Surfing the past: digital learners in the history class

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Chapter 2

A New Medium, A New Generation

The early 1990s witnessed the birth of the World Wide Web [the Web], a medium that has considerably affected the traditional ways in which history was taught and learnt. By making contents of all kinds accessible, the new medium challenged the traditional, top-down relationship with sources of knowledge. As it had steadily developed into an inescapable medium by the mid-1990s, persistent sociological, behavioural, and epistemological signs indicated the emergence of a new generation of users. Both the new medium – the Web – and that new generation – the Internet Generation – are the subject of this chapter. In order to understand how the Web entered and transformed Dutch society, it is essential to have a broad picture of official policies relating to it, and to grasp the main media-related features of the subjects in which I am interested, before properly considering how these subjects use digital media in real-life history classes. All these elements are interlinked and an understanding of each facilitates one’s understanding of the others. Thus, based on scholarly and expert literature as well as policy documents, the first section of this chapter briefly traces the history of the Web in the Netherlands, and maps out various government plans to introduce the medium into [history] education. The second section explores the different features and attitudes the Internet Generation is thought to display in their relationship with the Web in particular and digital media in general. The last section highlights the early efforts of history teachers to integrate the new medium into their teaching activities.

2.1 The Early Days of the Web

And for me at any rate this is no utopian dream. It is a forecast, however inaccurate and insufficient, of an absolutely essential part of that world community to which I believe we are driving now (Wells, 1938: 56).

At the dawn of the second decade of the 21st century, the Web is already being taken for granted, both in society at large and in education. The Web has entered into people’s everyday routines, as all schools, all official services, and almost all households have access to the Web. However, this status of being taken for granted was not
reached suddenly – at least in the Western world – but rather after a process that began with the public breakthrough of the medium during the early 1990s. In order to provide a background for later discussions in this research about how the Internet Generation uses this medium, I want to briefly highlight the major moments in the evolution of the Web in the Netherlands, and in its gradual integration into society at large.

The history of the Web begins in the 1960s with the birth of the Internet in the United States. I would like to distinguish between the Internet and the Web at this stage, because the Internet is very often wrongly used to mean the Web. The Internet consists of computers connected and able to communicate with one another, while the Web is an application created in the early 1990s that runs on the Internet and uses protocols and coding systems to transfer and display text, image, and audio files. In the early 1990s other applications, such as e-mail, Usenet, and bulletin board had been running on the Internet for years. The Web was invented by scientist Tim Berners-Lee and a few of his colleagues at the Geneva-based European Organisation for Nuclear Research [CERN]. In his book, *Weaving the Web: The original design and ultimate destiny of the World Wide Web by its inventor*, Berners-Lee (1999: 6) held that ‘there was no “Eureka!” moment’ for the Web, as it was, on the contrary, the culmination of a process.

This process had started much earlier, firstly with thinkers in the 1930s [e.g. George Wells] and 1940s [Vannevar Bush, among others], and then with computer scientists in the 1960s [Joseph Carl Licklider, Ted Nelson and Douglas Engelbart, to name a few]. According to Berners-Lee (1999: 28-30), the Web was ready by Christmas 1990, when his computer and those of his colleagues could communicate with the info.cern.ch server, the first Web server. Traffic on the info.cern.ch website grew considerably, as the Web quickly gained more popularity: 10-100 page views a day were recorded in the summer of 1991; 1,000 in the summer of 1992; 10,000 in the summer of 1993 (*Ibid.*: 75). In the meantime, the number of known Web servers had also grown from 50 in early 1993 to 100 later that same year (*Ibid.*: 67 & 79), and in the next three years, the Web would grow from 130 to 600,000 sites (Batelle, 2005: 40). In that same year of 1993, Mosaic, the most popular browser at that time, grew by 11 percent per week and by the mid-1990s, the population of the Web was increasing by 10 percent per month (Negroponte, 1995: 5-6).

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19 A recent *Wired* article indicated that other applications such as peer-to-peer transfer, email, Virtual Private Networks, Skype, games, etc., account for three-quarters of the traffic on the Internet (Anderson & Wolff, 2010).
In the Netherlands, the Web owes much to activist and hacker Rop Gonggrijp, an early user of the computer. Everything started in 1992 when he and his friends – Paul Jongsma and Felipe Rodriguez – connected their computers to the Internet system of the University of Amsterdam thanks to its system manager at the time. In 1993, the University administration ordered them to terminate that connection, prompting Gonggrijp and Rordiguez to start their own XS4ALL project, which aimed at providing Internet access to all. As early as May 1993, the XS4ALL Foundation was already providing access to the Internet for very little money (Doppert, 2002: 46-48 & 60). This kind of publicised intrusion on big Internet systems had the great merit of getting access to electronic communications for the masses onto the political agenda (Lovink, 2002: 43). At that time, activists used Hack-Tic – a 4-year-old magazine intended for hackers but which was also ‘interesting for any person who wants to take a critical look at the information society’ – to disseminate information about the latest technological developments. The same activists organised an international hackers’ festival, which they dubbed Hacking at the End of the Universe. 700 hackers from 15 different countries attended the festival which was held near Lelystad, spending three nights in tents. During that unprecedented event ‘People travelled day and night from Flevopolder around the world via the Internet’.

