: 69) called ‘the analytic stance’. This stance ‘involves searching for connections among disparate events to identify some developmental trend, causal pattern, or argumentative structure’, which the BL pupils appear to have done with quotations from Web sources.
involves both analysis and commentary. Sampling intelligently from existing cultural reservoir requires a close analysis of the existing structures and uses of this material; remixing requires an appreciation of emerging structures and latent potential meanings. Remixing involves the creative juxtaposition of materials that otherwise occupy very different cultural niches (Jenkins et al., 2009:57-58. Italicisation is mine).

A related question would be to ask whether this form of uninterrupted juxtaposing or stringing of quotations without making any comments, however creative, is precisely what can be expected from 13- to 14-year-old learners. Children of this age are referred to as early adolescents [±11–±14 years], who will subsequently grow to become middle adolescents [±14–±18 years] and eventually late adolescents [±18–±21 years], before entering adulthood (Steinberg, 1985: 6-7; see also Moshman, 1999: 5). Although porous, liminal, and transitional (Elmore, 2009: 195), each of these developmental stages presents specific characteristics with respect to thinking, and research has shown that reasoning competence improves with age (see Byrnes, 2003: 233-234). For instance, ‘middle adolescents are more likely to rely on analytic processing than early adolescents’ (Klaczyński, 2001: 854); older adolescents are more likely than younger adolescents to understand the difference between the options they have of satisfying either one or multiple goals (Byrnes, 2003: 236); while the processing speed of children is believed to increase from early childhood to mid-adolescence (Kuhn, 2009: 154-155).

Developmental and cognitive psychologists have pointed out that adolescents – in the early stages rather than in the later ones – present a number of distinctive characteristics when it comes to expressing their thoughts in writing or in any other argumentative way. In their research on how 13- to 14-year-old adolescents evaluate and generate evidence and explanation in their argumentation, Amnon Glassner and colleagues (2005: 113-114) came to the conclusion that ‘when asked to generate either explanation or evidence, participants were far more successful at generating explanation’. In this respect, an explanation refers to elucidating the causal basis of a claim, while evidence refers to the ‘indication of the truth of that claim’ (Ibid.: 107-108). Applied to the BL assignments, explanations could be equated with the lengthy, though coherent quotations, while evidence – in the form of argumentation about the truthfulness of the claims conveyed in the quotations – is lacking.

Psychologists specialised in the field of adolescence and other educational researchers converge in describing adolescents as being unwilling or unable to make arguable claims for many rea-
sions. For example: first, they find it difficult (Kuhn, 2009: 172-173; Graff, 2003: 157); second, they do not see the need to argue about something that they feel is obvious (Kuhn, 2009: 173; Graff, 2003: 44); third, in most cases, they are not explicitly challenged to argue (Graff, 2003: 60). The result of all these factors is that adolescent argumentation consists mostly in ‘string[ing] together a series of uncontroversially true statements’ (Ibid.: 54), ones that ‘nobody is likely to dispute’ (Ibid.: 53). This, then, might explain why the BL pupils, who were not explicitly asked to argue about any claim made about the Golden Century but rather ‘to write an article about one development in “The Netherlands in the 17th century”’, came up with compilations of ‘true’ statements without engaging in controversies.

Another characteristic aspect of adolescent thinking is the lack of connectors, or transitions in the compilation of statements. It has been suggested that this omission is because adolescents believe that the relationships among those propositions and statements are self-evident (Graff, 2003: 44). Indeed, as the example about Huygens, Descartes, and Galileo demonstrates, the lengthy quotations were placed in an order that made their interrelatedness more or less obvious. Thus, as psychologists Michael Wolfe and Susan Goldman (2005: 494) have shown in their research on historical text-processing among 11- to 13-year olds, ‘adolescents are indeed capable of processing information about a topic from multiple texts and thinking about relations across the texts’. They do make attempts to establish connections among multiple texts, though they fail to do so in a way that experts would.

The last characteristic of adolescent thinking that I would like to discuss in relation to the ‘Search for it and find a quote’ pattern is ‘inhibition’. Educational psychologist Deanna Kuhn (2009: 155; see also Kuhn & Franklin, 2008: 520-521) has distinguished two types of inhibition: [1] one that is referred to as ‘selective attention’, which emphasises the ability to ignore irrelevant stimuli that might interfere with information processing; and [2] one that emphasises an ability to refrain from having an already established response when asked to do so. The latter is the case, for instance, when one is instructed to forget a learnt word and inhibit it in subsequent free recall. A third type can be added – the self-decided inhibition – which emphasises the individual’s decision about which response to exhibit and which to inhibit (Kuhn, 2009: 155-156; Kuhn & Franklin, 2008: 521). Combined with the adolescents’ belief that texts speak for themselves and that relationships between them are obvious, inhibition in adolescent thinking could help explain the self-decided omission of any transitions between the quotations.
For these cognitive and psycho-developmental reasons, the ‘Search for it and find a quote’ pattern should not be regarded as mere ‘potted thinking’, or dismissed as ‘scissors-and-paste history’, or as what Web 2.0 sceptics have called ‘intellectual kleptomania’, which consists of ‘cutting and pasting’ from websites (Keen, 2007: 23). It would be more appropriate to study it bearing in mind that 13- to 14-year-old adolescents are not expert thinkers. In this framework, then, quote-compilation should rather be perceived as a form of ‘appropriation’, a skill consisting of ‘the ability to meaningfully sample and remix media content’ (Jenkins et al., 2009: 55). The principle underlying appropriation is that ‘all cultural expression builds on what has come before’ and that ‘students learn by taking culture apart and putting it back together’ (Ibid.; see also Palfrey and Gasser, 2008: 127).

In contrast with the BL pupils, the HPDS ones engaged with online texts in a different way, perhaps because the WebQuest instructions were very specific on the steps to follow. These pupils’ thinking took place on at least three levels: choosing the most relevant websites, evaluating those sites, that is, explaining why they were deemed the most relevant, and extracting information from them for short summaries. They had to bear in mind that not only should the poster be the result of a tight selection, but it should also provide a precise image of either the painter being studied or the VOC. The WebQuest approach has been hailed for fostering essential media literacy skills such as ‘searching out valuable sources’, ‘extracting information or images from a series of websites’, and compiling them into a final report (Ibid.: 93). Apart from broadening pupils’ exposure to other, different perspectives and opinions beyond those of the textbook, the WebQuest approach also – and most importantly – ‘trains them to synthesize [which I called summarise] their own perspectives’ (Ibid.: 94).

Unlike the instructions for the BL assignments, thus, no compulsory websites were indicated. I shall call the pattern that emerged from this activity, the ‘Google it, compare and sum it up’ pattern. This time I do use ‘Google it …’ because my observations and interviews revealed that Google was the default search engine for most pupils, although a few also used Bing.com. The WebQuest assignments reflected to a great extent the thinking proc-

252 Philosopher Susan Stebbing ([1939] 1952: 67-68) defined ‘potted thinking’ as a form of thinking that consists of ‘easily fall[ing] into the habit of accepting compressed statements which save us from the trouble of thinking’.