While the initial steps had been taken in mid-1993, concrete progress was being observed by early 1994. Not only were news media being inundated with stories about the ‘Electronic Highway’ (Overdijk, 1997: 13), but also two significant developments took place: firstly, the first [at least, it is regarded as such] Dutch Web page –www.mediamatic.nl – was put online by two designers, Kristi van Riet and Chris Remie (Doppert, 2003: 60). Secondly, in January 1994, the Amsterdam-based Balie, a cultural and political debating centre, in partnership with the municipality of Amsterdam as funder, and XS4ALL as technical partner, launched a Web-based, free-access project, named De Digitale Stad [The Digital City, DDS] (Limburg, 1994: 2; Lovink, 2002: 47). The DDS was a major and significant step in at least two respects: in the first place, it brought the Web to thousands of people, thereby serving both as an eye-opener and also as a reception test.

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Launched on 15 January 1994, and accessible from various public places such as museums and libraries, the DDS quickly became jammed. In two days, more than 3,000 people from all over the country had sought connection to the DDS server and, as one user said, 'it was so jammed that one could not [easily] get through' (Limburg, 1994: 2). The DDS was an experiment in ‘electronic democracy’ (Lovink, 2002: 47), the main intention of which was to mobilise the residents of Amsterdam in anticipation of the municipal elections that were to be held on 3 March 1994. It was supposed to last six weeks, but due to the unprecedented enthusiasm with which it was received [12,000 regular users in the first ten weeks], the experiment was extended for another ten weeks and then later still for an even longer period, until in 2001 it was ‘forced into the market’ mainly, though not exclusively, due to lack of subsidies (Ibid.: 56-57).

In the second place, by using metaphors as it did, the DDS brought the emerging cyberworld a step closer to the real-life world. The project itself was referred to as a Digital City, headed by a mayor, and it had residents, streets, squares, service-providers, houses, rooms, etc. This way of using real-life language to name new phenomena guaranteed a smooth arrival for the Web, as users perceived the new medium as a new way of looking at the world and conducting everyday activities, rather than a new world or a new way of living. In 1995, six more digital cities were ‘built’, for Eindhoven, The Hague, Twente and Utrecht, among others. That year also saw the emergence of digital villages [de digitale dorpen, DDD], beginning with Lopik in February, a phenomenon that proliferated through-

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23 The Digitale Stad Maassluis emerged when the other DDS were going commercial in the early 2000s. Although initiated by the Digitale Stad Maassluis Foundation with a dozen volunteers, the website was commercially oriented, with many advertisements, and tourism and shopping information in the Maassluis municipality. http://www.digitalestadmaassluis.nl/ (Accessed 23 April 2010).


out the late-1990s. Writing back in 1995, Bill Gates, as Microsoft’s Chief Executive Officer, a key player in disseminating information on the new medium, described that period as one marked by ‘a lot of excitement about the Information Highways’, as ‘people suddenly seemed to notice the Internet … started to look much more carefully at the “World Wide Web”’ (Gates, [1995] 2008: 30).

The political and administrative response to the emergence of the Web in the early 1990s was nothing short of timid, as the government seemed to confine itself to the margins, only granting subsidies to universities, the natural and original home of the Internet (Doppert, 2002: 134). What happened in the early 1990s is clearly a repetition of the situation in the 1920s-1930s and that in the 1940s-1950s, when the government allowed almost all radio and television initiatives to remain in the hands of individuals and private organisations (Overdijk, 1997: 92). Under the title ‘The government shows little action on the infoband’, dated 27 December 1994, Dick van Eijk, writer for the *NRC Handelsblad* [Dutch national daily newspaper], accused the government of indifference: ‘The government regards the electronic highway mainly as the responsibility of the market’, he wrote, regretting that the Netherlands had missed the pioneering phase, even though it had the necessary infrastructure.

In this section I briefly traced back the arrival of the Web in Dutch society, within which the educational system in which I am interested operates. It seems that by the mid-1990s there was a growing general awareness of the Web among the Dutch public as it became increasingly accessible to them, mostly thanks to a number of hackers and activists. The role played by the Digital City and other similar projects throughout the country in the second half of the decade was crucial in familiarising the public with the cyberworld, different aspects of which were named after real-world objects. However, despite the excitement in the mid-1990s, the government still did not get involved in developments relating to the new medium. The next section discusses official policies aimed at connecting education to the Web, starting from the late 1990s, at which time nationwide plans were laid down to that effect.

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26 See for instance Het Digitale Dorp Uithuizermeeden, which was launched in 1997, and which is still in the air to bring out news about local developments: http://www.uithuizermeeden.nl/ (Accessed 5 May 2010).