253 Philosopher of history George Collingwood ([1946] 1994: 257-258) explained ‘scissors-and-paste history’ as ‘a kind of history which depends altogether upon the testimony of authority’. It consists in ‘determining first what one wants to know about before go[ing] in search of statements about it’.

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processes that took place and the influence exerted by the instructions. At the source-selection stage, pupils were expected to think in terms of relevance and reliability and to justify their choices. The resulting comments and accompanying ratings were the results of the pupils’ own observations and reflection, and formed the first manifestation of historical thinking in relation to the WebQuests. To take one example: Pupil 1 (Table 6.1 in Chapter 6, Section 6.3) used six websites for his assignment on the Dutch East India Company [VOC]: Wikipedia was rated 8/10 and praised for providing ‘Much information about its [the VOC’s] history’; the VOC Knowledge Centre of the Royal Netherlands Institute of Southeast Asian and Caribbean Studies [KITLV] received 7/10, with the comment that it provided ‘information about the ships they [the VOC] had and what they looked like’; the Huygens Institute of Netherlands History [Huygens ING] was given 8/10, with the comment ‘VOC shipping’; Kennisnet’s ThinkQuest was rated 7/10 and deemed relevant because it discussed “The rise of the VOC”; the Canon of the Netherlands received an 8/10 for the way it explained ‘How the VOC expanded’; finally, Jaap van Overbeek’s VOCsite.nl also, received 8/10 for providing the pupil with information on ‘The history of slavery’.

Though the ratings did not add much to my understanding of the thinking processes that lay behind the choices of the various websites, the comments provided a more interesting insight into that process. My initial response was to compare the comments with the titles of each of the cited pages to check if they had not been copied into the WebQuest. This was not the case for most sources, although some comments did seem exceedingly close to the titles. For instance, Wikipedia’s title Vereenigde Oostindische Compagnie [United East India Company] bears little resemblance to ‘Much information about its history’, but Huygens ING’s ‘De VOC: Dutch-Asiatic Shipping 1595–1795’ [Italicisation is mine] was simply shortened to ‘VOC shipping’. In any case, the few words in the comment

fields appeared to be a compressed text reflecting pupils’ impressions of the sites’ content. Some indications of pupils’ engagement with the texts are evident from revealing details contained in phrases such as ‘Much information about …’ for Wikipedia, as compared to simply ‘Information about …’ for KITLV’s VOC Knowledge Centre. The latter drew much more attention for its details on what the ships ‘looked like’. These phrases betrayed comparisons that pupils had clearly made mentally, but upon which, as noted above, they found it difficult or pointless to explicitly elaborate. By the way, it should be borne in mind that this was in keeping in line with their instructions. Nevertheless, ‘Much information’ presupposes ‘less information’, on the other websites, just like ‘[details about] what they looked like’ on one website supposes the absence or lack of such details on other websites.

This source-evaluation brings to light an important aspect, i.e., that early adolescents base their judgment of sources much more on the quantity of information they contain than on the quality of that information. In their research into how early adolescents develop historical understanding based on alternative texts [those not designed for educational purposes, including fictional accounts], either unaided or in conjunction with textbooks, curriculum and instruction scholars Bruce VanSledright and Christine Kelly (1998: 250-252) noted not only that younger learners found alternative texts more informative and enjoyable, but also that they

frequently used quantity of information as the main criterion to distinguish the value of the different books and accounts they drew from. Students thought that the more information a text contained the better because that meant having to consult fewer books in the long run … (Ibid.: 257).

This might explain the frequent use of quantifying expressions such as ‘much information’ or ‘everything about …’, even though the ratings did not always follow the same logic. Despite this way of evaluating sources, which differs from the one advanced students and experts would be expected to use, the observation that emerged from the two case studies is that when young learners are dealing with a wide variety of sources they do engage in some forms of historical thinking at the same time. They do so, for example, by weighing, judging, and comparing sources with one another, using criteria that are specific to their developmental stage, identifying specific details in one source and detecting other complementary aspects in another source.

As noted in relation to the ‘Wilders-vs-Islam’ cartoon and the drawing of the VOC route map based on the National Library of Australia’s map on Google Images (see Chapter 6, Section 6.3), very
similar processes took place during other sorts of assignments. The key element in all these assignments was first searching for information, mostly via Google, comparing the results found by weighing them up against one another, and summing up [i.e., choosing] the one deemed to be more detailed or more illustrative. Although the pupils did not provide in-text or footnote/endnote references, an analysis of their short, generally illustrated texts vis-à-vis the Web pages cited revealed that each page had contributed at least one detail. The absence of direct references made it impossible to compare the ratings and comments with the eventual predominance of information obtained from the highly rated and much-praised websites.

In the foregoing, my intention was to show how the use of multiple sources by pupils in the two case studies had certain implications for their thinking about those sources. It seems that even though the use of lengthy quotations caused pupils to desist from explicitly expressing their own ideas and thoughts about the topics of the assignment, the choices and sequence of the quotations reflected a certain degree of historical thinking. On the one hand, the resulting texts, though not entirely original, did show a degree of coherence and generally managed to make causal relationships obvious. On the other hand, this way of reasoning based on multiple texts is typical to early adolescents, who are described as being unwilling or unable to engage directly in controversies and as having a tendency to engage in self-decided inhibiting thinking. I have also shown that summarising involves a number of skills such as identifying sources deemed reliable, weighing them up against one another, and synthesising them into shorter texts. As the next shows, another pattern that was evident from the sources pupils used in the assignments, relates in particular to how they negotiated between conventional sources and their unconventional counterparts.

7.3 Convergence: The Conventional Joins the Unconventional

One used to start [historical research] from traces (manuscripts, rare objects, etc.) in limited numbers, and had to exhaust all their diversity, to unify them into a coherent comprehensive narrative … The amount of treatable information following those norms has become indefinite with the arrival of the computer. The research front has changed (De Certeau, 1974: 26-27).

The previous section demonstrated, among other things, how the multiplicity and variety of sources managed to foster historical thinking in some important ways. Another aspect that deserves
particular attention is the nature and the status of sources. The use of resources from different sorts of websites and pupils’ views about them have resulted in making notions such as authoritativeness, conventionality, and the quality of being mainstream even more dynamic and blurrier than ever before. In this section, I shall discuss the shift from the sole and exclusive use of conventional sources of historical information to their combination with unconventional ones as reflected in the assignments of the pupils in the two case studies. The main points will be [1] that the Web, by bringing resources onto the computer screen regardless of their provenance and their authors, has made that shift a reality; and [2] that pupils, by using conventional and unconventional sources side by side and in a complementary way, have confronted teachers, knowledge-brokers, and policy makers with a fait accompli.

In the following paragraphs, I shall first outline the interpretation of the terms ‘conventional sources’ and ‘unconventional sources’ that I use. In doing so, I shall point out some of the ways in which the Web has blurred the distinction between the two. I shall then discuss the role search engines play in convergence by, among other things, redefining authoritativeness and relevance criteria, and stripping resources of most indications of their provenance. Lastly, I shall focus on Wikipedia, which has not only emerged from the two case studies as the most used source of historical information, but has also been serving as a potential convergence platform for heritage institutions and other more conventional brokers of historical information.

As demonstrated in Chapters 5 and 6, the large number of Web-based sources used for assignments were varied and differed from one another. The BL case study showed that sources could be grouped into 11 categories, namely: [1] Canons, including both the Canon of the Netherlands and the regional canons; [2] Wikipedia; [3] Educational sites; [4] Heritage sites, including both those of heritage institutions and those run by other non-heritage organisations; [5] Commercial sites; [6] Personal or family sites; [7] Blogs; [8] General information sites; [9] Religious sites; [10] Academic sites; and [11] Newspaper sites. A fairly similar categorisation emerged from the HPDS case study, where sources could be grouped into 10 categories. All the above-mentioned categories were used, with the exception of religious sites and blogs, while a new category was added to the list, namely, official sites.

The variety of these sources could be further categorised in different ways. They could be classified by taking the following perspectives, among others, into account: authoritative versus non-authoritative sources; conventional versus unconventional sources;
and official versus unofficial sources. In this section, I shall not delve into the authoritative versus non-authoritative debate, as this has been – and continues to be – extensively discussed. Instead, I would like to explore the sources from the perspective of ‘conventional versus unconventional’. Conventional sources are those that emanate from traditionally recognised content-providers and brokers such as educational publishers, official organs, cultural heritage institutions, etc. Unlike these, unconventional sources are provided by people or organisations with no officially or traditionally established authority to provide educational or pedagogic contents.

In this respect, I classify Wikipedia as unconventional because the principle behind it – everyone can be an author, every one can be an editor, whether credentialed or not – is contrary to the way in which conventional contents come into being. I classify the Canon of the Netherlands as a conventional source for history education because it was set up by the Ministry of Education, Culture and Science, more specifically by scholars and experts who were specially appointed for this educationally oriented project. In the world of film, entertainment and broadcasting, conventional can be taken to mean the same as mainstream, while unconventional is closer to the amateur or creative spirit. As I discuss later in this section, the notion of ‘conventionality’ is currently so dynamic that it has become difficult to trace any line that divides conventional from unconventional contents. However, for the sake of clarity, I shall adhere to the conventional versus unconventional distinction as described above, while bearing in mind that the distinction is being increasingly challenged by convergence.

A comprehensive study of sources used in the two case studies revealed that 60 percent of sources were conventional, while the remaining 40 percent were unconventional. This is a clear sign that, thanks to the Web, an unprecedented convergence is taking place between conventional and unconventional sources. There are two reasons why the Web and in particular search engines are deemed responsible for this change. In the first place, by making historical sources accessible beyond their physical environments, they [the Web and the search engines] have rendered all marks of authoritativeness, conventionality, and the concept of being mainstream invisible. In other words, they have flattened the hierarchies of information, which Rogers (2004: 22) considers to be a ‘highly info-political move’ due to all the manoeuvres behind that result in sources being ranked by those search engines. Actually going into a museum, an archive, or a library would ipso facto tell the pupil

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that what he or she would finds in those institutions will be conventional, because its reliability will have been checked by some credentialed authorities.

On the Web, however, the pupil could access the same object without seeing the physical museum, archive, or library, which makes the object found there no different from one found via Wikipedia, a weblog or a commercial site. In most cases, when interviewed pupils said that they ignored the source of their texts or simply mentioned that they had found them via Google, which poses a problem concerning their still-to-be-acquired new-media literacy skill of judgment or source-evaluation (see Jenkins et al.: 2009: 79). This answer suggests that after two steps – typing in the search terms and scanning the results – most pupils knew which resource they would use. This also appears to have been the case with Google Images’ results. What this says is that the provenance of the media object was of very little importance for pupils. Researching how historians [experts] and adolescents [novices] solve historical problems based on documentary and pictorial evidence, historical cognition scholar Samuel Wineburg (1991: 83-84) noted that ‘students seemed to view texts as vehicles for conveying information in which the attribution was just the last thing to be read’, while historians ‘used the attribution to erect elaborate scenarios about authors and the circumstances of document generation’, the bits of information ‘from which all else emanated’. One conclusion could be that the increased presence of conventional contents on unconventional platforms would be beneficial to young learners, especially those who have yet to acquire source-evaluation or judgment skills (Jenkins et al.: 2009: 79 and 83).

In the second place, search engines apply new rules for defining which sources are deemed authoritative and worth visiting. Media studies and Law scholar Siva Vaidhyanathan (2011: 7) noted that Google imposes its own biases in determining what is true, important, and reliable: pieces of information matter depending on how Google’s algorithms have ranked them. As discussed in Chapter 3 (Section 3.3), Google’s ranking algorithms rely heavily on hyperlinks to other websites. Given that mainstream, conventional sources of information have – for commercial reasons or others relating to corporate interests (see Chapter 3, Section 3.3) – been reluctant [or not authorised] to include hyperlinks not only to one another’s websites but also to unconventional sites in whose content they would tra-

261 The ‘Digital Natives’ have been described as choosing intuitively the materials they want to use (Palfrey & Gasser, 2008: 128). Bearing in mind that in many cases unofficial accounts outplay their official counterparts (Rogers, 2004: 45), in all probability this intuitive choice will take them to unofficial sources.
ditionally have little confidence (Tsui, 2008: 70), their ranking has always been low. As a consequence, Google and other search engines do not present them as the most relevant, authoritative sources, because unconventional websites, less exigent in their multidirectional hyperlinking practices, meet the new criteria for relevance and authority. Thus, on the Web ‘hyperlinks somehow transmit power or credibility’, as ‘the search engine [Google] sends more traffic to the heavily linked sites, reinforcing that position of authority and leading even to more links’ (Halavais, 2008: 49).

The immediate consequence of this situation is the increased presence of unconventional sources among the best-ranked sources and their convergence with conventional sources, both of which pupils used in a complementary way (see Figure 7.2). For instance, Pupil 6 in the HPDS case study (Table 6.1) used two unconventional sources and four conventional ones for her assignment on the VOC. The unconventional ones included Wikipedia, which provided the pupil with ‘Everything about the VOC’ and earned a 9/10 rating; and the Belgian travel [commercial] site Maleisie.be, which elicited the simple comment ‘VOC’ and received 7.5/10; while the conventional sources included the Canon, which also discussed ‘Everything about the VOC’ and earned a score of 8/10; KITLV’s VOC Knowledge

262 Practices are emerging such as ‘Google bombing’ – associating a keyword search with a particular Website – and ‘Link-whoring’ and ‘Link-doping’, which aim to increase the ranking of a particular weblog on the Web, making it easier to manipulate search engines’ algorithms (Halavais, 2008: 49-50).