2.2 Getting Education Connected: Official Policies

Considered at any given time in its development, each society has an educational system which imposes itself upon individuals generally with an irresistible force. It is thus vain to think that we can educate our children the way we please. There are customs with which we have to conform, and if we refrain to a large extent from doing so, they will avenge themselves upon our children. Once they become adults, they will be unable to find their way among their contemporaries and will not live in harmony with them (Durkheim, [1922] 1966: 6).

In the late 1990s, almost all sectors of Dutch society were connected to the Web, with one notable exception of education. In its first report about new media technologies and their place in education, the Education Council pointed out the widening gap between education and the rest of society: ‘in comparison with the rest of society, education should not lag behind in the use of ICT … this is not an artificial issue but an urgent one …’28 This gap was mostly blamed on the lack of government policy for education, which new media theorist and critic Geert Lovink (2002: 43) described as the ‘Zeitgeist of the “absent state” and the triumph of market liberalism’. By the time the first plans were being laid down [around 1997], as history teacher and Kleio editor Oattes (1997b: 40) very significantly wrote, ‘everybody [society] is “online”, “surfs” and sends “e-mails” out into the world, thereby implying that teachers and pupils were excluded. This section, then, is tasked with reviewing the official policies aimed not only at creating the right ICT infrastructure, but also at fulfilling all the other related requirements for a fully connected and networked educational sector. The review is largely based on official reports, policy documents, press releases, and newspaper articles, and is limited to 1997-2005, a period in which unprecedented investments were made, and also during which the Web-driven history education I am researching took – more or less – its current shape.

It was only in April 1997 that the Ministry of Education, Culture and Science started thinking about renewing education to take recent technological developments into account. The newly created ICT Directorate within that Ministry wondered: ‘Wasn’t this somewhat late?’29 In March, Minister Jo Ritzen said that the govern-

ment’s reaction was definitely late, as the computer–pupil ratio was 1/40, while in Sweden it was 1/10 and in Finland it was close to 1/5. Referring to that same period, the last ICT Director Rob van Wuijtswinkel (2005: 9) noted that the Ministry of Education was finally realising that the Internet Generation had arrived, with its totally different learning style: ‘Youngsters choose en masse for ICT .... Without ICT, education is a world outside of reality’. In all probability the last part of this quotation refers to the Web-related reality, which is that almost all other sectors had gone digital or were currently doing so.

Thus, it was in 1997 that the government finally woke up and admitted that, unlike other sectors which were already part of the network[ed] society, education had not benefitted from the arrival of the Web and related technologies. From about late 1996, attention for the Web and education became vaguely perceptible in political discourse. In September of that year, Minister Ritzen proclaimed: ‘Schools must be connected with other institutions’. This announced change was only marginally reflected in the 1997 budget for education. Though it was increased to 37.2 billion guldens [±16.7 billion euros], that is, in excess of 1 billion guldens [±450 million euros] more than in 1996, the extra money was dedicated not to the Web and related ICT-infrastructure, but to salaries and ‘policy impulses’.

During 1997, it became increasingly clear that, as of January 1998, the government would be set to catch up at full-speed. I shall refer to the 1997-2005 efforts as the ‘Big Project period’. In November 1997, the House of Representatives granted the status of ‘Big Project’ to the plan initiated by Ritzen in April of that year, because of its ‘social significance and the amount of public funds’ it would involve (Van Egmond et al., 2005: 19). The same House of Representatives withdrew the ‘Big Project’ status in May 2005 (Ibid.: 55), hence the 1997-2005 delimitation. Despite numerous

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modifications, changes, and contradictions, the Big Project period can be divided into three main sub-periods: the catch-up investment sub-period [November 1997–August 1998], the Education Online sub-period [September 1998–August 2002], and the Learn-with-ICT sub-period [September 2002–May 2005].

The initial catch-up action plan was dubbed *Investeren in voor-sprong* [Investing for a forward-leap] and was expected to cost about 1.3 billion guldens [±582 million euros]. Ritzen, its initiator, wanted to achieve a 1/10 computer–pupil ratio in four years. His deputy, State-Secretary Netelenbos specified that in 1998, 78,000 computers would be distributed in 700 secondary schools and 146,000 in 8,000 primary schools. Vocational schools would receive 35,000, while teacher education schools would receive 15,500. The 1997 budget for education had taken into account refresher courses for teachers, though the latter thought it would be better to equip each of them with a computer at home. A representative of the Association of School Leaderships [VVO] argued: ‘Half of all refresher efforts consist of [home-based] self-instruction, as teachers have no personal offices at school’ [text between brackets added]. Even though everything seemed – in theory – to be ready, the plan did not get implemented in January 1998 as had previously been announced. On 1 January that year, 220 selected schools [101 primary schools and 119 secondary schools] were supposed to receive computers that would be connected to the Internet. However, as the government was implementing a strong austerity plan, Ritzen had only been able to secure 116 million guldens [±52 million euros] right from the beginning, which was of course an insignificant sum (Van Egmond et al., 2005: 19). In June, journalist and journalism scholar Wubby Luyendijk (1998: 2) wondered whether the announced ‘digital revolution’ would ever take place in education.