Centre, which the pupil rated with only 7.5/10 even though she felt that it provided ‘Much information about the VOC’; the historical news part of *Absolutefacts.nl*,[^264] which received 7.5/10 for providing ‘Relatively much [information] about the VOC’; and *Kennisnet’s ThinkQuest*,[^265] which scored only 7/10 for its information ‘About the VOC’. From the comments and ratings, one might deduce that the understandings that Pupil 6 eventually gleaned about the VOC was based primarily on information found on Wikipedia and the Canon – where ‘everything’ could be found –, complemented with details from *Maleisie.be*, the VOC Knowledge Centre, *Absolutefacts.nl*, and *Kennisnet’s ThinkQuest*. The same can be said of the BL case study (Table 5.1 in Chapter 5, Section 5.3), where Pair 2, for example, used two conventional sources and one unconventional source, for their assignment on ‘Travel in the Golden Century: Michiel de Ruyter’. The conventional ones were *Schooltv.nl* [educational] and the Canon, while the unconventional source was Wikipedia.[^266]

I should mention that the more or less 60-40 ratio of conventional and unconventional sources was not limited to categories of websites used, but also applied to the frequency with which individual sites were used. In terms of frequency, each website is counted not as a single source, but as a provenance of individual materials (texts, images, *etc.*). An analogy could be drawn with individual books as independent sources and a library as the provenance or mother source. In the BL case study, for instance, Pair 3 cited one website – the Memory of the Netherlands – as source, but used 32 pictures from 32 different pages of that same site (see Table 5.1 in Chapter 5, Section 5.4). Viewed from this perspective, unconventional sources represented about 41 percent (47 out of 116 indi-

[^264]: *Absolutefacts.nl*, ‘Verenigde Oost-Indische Compagnie’. http://www.absolutefacts.nl/geschiedenis/data/voc.htm (Accessed 8 March 2011). This site is classified as conventional or mainstream because its contents are authored and edited by a team of knowledgeable editors specialising in the history of the Royal House and Castles, in automobile and political history, and in the history of the Church, faith and philosophy (see: http://www.absolutefacts.nl/re-dactie.htm [Accessed 8 March 2011]).

[^265]: *Stichting Kennisnet* [ThinkQuest], ‘De Verenigde Oostindische Compagnie’. http://mediatheek.thinkquest.nl/~jra511/ (Accessed 8 March 2011). This is a conventional source *par excellence* because *Kennisnet* is a government-funded expertise centre for ICT in education.

[^266]: It is worth returning to the discussion about the Canon and its one-sidedness that has been denounced by some history education scholars and experts. This convergence of conventional and unconventional sources suggest that the Canon is one source among many that has to compete with Wikipedia and other sources. Maria Grever (2007: 42-43), who opposes ‘a singular canonized perspective’, argued that working with competitive or incompatible perspectives ‘enhance[s] historical understanding’. It could then be maintained that convergence, which turns competitive sources into complementary sources, greatly contributes to historical understanding.
vidual Web pages cited) in the BL case study (Table 5.2) and about 44 percent [18 out of 41 individual Web pages cited] in the HPDS case study (Table 6.3).

One point requiring particular attention is the predominance of Wikipedia in both case studies. At the BL, for instance, Wikipedia was cited 35 times by all 13 pairs, while the most cited conventional source – the Canon – appeared 28 times (Table 5.2). At the HPDS, the situation was almost the same: Wikipedia – the first unconventional source used – was cited nine times, while heritage institutions’ websites – the first conventional sources – were cited five times, as were personal sites. In the same case study, commercial sites [unconventional] and educational sites [conventional] were both cited four times. As shown by HPDS pupils’ comments on sources, Wikipedia seems to have relegated conventional sources to second-choice category. The pupils felt that it offered much information about … or everything about …, while most conventional sources offered only information about … or a bit of this or that aspect … In their eyes Wikipedia contained everything and if something was not there, that was probably because it did not exist or it was not worth noting. Also the ‘Everything about …’ comment on the Canon seemed to have a different meaning from the ‘Everything about …’ used for Wikipedia, as one pupil’s comment shows: ‘… The second [best site after Wikipedia] was entoen.nu [The Canon of the Netherlands], which is also a sort of Wikipedia, though it is much less known. You can also find everything here’ [Italicisation is mine]. This means that Wikipedia is becoming a reference against which conventional sources are judged and evaluated.

Parallel with this increasing popularity of Wikipedia among the wider public267 in general and among pupils in particular, is the increasing interest cultural heritage institutions are showing in the platform, as it allows them to present [parts of] their collections to a much wider audience. In September 2010, the National Archives offered 1,000 pictures to Wikipedia Commons, the photo database of Wikipedia.268 This means that the National Archives was granting tens – if not hundreds – of thousands of Wikipedia authors and editors – I should add Googlers for whom Wikipedia almost always tops

267 Wikipedia is more widely visited, read and cited by many more people than mainstream, conventional institutions’ websites such as The New York Times, the Library of Congress and its direct rival Encyclopædia Britannica (Rosenzweig, 2006: 118-119).

the results list (Rosenzweig, 2006: 137; Bakker & Bakker, 2011: 32) – the authorisation to use them to illustrate their articles, which, as shown by the case studies, is the first place pupils go to when working on assignments. The National Archives reported that

In a two-month period over half of the [1,000] National Archives photos were linked to Wikipedia articles by the Wikipedia community. The entries illustrated with National Archives pictures were viewed more than 400,000 times in this period, with the most page views coming from the Dutch version of Wikipedia.269

This is another clear instance of convergence of conventional and unconventional sources of historical information being facilitated by the Web. Unlike the first form of convergence, which resulted from the fact that search engines display a mixture of categories of sources in the order of their popularity and without any reference to their [un]conventionality, this one is the result of a conscious effort on the part of the keepers of conventional sources. In other words, heritage institutions and similar have taken conventional media texts out of their tightly controlled sanctuaries and placed them in an unconventionally controlled environment. The narratives written about these texts and the contexts in which they are placed are beyond the institutions’ traditional, gatekeeping authority and subjected to the gatewatching dynamics of most Web 2.0 platforms.270

For example, the Wikipedia entry on former Dutch Prime Minister Wim Kok (see Figure 7.3)271 is illustrated with a picture from the National Archives. The initial article, which saw the light of the day on 15 October 2001, was written by ‘Tsja’ and by 1 June 2011 it had been edited on more than 250 occasions. Many of the dozens of users who added, removed, or modified parts of the initial article are identifiable only via the IP [Internet Protocol] addresses of their computers. Despite this unconventional form of authorship [with a username rather than a proper name] and means of gener-

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269 Ibid.
270 The concept of gatewatching is described as the new quality-control and value-conferring mechanism on user-content-generated websites. Involving no authority or hierarchy in the traditional sense, ‘Gatewatching, instead, relies exactly on that ability of users to decide for themselves what they find interesting and worth noting and sharing with their peers’ (Bruns, 2009: 73-74). It consists of continuously and collectively observing the output gates of conventional [news] organizations, as well as of the primary sources of [news] information (Ibid.). In this process, the authority previously vested in a few experts [curators, editors, journalists, etc.] is now in the hands of ‘large numbers of amateur contributors … [who] create a dynamics in which “good” information drives out “bad”’ (David, 2007: 179-180).
Ating information [multiple anonymous edits], the picture itself is presented as authentic, with a conventional description mentioning the circumstances under which it was taken, the date on which it was taken, the name of the photographer, for which media organisation he worked and the institution responsible for preserving the original together with the photograph ID number.\(^\text{272}\)

The Netherlands Institute for Sound and Vision, for its side, simply started sharing its image database with Wikipedia since February 2008. At the moment of writing [14 June 2011], any Wikipedian could access and use 10,430 photographs together with the corresponding [conventional] metadata.\(^\text{273}\) This form of convergence differs from the use of social media that was discussed in Chapter 3 (Section 3.4), where the claim was made that the growing presence of cultural heritage institutions on social media networks is helping to increase awareness about heritage objects while providing users with an opportunity to tell their own stories about the objects. This awareness-raising effort is an alternative to encountering the same objects after they have been contextualised [by Wikipedians, for instance] and are ripe for remixing and new appropriations.