The plan prompted a great deal of criticism: for example, the House of Representatives claimed that the project ‘lacked clarity’ and that more information about it was needed.

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on hardware, software, infrastructure, and teacher refresher courses, but also the lack of attention being paid to educational contents for which the ICT is supposed to be used, and the lack of new didactic norms that teachers should follow (Onderwijsraad, 1998: 32). In this respect, communication media sociologist Manuel Castells (2006: 16) criticised ICT and education policies in Western Europe in the early 2000s for having provided the technology – the hardware and software – without ensuring productivity, innovation and human development. The result was that the ‘infrastructure improved considerably’ while the ‘effects on productivity, on learning, on creativity, and on entrepreneurialism were very limited’. Ritzen’s plan was never implemented in full, as the above-mentioned criticisms and funding-related delays were followed in the summer by the arrival of a new government, and thus of a new Minister of Education, Culture and Science, Loek Hermans of the Liberal Party [VVD].

The arrival of Hermans meant a drastic modification in his predecessor’s plan, including a new target of a 1/15 computer–pupil ratio and more freedom for schools with regard to the purchase of computers and teacher ICT courses. With 1.4 billion euros – 80 percent of which was going directly to schools – for the 1998–2002 period, Hermans wanted to fully concentrate his efforts on getting education online, by focusing more and solely on the school network, which, in the meantime, had been given the name of Kennisnet (Van Egmond et al., 2005: 27 & 29). The orientation of the Big Project had shifted from the Investing in a forward-leap approach to the Education online approach. In November 1999, the Ministry of Education signed a contract with Nl.tree, an Internet Service Provider which should have connected all 11,000 [primary, secondary and vocational] school locations to the Web by June 2002. The Ministry would pay an annual sum of 91 million euros (Ibid.: 29, 31, 33 & 35). Kennisnet, the knowledge network intended as ‘a countrywide electronic educational network’, remained the direct responsibility of the ICT Directorate until 2001, when educational organisations set up the Kennisnet Foundation, with guaranteed government subsidies (Ibid.: 41).

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In the meantime, in order to hasten realisation of the 1/15 computer–pupil ratio, in January 1999 the government introduced a fiscal incentive for companies and other organisations to donate second-hand computers to schools. This one-year incentive came after private companies had donated more than 60,000 second-hand computers during the two previous years.\(^{40}\) Similar efforts and initiatives took place throughout the 1990s, and a Foundation – *de Stichting Computerbemiddeling* – had been set up to coordinate computer donations and their distribution.\(^{41}\) While these efforts did undoubtedly bring the computer–pupil ratio closer to the target, they raised another crucial issue: the system requirements. These second-hand computers were not compatible with the most recent software, which was perhaps the reason why companies, ministries, municipalities and other organisations had replaced them with up-to-date devices. The Education Council remarked that hardware in schools did not permit making optimal didactic use of ICT, in particular because the text-editing, spreadsheet and Web-surfing software that could be installed was old. The continuous installation of updates was the most worrying issue, because of increasingly higher system requirements (*Onderwijsraad*, 1998: 25 & 30).

Considering the timing of Hermans’ new approach to introducing ICT into education – that is, late 1990s–early 2000s – one might even suggest a role was played by an increasingly palpable dot-com disenchantment, followed by the ICT-related stock market crash in 2000. In other words, Ritzen’s plan had probably been inspired and influenced by the dot-com hype of the mid-1990s, which had created ‘a metaphysical realm’ and made everyone believe that ‘the future resided in cyberspace’ (Nevaer, 2002: 12-13). The trend at that time was to defy age-long principles, to consider the online world as independent from offline realities (*Ibid.*: xii). The result was the so-called ‘Dot-com debacle’ in 2000, which saw most dot-com companies go out of business and hundreds of thousands of jobs lost worldwide (*Ibid.*). Hermans’ new approach most likely drew lessons from the economic debacle and implemented the introduction of ICT – the metaphysical world – while maximising the involvement of schools in determining approaches and priorities – offline realities.

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The first change in the plan was to end the approach based on selected pilot schools (Van Egmond et al., 2005: 27). All schools would receive the same budget and decide for themselves how it would be used. This was quite the opposite of Ritzen’s top-down plan. The Ministry announced not only that Kennisnet was responsible for encouraging refresher courses for teachers and for the implementation of ICT, but also that ‘no [further] school will be selected for pilot projects’. Situated right at the heart of education, Kennisnet emerged as the most important portal for educational websites. In the same vein, in 2001 the Ministry of Education initiated another body, the Stichting ICT op School [ICT in Schools Foundation, SICTS] (Ibid.: 43). This Foundation aimed to support and foster the efficient and effective use of ICT in primary and secondary education. The SICTS’s approach subsequently revolved around four aspects: vision [on the use of ICT in education]; knowledge and expertise [in ICT-based didactics]; educational applications and software; and hardware. In the eyes of the Foundation, the efficient and effective use of ICT depends on how these four aspects are kept in balance (SICTS, 2004: 5 & 6), hence the name of its yearly report: Vier in Balans [Four in Balance].