Historian Roy Rosenzweig (2006) reflected about the challenges Wikipedia poses for professional historians and tried to answer the question of whether history could be open source. One of the points he made is that Wikipedia, despite some factual errors and style issues due to the multiplicity of authors, is a valuable source of historical information. Rosenzweig (2006: 126-127) noted that in the domain of biographies of historical figures, Wikipedia competed with the classical and commercial rivals and scored better than many of them in terms of coverage. However, the most relevant discussion for the purpose of the conventional-unconventional convergence became evident when Rosenzweig (2006: 136) wondered: ‘Why should we care?’ His answer was: ‘One reason professional historians need to pay attention to Wikipedia is because our students do’, which, as the findings of my two case studies show, was certainly the case among these 13- to 14-year old history learners. The same answer also applies to heritage professionals, most of whom, as demonstrated in Chapter 3, count pupils among their key targets. For this reason – and this applies equally to historians and to heritage professionals – Rosenzweig (2006: 140) explicitly advocated the convergence of the conventional with the unconventional:

Should those who write history for a living join such popular history makers in writing history in Wikipedia? My own tentative answer is yes. If Wikipedia is becoming the family encyclopedia for the twenty-first century, historians probably have a professional obligation to make it as good as possible [Italics are mine].

Similar convergences are taking place in many other cultural sectors. For instance, the TV and music industries are experiencing this phenomenon via YouTube, where major mainstream channels appear side by side with amateur contents (Burgess & Green, 2009: 41-42 & 91); the British Broadcasting Corporation [BBC] and Cable News Network [CNN], among others, encourage and have recourse to amateur contents (Gillmor, 2004:104; Atton & Hamilton, 2008: 64-70); and leading newspapers have put in place new redaction processes to integrate user-uploaded leaks into conventional news flows (see Leigh & Harding, 2011; Domscheit-Berg, 2011). Similarly, the film and game industries have already entered an era where do-it-yourself tools enable fan film-makers and game-makers to generate their own media contents by making creative use of original mainstream contents (Jenkins, [2006] 2008: 136-137 & 153-155; see also Deuze, 2007: 75). It would therefore be nothing short of normal if heritage institutions and other keepers of conventional sources of historical information were also to move in
that direction in order to reach a wider audience, in particular the Internet Generation.

In the case of history education, which my two case studies explored, the reasoning would be as follows: since sources have converged at the grassroots level, that is, in the history class, where pupils use both conventional and unconventional sources, then it would be reasonable and even advisable to engage fully in the same convergence on a corporate or institutional level, that is, on the content-providers’ side (Jenkins, [2006] 2008: 18). It has even been suggested that the future of conventional contents lies in their success at finding their place in that ‘digital convergence’ (Rheingold, 1993: 75), which has become especially inescapable due to the fact that, in practice, search engines remain the almost exclusive door to historical sources. These engines favour popularity, which is another term for the authority conferred on them by the larger user community, rather than conventionality, which for a long time has been associated with a small group of credentialed experts (Bruns, 2009: 139 & 212).

In his book on Collective Intelligence, new media theorist Pierre Lévy (1997: 8) conceptualised cyberspace as mainly symbolised by the Internet. This means that by putting their collections on that medium, cultural heritage institutions have joined cyberspace and cannot escape the rules that govern other objects in that space. Those rules involve a certain nomadism and demand rapid change in, among others, scientific, technical, economic, professional, and mental areas (Ibid.: 10-11). If they attempted to escape, Lévy (1997: 10-11) maintained, then ‘the world would change around us [meaning: they will be disconnected from that world]’. In contrast, by adapting to those changes, they would end the cult of ‘fetishised or hypostasised communities’ (Ibid.: 29) and join the dynamics of cyberspace’s collective intelligence, based on the principle that ‘intelligence is distributed everywhere, incessantly valued, [and] coordinated in real time, [and which] results in the effective mobilisation of competences’ (Ibid.). They would move from ‘the Cartesian cogito to cogitamus’ (Ibid.: 33).

274 This value-assessment mechanism is commonly known as ‘collective intelligence’, a concept coined by media theorist Pierre Lévy (1997: 29) to mean that everyone knows something, while no one knows everything. This suggests that the more people evaluate a media text, the bigger the chance of having a better result (see for more discussions: Lévy, 2010: 110-111; Jenkins, [2006] 2008: 4; Anderson, 2006: 106-107; Cornu, 2004: 42-43; Keen, 2007: 6; among others). Other related terms were also used to describe this mechanism, including ‘distributed intelligence’ (Negroponte, 1995: 19-20; Anderson, 2006: 108, among others) ‘wisdom of crowds’ (Anderson, 2006: 68; Keen, 2007: 95-96).
Private and other unconventional initiatives adapt more rapidly and do indeed have bigger opportunities to garner knowledge and competences from cyberspace’s intelligent collectives. Projects like Wikipedia are a good illustration of the cogitamus approach, as one historical article [or on any other subject] could have hundreds, even thousands of authors thinking together on the same subject (Rosenzweig, 2006: 126 & 135; David, 2007: 179-180). These projects also score better among pupils because they have more time to dedicate to improving the findability of their contents and are confronted with fewer legal [copyright, taxpayer’s money, etc.] constraints. It could then be concluded that if heritage institutions and other keepers of conventional sources were to join cogitamus platforms, pupils would have a better chance of finding, for instance, the Rembrandt House Museum – one of the rare references for Rembrandt’s etchings, drawings and copper plates275 – which was mentioned by none of the assignments on Rembrandt in the two case studies. Unlike the latter, a number of personal sites, which – though not necessarily collaborative projects – face fewer bureaucratic constraints, [www.vocsite.nl, www.statenvertaling.net, among others], were used by pupils in both case studies, which suggests that these sites were more findable than the Rembrandt House Museum’s website.