The Education online sub-period and its liberal approach to ICT implementation did deliver some results: by the school year of 2000-2001, schools were already beyond the 1/15 ratio target, as there was 1 computer for 8.5 pupils in primary schools and 1 for 12.6 in secondary schools (Steyaert & De Haan, 2001: 68). Moreover, the percentage of secondary school teachers who used ICT had increased from 29 percent in 1999-2000 to 47 percent in 2000-2001. In 2001, pupils in 88 percent of schools had access to the Web, while teachers had access in 96 percent of schools.

While the Web and other ICT were making steady progress in education, the issue of contents was becoming acute. The tasks had been shared, but none of the actors involved had been entrusted with the didactic generation, organisation, and distribution of digital contents. Educational publishers – the conventional brokers and providers of educational contents – saw no market in digital contents, as the Ministry had clearly not provided schools with enough money for those contents. It became an impasse, a sort of vicious circle, with on the one hand publishers waiting for budgets from schools before starting to produce digital contents and on the one

hand, schools waiting for ready-to-use contents before applying for money to purchase them (Onderwijsraad, 1998: 29). In December 1998, leading publishers Thieme, Malmberg, and Wolters announced that an ‘absolute minimum’ of 150 million guldens [±67 million euros] was needed to stimulate the educative software market, because ‘developing a one-hour digital lesson costs three times as much as producing a one-hour book-based lesson’. The sole digital content generators were individual teachers, but the production was too low.

For the 2000-2002 period, the Ministry of Education disbursed ‘a small amount of 23 million euros’ to subsidise and stimulate digital content-generating projects (Van Egmond et al., 2005: 43 & 45). Within this framework, cultural heritage institutions took on part of the role previously played by publishers, namely becoming educational content brokers. In 2001, the National Library of the Netherlands, with obvious educational ambitions, launched het Geheugen van Nederland [the Memory of the Netherlands]. Digitisation is discussed in more details in the next chapter, but I should already mention that, since then, digitisation and other Web-based educational projects have continued to multiply.

The Learn-with-ICT sub-period, which kicked off in September 2002, focused on two major issues that had arisen in the previous sub-periods: the digital content impasse and teachers’ ICT-didactic skills (Ibid.: 51 & 53). In relation to the matter of the generation of digital contents, in 2002 the SICTS received 22 million euros in order to start working on a joint venture which would bring together schools, educational organisations, educational publishers, and software developers and suppliers. In April 2005, these efforts culminated in the launch of Kennisrotonde, a virtual roundabout where all the above-mentioned actors could place their contents, as well as find those created by others. The idea was that ‘the demands of schools would lead to more knowledge and information being generated’ (Ibid.: 61-63).

The foregoing aimed to review official policies on the integration of Information and Communication Technologies [ICT] in education and the latter’s connection to the Web between 1997 and 2005. Initially geared towards getting as many connected computers as possible at the disposal of teachers and pupils, the top-down, multi-million plan subsequently changed focus and adopted instead a more bottom-up approach. Under the former plan, the Ministry

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of Education, Culture and Science managed almost the entire process and focused on pilot schools, while the latter plan meant abandoning the pilot approach and allowing schools to manage most of the budget according to their own vision. What one can be sure of is that, by the time the Big Project ended in 2005, all schools had access to the Web, and that the medium had become a common didactic tool. Having explored the introduction of the medium in which I am interested – the Web – into society (Section 2.1) and into education (Section 2.2), I would like now to turn to the subjects I am researching, namely the 13- to 14-year-olds who, due to their peculiar way of interacting with digital media, belong to the generation known as the Internet Generation.

2.3 The Internet Generation

… a generation finds itself confronted with one essential question, which is really a meta question, namely: ‘What is the essential problem facing us?’ In other words, at what point must we rethink our traditions in as innovative and radical a manner as possible? (Lévy, 2010: 108)

Recent reports and research about the use of ICT are unanimous about the fact that the current school-going generation interacts with information and knowledge in new ways strongly marked by the use of the World Wide Web. For instance, in 2009 it was reported that 64 percent of Dutch pupils were able, in their first two years of secondary education, to make their own homepage or profile site, while 45 percent could make their own weblog (Kennisnet, 2009: 57). The last two decades have produced a considerable body of literature about this new generation, commonly referred to as the Internet Generation or the Digital Generation, or Digital Natives (Palfrey & Gasser, 2008), to give them some of their names. From this literature, a number of features and attitudes towards digital media keep appearing among the characteristics of this generation.

Given that the subjects of this research –13- to 14-year olds, are all members of the generation – and that their interaction with Web-based historical contents constitutes the heart of my enquiry, it is indispensable to first describe the generation. In this section, therefore, I will go through existing scholarly and expert literature to identify and then describe the most important media-related characteristics of the Internet Generation. I first want to discuss the location of that generation in time and its inclination towards digital

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45 Examples: Hermes and Skylla (2006); Ten Brummelhuis (2006); De Haan & Van 't Hof (2006); Palfrey & Gasser (2008).
media, before focusing on its enthusiasm *vis-à-vis* interactive media, its desire to control media contents, its tendency to multitask and its image-mindedness. At some point, some illustrations will be provided using examples of Internet Generation-oriented websites.