In short, this section has distinguished between conventional and unconventional sources among the Web-based sources used by pupils in the two case studies. Conventional sources were presented as those originating from traditionally established bodies, while their unconventional counterparts emanate from those vested with no traditional and official authority to produce educational, pedagogic contents. I have stressed how the Web and search engines have greatly contributed to the blurring of this distinction, as they present sources without the traditional marks of conventionality and authoritativeness. Moreover, new criteria for relevance and authoritativeness have emerged that seem to favour unconventional sources. In addition, the common attitude of adolescents in not checking the provenance and authorship of information is actually hastening that convergence. It seems that a similar convergence trend is also emerging among heritage institutions, whose websites are surpassed [though not all conventional websites put together] by unconventional websites in terms of frequency of use. Some major institutions have made their objects available to Wikipedia – the most cited source in the two case studies – thereby heralding an-

other convergence on an institutional level. An analysis of some of the major findings of my case studies revealed a number of patterns, some of which I shall now discuss in relation to certain current scholarly discussions.

7.4 Findings in Broader Discussions

Any research to be recognized and taken seriously within a discipline must also be relevant to some of the current intellectual concerns of the discipline. Social research thus links ordinary phenomena that may appear puzzling in daily life with the theoretical concerns of the disciplines that take social life as their subject matter (Davies, [1998] 2008: 30-31).

The previous three sections have provided an interpretation, in the form of patterns, of the major findings of my ethnographic research in the two case studies. However, as suggested by social research methodologist Aull Charlotte Davies (this section’s epigraph), research findings make more sense when considered within the context of current intellectual debates. In this section, therefore, I plan to demonstrate the relevance of my findings by linking them to current concerns and discussions about history education and the use of the Web and digital resources by pupils. The first issue I shall discuss in the light of the two case studies is the digital divide that has appeared in both the technological infrastructure and the approach to the Web in the two case studies. It is important to evaluate the digital divide more than two decades after the ‘Big Project’ (see Chapter 2, Section 2.2) which aimed to get all schools connected to the Web. The findings of the two case studies shed some light on certain aspects of the impact the Big Project had on history education. The second point emanates from the previous one, as it examines the concepts of ‘New Learning’ and ‘New Heritage’, which are mainly the result of the integration of digital media into education and the digitisation of heritage objects, respectively. The practices described in the previous two chapters and in the first three sections of this one are a part of New Learning, while the heritage websites and their contents constitute the New Heritage. The following first discusses the sense in which the concept of the digital divide is used before going on to explore some of the ways it seems to have impacted on the two classes I observed. I shall then briefly explain the concepts of New Learning and New Heritage, pointing out how they intersected in the two classes.

The concept of a digital divide has often been used to refer to the gap that exists between people with a different economic and social status and, as a result, unequal access to digital technologies.
On one side of the divide are those who are ‘technology-rich’ and on the other side those who are ‘technology-poor’ (Downes, 2004: 115-116). This divide can be observed among individuals, groups, regions, countries, etc. It is applicable to my two case studies in that the HPDS offered a Web-driven class, with permanent unlimited access to the Web both at school and at home. This class was definitely a ‘technology-rich’ one, as opposed to the partially ‘technology-poor’ class at the BL. This ‘technology poverty’ was incomplete as the teacher did have permanent access to the Web, though the pupils almost never did during school time. Moreover, as shown in Chapter 5, this school’s Internet connectivity was also poor, as it was incapable of permitting simultaneous wireless connection for the entire class.

Digital divide has also been used to describe the disparity in the uses of new technologies at home and at school. It has been claimed that pupils’ homes often provide not only an environment saturated with new technologies but also more freedom to enter into unhindered interaction with them (Hutchby & Moran-Ellis, 2001: 1; Roberts et al., 2009: 314), while schools tend to be very restrictive (Buckingham, 2007: 76 & 93; Somekh, 2004: 71). This is what educational and technology scholar David Buckingham (2007: 76) termed the ‘new digital divide’, whereby technology-rich pupils at home become technology-poor at school:

… this new ‘digital divide’ between in-school and out-of-school use could also be seen as symptomatic of a much broader phenomenon – a widening gap between children’s everyday ‘life worlds’ outside school and the emphases of many education systems (Ibid.: 96).

The digital divide was not an issue at the HPDS, where, as shown in Chapter 6 (Section 6.1), freedom to choose technologies and media was part of the Dalton approach. In contrast, the BL pupils showed signs and clues leading to the conclusion that the classroom provided a technology-poor environment. The repeated shifts to the iPhone either to SMS or to surf the Web suggest that the pupils’ desire to interact with technologies could only be quenched clandestinely. The question at this point might be to find out how this digital divide interfered with, for example, historical thinking. The three previous sections showed how the attractiveness of the Web is related to the variety of sources and how both [Web and sources] are connected with historical thinking in various ways. The triangular learning process described in Section 7.1 (see Figure 7.1) suggests that new technologies in the hands of young learners at school are far more than simply a form of distraction. Where free use of the
Web is permitted, as it was at the HPDS, its use does not provoke distraction but rather enhances the liveliness of a class. Where it is forbidden, as it was in the BL class, it does indeed constitute a distraction.

On one occasion, under the cover of his textbook, a pupil at the BL surfed the Web on his iPhone in order to check the latest news on *De Volkskrant* daily newspaper about the March 2010 municipal elections. The teacher had announced that the lesson that day would be about *actualiteit* [current affairs], which at that moment were dominated by the municipal elections taking place that very day. The teacher used this political *actualiteit* to introduce ‘Louis XIV, an absolute monarch’ (see Chapter 5, Section 5.2). The pupil’s clandestine but legitimate curiosity could have led to the triangular learning process shown in Figure 7.1, with all the multitasking features and learning benefits that go with it. Under these clandestine circumstances, however, one cannot contend that the child was multitasking in terms of continuity imbedded in discontinuity (see Section 7.1), because the fear of being discovered and blamed is incompatible with the rapid and coordinated thinking that is required at each step and shift. Instead of putting listening and reading on

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276 A recent *New York Times* article entitled ‘Speaking Up in Class, Silently, via Social Media’ reported about an increase in local initiatives both in secondary school and in higher education in the United States to implement so-called ‘backchannels’ or ‘hot seats’. These consist of integrating the use of social media networks in the classroom to encourage more participation in discussions. Teachers say that this provides pupils and students who refrain from expressing their views in conventional ways – by raising their hand and speaking for instance – with an alternative way to be part of class discussions. However, this phenomenon is still very limited and has many opponents among teachers (Gabriel, 2011).

Greater participation of shy students was also cited in a 9 June 2011 report by CNN which featured a history class at Hollenbeck Middle School in East Los Angeles, where Twitter has been integrated and fully embraced by the students (Simon, 2011).
standby, the pupil simply disconnected from them to connect to the Web.\textsuperscript{277}

In this way, then, suppressing the use of digital media prevents the dynamics that could create a fertile ground for historical thinking. By the same token, the transition from teacher-led instruction time to ‘independent work time’ at the HPDS, and the transition from Web-video and related activities to the textbook at the BL, showed that digital technologies can make a big difference in keeping pupils engaged. At the HPDS, the transition was smooth and the shift was clearly marked by earplugs that, according to the pupils, prevented external noises from disrupting their concentration. The rest happened almost internally, as with ‘swimming ducks’ (see Van Velzen, 2002: 6). At the BL, the end of Web-video and related activities meant disintegration into noisy chaos and the clandestine use of digital devices.

Considered side by side from this ‘digital divide’ perspective, the technology-rich HPDS and the partially technology-poor BL reveal two different faces in need of deeper reflection. At the HPDS, technology was in the hands of the learners, which gave them an important role in determining what to do with the teacher’s instruction and the textbook’s contents. The same technologies remained in their hands both during formal learning time [in school] and informal learning time [at home]. At the BL however, technology was in the hands of the teacher rather than the learners, who could only enjoy it when the teacher decided they could. Thus, during formal learning time pupils had no access or control over the most attractive tool that could offer access to sources of historical information. It was assumed that these sources would be accessed during the informal learning time, at home. This digital divide might then help explain [though more research is needed about this aspect] why lengthy quotations predominated in one case study [BL], while in the other [HPDS] the pupils were capable of generating summaries which demanded more analysis, corroboration checks, and oth-

\textsuperscript{277} The May 2011 report by the National Academy for Media and Society concluded that two-thirds of pupils used mobile phones during class time for non-class-related activities, including digital bullying and blackmailing, playing music and games, sending SMSes or other messages via social networking sites, among others (NAMM, 2011), which is similar to what happened in the BL case study whenever the teacher moved away from the projector and the Web. However, as the example of the pupil secretly surfing to \textit{de Volkskrant} website shows, the mobile phone can be used in ways that contribute to learning. NAMM’s spokeswoman, Lisbeth Hop, said in a televised interview with the NOS (2011) that schools’ mobile phone policies should include not only ways to prevent negative uses, but also positive ways to turn mobile phones into educational tools (see: NOS, ‘\textit{Maak gebruik van smartphones in de les}’ [30 May 2011] http://nos.nl/video/244513-maak-gebruik-van-smartphones-in-de-les.html [Accessed 30 May 2011]).
er intellectual efforts. One reason could be that in the former case [BL] time and full, unhindered access to the sources [the Web] were problematic, while in the latter the opposite was the case.

Solutions are needed at the level of ‘policy and practice’ (Buckingham, 2007: 76). At policy level, schools need to think out pedagogical approaches that provide learners with more responsibilities. This shift in responsibilities should include putting technologies – thus historical sources to which pupils are given access – into their hands through ‘personal computer ownership by all students’ (Somekh, 2004: 71. Italicisation is mine). Ownership of computers, together with little or no restriction in terms of access [firewall] and use [administrator rights], is very important because, as demonstrated in Chapter 6, it generates more confidence and intimacy between pupils and their computers, to which they can entrust their thoughts whether they are in the classroom or their bedroom. It also implies an increased sense of freedom that makes it possible for young learners not only to express but also to quench their curiosity, using the tools that are most attractive to people of their age. Educational psychologists even suggest that restricting access to information and ideas [using a firewall for instance] or otherwise applying censorship is harmful to the development of rationality and intellectual freedom among adolescents (Moshman, 1999: 114). It could then be said, along with Jenkins et al. (2009: 17), that

> What a person could accomplish with an outdated machine in a public library with mandatory filtering software [firewall] and no opportunity for storage or transmission [administrator rights] pales in comparison to what the same person could accomplish with a home computer with unfettered Internet access, high bandwidth, and continuous connectivity.

Consequently, the digital divide described above urgently needs to be addressed (Buckingham, 2007: 76; Jenkins et al., 2009: 18) if history education is to take full advantage of the Web and other digital media in order to keep up with the rest of society, where new ways of interacting with online media and sources of information are already common currency.278

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278 These new ways, which are all mainly Web-driven, include permanent networking [thus permanent connectivity] (Castells, [1994] 1999: 48; see also Deuze, 2007: 17-18); flexibility [ability to work in different locations (school, home, etc.)] (Castells, [1994] 1999: 47) and flexitime [ability to work at different times] (Deuze, 2007: 4-5); adaptability [ability to adapt to changing environments and conditions] (Castells, [1994] 1999: 47); self-reliance [ability to rely on oneself] (Deuze, 2007: 8); and Multitasking (see Section 7.1); among others.
Despite the existence of that digital divide, the findings in the two case studies show that learning styles and approaches can largely be subsumed, though to varying degrees, under what educational scholars have called ‘New Learning’. Though the concept of ‘New Learning’ or ‘New School’ has a long history (see Chapter 6, at the end of Section 6.1) in recent years it has mainly been used to refer to a system or environment in which learners have more autonomy and control a large part of their learning (Simons et al., 2000: 7). Writing about this concept, digital didactics scholar Robert-Jan Simons and colleagues (2000: 13-14) identified the goals of the approach as being: [1] learning to think, including skills such as analogical reasoning, critical thinking, and logical thinking; [2] learning to learn, including cognitive [comparing, criticising and structuring, overview skills] and metacognitive [e.g., making a time-plan and strategies for learning, for instance]; [3] learning to collaborate and learning from collaboration, which involves acquiring ‘skills like dividing tasks between group members’; [4] learning to regulate, which implies, among other things, ‘a gradual increase of independence in learning and thinking’; [5] gradual increase of independence; and [6] process-oriented instruction.

Writing in the same volume – New Learning – educational psychology and technology scholar Gellof Kanselaar and his colleagues (2000: 62) suggested that in this approach emphasis is on ‘learning as the personal construction of knowledge’ and on ‘Technology [which] can play an important role … by providing environments that encourage learners to engage in self-directed constructive learning processes’. It could then be concluded that New Learning is largely dependent on new digital technologies, especially the Web, which, as the two case studies have shown, gives pupils unequalled control over sources and confers upon them the autonomy to weigh them up against one another without relying on the teacher or other intermediaries. The result of this is that they learn to think – albeit not in the same way as experts – about those sources and their relevance. The BL case study has shown how most pupils claimed this autonomy and control by, for example, neglecting the teacher’s instruction to include books among their sources. Instead, and contrary to the instructions, they used other categories of sources [blogs, personal sites, newspapers, etc.], thereby highlighting the learner-empowering potential of the Web in New Learning.

As indicated in Chapters 2 and 3, at the time when the infrastructure was being put in place that intended to bring about New Learning was being put in place, heritage collections were being put into new, digital formats to transform them into the New Heritage. The main aspects of this concept were extensively explored
in a volume published in 2008, entitled *New Heritage: New Media and Cultural Heritage* (edited by Yehuda Kalay *et al.*). This title and the volume itself, show that when *new media* and *cultural heritage* intersect they result in *new heritage*. Contributing to the volume, museum studies scholar Fiona Cameron (2008: 172) explored one related concept, namely ‘Digital Heritage’, which ‘can be defined as a selected pool of materials in a digital format deemed worthy of preservation for posterity’. Another contributor, new technologies and museum scholar Maria Roussou (2008: 225), discussed the notion of ‘virtual heritage’ which she introduced as ‘the intersection of Virtual Reality (VR) and cultural heritage … [that] facilitate[s] the synthesis, conservation, reproduction, representation, digital re-processing, and display of cultural evidence’.