In their 2003 study, media sociologists Frank Huysmans and Jos de Haan (2003: 177-178) referred to the cohort then aged between 12 and 19 years [born in 1984 and after] as being more attracted to, and comfortable with, the computer than to, or with, other technologies (see also Palfrey & Gasser, 2008: 239). Other theorists and researchers largely agree that a particular learning style has emerged that demonstrates connections with the age of a certain cohort of media technology users. Dutch author K.M. van Steensel (2000; see also Palfrey & Gasser, 2008: 1), for instance, has established a direct link between the Internet Generation and the cohort of people born in or after 1980. She argued that these people were confronted right from the beginning with the existence of new digital technologies that later culminated in the Web. Don Tapscott, who has published on the application of technology in business and society, cited almost the same period, 1977, as the birth date of the first ‘technologically fluent’ children (Tapscott, 1998: 3 & 37). Other scholars have stressed not merely the birth of a particular cohort of people, but rather its causation by another birth – ‘the birth of the affordable personal computer in 1981’ (Harwood & Asal, 2007: 2):

The launch of the IBM5150 in August 1981 not only created a benchmark for personal computing but also marked the birth of a new generation, a generation that would grow up and socialize in a digital environment … While computers had been around for decades, Americans’ usage of the technology took off with the arrival of affordable, personalized microcomputers (*Ibid.*: 1).

From the 1980s onwards, computer manufacturers and providers of computer-related products and services have been directing their strategies towards that new generation. Writing about the booming of Web-stimulated business in 2003, Dutch ICT journalist Monique

46 In their book, *Born Digital: Understanding the First Generation of Digital Natives*, John Palfrey & Urs Gasser (2008: 40-43) maintained that the digital life of Digital Natives begins well before they are born, with the ‘digital dossier’ including the first sonogram stored in various databases [at home, obstetrician’s office, at the hospital and at the paediatrician’s office]. Other entries are added to the digital dossier before, during and after birth.

47 Other birthdays in or around 1980 are also worth noting, namely the ones of the era-marking Cable News Network [CNN] and Music Television [MTV], which reflected the unprecedented expansion of global media that made ‘the preceding thirty-five years appear almost like mounds of dirt against the backdrop of a mountain range’ (Herman & McChesney, 1997: 38-39).
Doppert (2003: 65; see also Buckingham, 2007: 76; Castells et al., 2007: 245) observed that the most successful products and services from the entertainment industry were those designed for, and targeting ‘mostly the generation younger than thirty years who cannot do without the Internet’ [italicisation is mine]. Calculation takes one to somewhere in the mid-1970s, which is not far from the periods suggested by Tapscott [±1977], Van Steensel [±1980], Harwood and Asal [±1981], and Huysmans and De Haan [±1984].

From these authors’ writings, it could be generally said that the Internet Generation was born around 1980 and after, and that its members, having grown up with digital media, have gone – or are going – through what education and technology scholar David Buckingham (2007: 75) has termed ‘Digital Childhoods’. According to him:

… childhood is now permeated, even in some respects defined, by the modern media – by television, video, computer games, the Internet, mobile phones and popular music, and by the enormous range of media-related commodities that make up contemporary consumer culture (see also, Ito et al.: 2010: 30, 32 & 65; Ito, 2007; Deuze, 2007: viii; Hutchby & Moran-Ellis, 2001: 1; Negroponte, 1995: 5).

It is important here to briefly discuss the expressions and concepts ‘Internet Generation’ and ‘Digital Generation’, which have been used interchangeably to refer to the cohort of people with whom I am concerned in this chapter. From the literature on the subject, the stress in the concept ‘Digital Generation’ lies on the hardware or devices that make it possible to conduct certain digital activities such as gaming, computing, playing music, etc. This concept received considerable momentum in the early 1980s with the popularisation of the personal computer (Harwood & Asal, 2007: 2). The concept of the ‘Internet Generation’ appears to stress one kind of activity, namely networking or connecting to the Internet or the Web, which is made possible by digital devices. Since most digital devices now generally connect to the Web, the concepts of Digital Generation and Internet Generation end up referring to the same cohort of people.

48 Journalism and mass communications scholar Mitchell Stephens takes the year 1975 as the starting point for an astounding technological development. Between that year and 1995, the entertainment products referred to by Monique Doppert (2003: 65) first saw the light of day: personal computers, home video games, CDs, home videotape systems, the World Wide Web, the Walkman, CD-ROMs (Stephens, 1998: 88).
Another equally important point is the distinction between the Internet or Digital Generation and the older generation, which is not always clear-cut. Many members of the older generation are intensive users of connected digital devices and, in that respect, belong in some ways to the Digital Generation (Buckingham, 2006: 1-13). The difference is then expressed in terms of digital nativeness [born after the arrival of, and surrounded by, digital media] and digital immigration, which generally determine the intensity [as well as the extent and the type] of interactions likely to take place between digital media and members of that generation (see Huysmans & De Haan, 2003: 177-178; Van Driel, 2003: 144; Palfrey & Gasser, 2008: 115).

Thus, constant interaction with a variety of digital media and objects is presented as a decisive factor in the shaping of the Net Generation, as Tapscott calls it. As he sees it, children assimilate and soak up new technologies, which they subsequently use in a more or less comfortable manner (Tapscott, 1998: 40-41; see also Ling, 2004: 83-121; Castells et al., 2007: 127 & 248-249; Livingstone, 2007: 105; Palfrey & Gasser, 2008: 1). This conceptualisation of the Internet Generation brings together the notions of knowledge acquisition [assimilation, soaking] and feeling comfortable using media technologies. Digital culture scholar Hans van Driel also stresses the assimilation and soaking-up aspects with regard to the way children interact with technological novelties. While an adult first reads the manual and related instructions before inserting a CD-based game into the computer, a child immediately pushes the CD in the CD-player and starts his or her discovery process. For both players, the aim is the same, but the style is different (Van Driel, 2003: 144). It is important to note here that both players are dealing with digital devices and digital objects, which then raises the following question: why do they belong to two different generations? Based on Van Driel’s argument, a distinction should be made between the digital generation and the digital culture in which both players are evolving at different levels of intensity and at a different speed.

Apart from the general assumption that the Internet Generation is inclined towards digital media rather than towards their analogue counterparts (Palfrey & Gasser, 2008: 239), more specific features have been identified as characterising that generation. Interactivity is one such characteristic feature (Tapscott, 1998: 56; Pachler, 2001: 20; Van Dijck 2007: 65 & 70). Discussing the use of this concept from the digital culture perspective, Van Driel (1999: 27-30) called for more caution, because commercial companies have picked up on it as their ‘selling point’, without actually producing interactive products or services. Interactivity should not merely refer to interac-
tion [action-reaction] between the user and the system, but instead, and particularly, to ‘the explicit possibility’ for the user to make choices and make changes in the contents.

On the subject of media-audience relationships, philosopher Jacques Derrida considered the use of the concept of interactivity to be ‘slightly ridiculous’ and claimed that ‘we will never achieve it completely’ (Derrida & Stiegler, [1993] 2002: 58). For complete interactivity to take place, the consumer has to be able to intervene to ‘ask questions, reorient the discourse, propose new rules’, etc., and ‘this is done to such a feeble degree!’ (Ibid.). Considering the concept from the perspective of virtual reality and education, virtual reality scholar Maria Roussou (2010: 248; see also Economou & Pujol Tost, 2008: 243) commented that there is no consensus on what interactivity means, what its goal is, or even whether there are many different types of interactivity: ‘the word has become confusing’.

Computer theorist Lev Manovich (2001: 55-56) also felt that the concept of interactivity was ‘too broad’ and tautological when applied to computer-based media. He preferred to divide it into two broad categories – ‘closed’ interactivity and ‘open’ interactivity – and then into smaller sub-concepts such as ‘menu-based interactivity’, ‘scalability’, ‘simulation’, etc. For other media scholars, interactivity is better understood within the specific context of each medium (King & Krzywinska, 2002: 22-23; Jenkins, [2006] 2008: 137). In this respect, interactivity in computer games or video games is not to be understood in the same light as interactivity in a DVD-based film or in digital television, as different communication technologies enable differing degrees of interactivity. Without entering too deeply into details, one could say along with Tapscott (1998: 78), that interactivity, regardless of its degree or sophistication, its openness or closedness, is at the heart of the N-Gen culture, as ‘N-Geners are refusing to be reduced to spectator status’. Instead, the Web has turned many of them into active creators of contents who use their own or existing materials to create new works, either through remixing, mash-ups or sampling,49 or through other forms of manipulation (Palfrey & Gasser, 2008: 112-117; Burgess & Green, 2009: 58; Jenkins et al., 2009: 3).

This refusal to be passive spectators also manifests itself through the multiple-choice mindedness of the Internet Generation. Observing ‘the generation that is now growing up in the Netherlands’ back in 1994, journalists Birgit Donker and Sjoerd de Jong (1994:

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49 Remixing and mash-ups are described as a ‘type of digital collage’ (Palfrey & Gasser, 2008: 115) and are close to ‘sampling’ which applies to songs and means to ‘take a portion of one song and reuse it as an element in a new recording’ (Ibid.: 116).
3-4) pointed out that those ‘young 1990ers’ wanted to choose for themselves, whatever the circumstances [job, studies, etc.]. The two journalists concluded that this was a case of a ‘multiple-choice generation’. New media writer Chris Anderson (2006: 166) maintained that the many possibilities of choice offered by new media have forced the Digital Generation to migrate from broadcast media to the Web. Empirical research shows, however, that the younger generation has not wholly abandoned old media. Instead, their use of the Web takes place mostly at the expense of, for example, watching TV (Huysmans & De Haan, 2003: 177-178 & 181). Because of the amount of information from which they have to choose while online, the Dutch Education Council referred to the new generation as the MTV Generation,50 ‘a generation that is used to the availability and handling of large quantities of information sources’ (Onderwijsraad, 1998: 8-9; see also Palfrey & Gasser, 2008: 244). The Council advocated an appropriate alteration in the role of teachers, who should become coaches and help the new generation to manage the growing amount of audiovisual information with which they are faced (see also Van Dijk, 2005: 155-156; Anderson, 2006: 98).