The findings of the current two case studies show some interesting ways in which New Learning and New Heritage intersected and, together, resulted in some forms of creative historical thinking. It was noted in Chapter 5 that the Web-based videos appeared to be regarded as most attractive during class time at the BL. One possible explanation for their attractiveness could be the virtualisation of the cultural heritage, including through simulations. The Canon’s clip on the Beemster,279 for instance, belongs to ‘virtual heritage’ because, in addition to the compilation of digitised cultural heritage images [old maps, pictures, scanned books, *etc.*], sophisticated computer animations were used to simulate the water being pumped out (Figure 7.4). In other words, pedagogical value was added through all sorts of editing and voiceovers, but most importantly through animation which, better than any other means, provided pupils with a fairly concrete idea of how the windmills worked.280 It most likely inspired the pupil’s answer that one scientific aspect of draining the Beemster resided in the technique and power [as shown via animation] of windmills. In terms of historical thinking, it could be claimed that thanks to simulation the pupil was able to imagine the state of scientific advancement in that historical period. Roussou (2008: 226) did therefore have a point when she argued that virtual heritage can on the one hand ‘fulfill the requirements of a society of mass image consumption’ and, on the other hand ‘serve as indisputable means to disseminate knowledge and raise public awareness’.


280 French cultural theorist and philosopher Jean Baudrillard (1983: 2) explored the concept of simulation, which he presented as ‘hyperreality’, *i.e.*, ‘the generation by models of a real without origin or reality’. That hyperreality is not opposed to truth (*Ibid.*: 6), even though it starts from a utopia (*Ibid.*: 11). It ‘produces “true” symptoms’ (*Ibid.*: 5).
In many other cases, New Heritage does not need simulations or other types of manipulation to trigger historical understanding in the New Learning environment. For example, the reasoning of the HPDS pupil described in Chapter 6, Section 6.3, who wrote a fictive story of Koen, a boy living in Spain in the Middle Ages, showed that New Learning in the sense of autonomous search for sources of inspiration or information and New Heritage can result in quite unexpected outcomes. She described how Koen escaped a life of poverty in Spain by moving to the Republic [the Netherlands], how he subsequently became rich and married a girl whom she represented as the girl in Johannes Vermeer’s *Girl with a pearl earring*. It could be said that her free, autonomous search for information [New Learning] which led her to come across the famous painting online [New Heritage], probably on the website of the *Mauritshuis*.
analytical understanding of the findings

Mauritshuis,281 resulted in the direct association of wealth with portrait-painting [a practice reserved for the rich at the time]. More importantly, the painting dates back to the period [circa 1665] in which the fictive boy – Koen – lived, which suggests that the painting provided her with an opportunity to introduce a plausible, real-life face into her fictive story.

To conclude, this section described the digital divide as evident in the two classes I observed. This digital divide resides in the intensive and almost unlimited use of digital media by pupils in one case study, and its use being limited to the teacher in the other. I remarked that while both schools were connected to the Web, not all pupils were in a position to connect to that medium at will. The free-media-access approach of the HPDS indicated some signs of the development of advanced learning styles such as the ability to summarise from multiple sources and to multitask, while this was not the case at the partially technology-poor BL class. This section also placed the findings of the two case studies within the framework of New Learning and New Heritage, both of which are Web-driven. I pointed out that, despite the digital divide, both classes showed many instances in which New Learning and New Heritage had intermingled. New Heritage objects, either pedagogically enhanced in the form of video, with or without simulations, or presented in their original form, gave rise to new ways of representing and imagining the past, thereby triggering historical thinking among the pupils.

7.5 Summary

My aim in this chapter was to map my findings into patterns so that interconnections between the various uses and impacts of the Web can be understood comprehensively, rather than in isolation. Based on these findings, I suggested that the Web and its properties were attractive for the pupils, and it was that attractiveness that served as a triggering factor for historical thinking. The point underlying this argument is that the Web has proven to have the power to captivate the Internet Generation learners’ interest. When thus interested, such learners become mentally disposed to develop their judgment and other thinking skills. The Web-based video in particular demonstrated those captivating features which in many cases prompted pupils to go beyond the surface message and deduct the unsaid from that which was said. The Web also emerged as central to multitasking, serving as a disabstracting tool, that is, as a virtual place where

learners can go in search of clarifications about comments made by the teacher or accounts found in the textbook. In one case study this phenomenon which involves suspension and resumption, or discontinuity within continuity, took the form of a triangular process, whereby there were clear indications that it facilitated the development of historical thinking.

I also pointed out that the wide variety of online sources of historical information demanded recourse to certain source-evaluation skills which, in turn, fostered historical thinking in the sense that pupils had to extract the details deemed the most relevant and integrate them into their assignments in the form of either summaries or quotations. Taking into account recent adolescent cognitive psychology literature which distinguishes adolescent thinking from expert thinking, I regarded the compilation of quotes not as a sign of intellectual weakness that is aggravated by the Web, but rather as a task that involves some degree of historical thinking. It is apparent that the Web does indeed make quote-compilation easier; however, on the other hand, it has also given rise to such skills as finding the relevant Website or page, the right excerpt and, more importantly, the ability to transform the various excerpts into a coherent account. Summarising, which implies more advanced thinking skills and efforts, is another activity that the Web apparently facilitated, through searching for the right sources and relevant corroborative details.

Among the online sources used for assignments, I distinguished conventional and unconventional sources. An analysis of those sources revealed a convergence of sources in assignments, as both categories were used. This convergence is mostly due to the new relevance and authoritativeness criteria brought about by the Web and its search engines, and to the fact that the marks of conventionality of physical objects are not transferable in cyberspace. These factors, among others, have tended to blur the distinction between conventional and unconventional sources. I discussed the growing trend among heritage institutions to make their digitised objects available on unconventional platforms such as Wikipedia – the online source cited most frequently in the assignments. Based on what has been going on in other new-media-driven sectors, I suggested that this shift to Wikipedia and similar sites could have a significant impact on history education and give added visibility to conventional sources, which are disfavoured by the current rules employed by search engines.

Finally, I attempted to connect the findings of my field research to two discussions currently being held in scholarly circles, namely about the digital divide and the New learning–New Heritage twins. This research has shown that where pupils had permanent and unre-
stricted access to digital media and freedom to surf the Web whenever they pleased, those same pupils engaged in fruitful multitasking and were capable of producing assignments that demand a great deal of effort. In cases where they had no digital technologies at their disposal, nor access to the Web, they would frequently tune out by shifting to their private digital devices in order to surf the Web clandestinely. Assignments made by these pupils tended to be quote-compilations. Another important finding relates to the intersection of New Learning and New Heritage, two phenomena that rely heavily on digital media, especially the Web. While New Learning emphasises autonomy and a more learner-controlled learning process, New Heritage implies not only digitised objects, but also all other related types of virtualisation, including animations and simulations. Some examples have shown that the use of New Heritage objects in the classroom triggers new ways of visualising the past.