Another observation is that the Internet Generation’s style of watching TV is no different from the way they read hypertext, as the remote control has made it possible to continually switch from programme to programme (Van Driel, 2004b: 33; see also Rushkoff, [1996] 2006: 32, 39 & 127; Buckingham, 2007: 76). This non-linear style of watching TV has a great deal in common with reading hypertext, the form that uses hyperlinks to enable the reader to be telepresent, that is, to be ‘simultaneously here and there’ (Lévy, 1998: 37; see also Manovich, 2001: 164-165). With regard to the desire to control media contents through personal choices, one might be tempted to suggest that the Internet Generation, through the hypertexts and hyperlinks that make up the Web, are being offered a chance to be where they want to be – rather than where the older generation expects them to be – in the cyberworld.

It has also been stressed that in their multiple-choice mindedness, members of the Internet Generation often choose and carry out many activities at the same time, a phenomenon referred to as multitasking (Van Driel, 2003: 144; Rushkoff, [1996] 2006: 39-40; Jenkins et al., 2009: 61-62). This kind of distributed attention or

50 Media theorist Douglas Rushkoff ([1996] 2006: 35-36) held that the Music TV channel resulted from the dissatisfaction caused by the linearity of television programming. MTV came as ‘a celebration of the gaps’, whose music contents were quick segments of rock videos that required comprehension on an individual basis: ‘MTV juxtaposes its images so quickly and so disjointedly that it creates another level of imagery. This style of rough, disjointed media was precisely the landscape preferred by the channel surfers [the other name for screenagers]’.
‘multiple threads of thought running simultaneously’ (Salvucci & Taatgen, 2011: 7) is said to have gained prominence thanks to the Web (Somekh, 2004: 57). Unlike other media, the Web makes many sources of information simultaneously reachable and, in doing so, makes it possible to process these multiple-source pieces of information simultaneously. This processing implies a capacity to ‘shift[ing] rapidly among tasks’ (Jenkins, [2006] 2008: 16), without losing track of any of them. It should be mentioned that multitasking as opposed to focusing on one single activity, has often been decried and is frequently equated with distraction. Digital culture scholars dismissed this criticism, arguing that multitasking should not be considered from the older generation’s point of view, but rather within the digital culture, where it involves on the one hand ‘a method of monitoring and responding to the sea of information around us’, and on the other hand, the need ‘to know when and how to pay close attention to a specific input as well as when and how to scan the environment to search for meaningful data’ (Jenkins et al., 2009: 63-64).

Multitasking can be concurrent, if tasks progress either simultaneously or with very short interruptions (Salvucci & Taatgen, 2011: 8-9); or sequential, if one switches tasks after a lengthy period spent executing only one of the tasks (Ibid.: 9). In their book, The Multitasking Mind, cognitive scientists Dario Salvucci and Niels Taatgen (2011: 26) indicated that in some cases, certain conflicts do emerge among tasks that require the same resource at the same time.

Finally, the Internet Generation has been described as being image-oriented, rather than word-minded. This characteristic is itself embedded in the Web, which, since the integration of multimedia functionalities in 1997 (Berners-Lee, 1999: 116), has altered the relationship between the written word and images. Journalist and author Peter Giesen (2003: 98) wondered whether the Web is an image-based medium or a written-word-based one. According to him, on the Web, words are read from a beeldscherm [literally: an image screen] and are generally not read in the literary, attention-demanding fashion. For him, therefore, the Web is much more image-based, as it encapsulates all existing forms of media and brings them to the computer’s beeldscherm (Ibid.: 106). For this reason, as claimed by communications and social computing scholar Alexander Halavais (2008: 42), reading has become ‘browsing’ or ‘surfing’. It has been suggested that most of the onscreen written texts are meant to be read in a non-linear way, which is a break from the traditional left-to-right, top-to-bottom way of reading. This non-linearity involves the use of hyperlinks, the coding system that connects various documents, objects or fragments thereof, to others. Generally distinguish-
able by their blue colour and underlining, hyperlinks have somehow turned words into images, as they are scanned, or zapped through rather than read (Steyaert & De Haan, 2001: 70; Van Driel, 2003: 144; Giesen, 2003: 98). This reading style, popular as it is among the Internet Generation, has earned them another nickname, that of *Zap Generation* (Steyaert & De Haan, 2001: 70).

The homepage of *Kennisnet*’s website, www.kennisnet.nl, the most frequently visited educational Web portal, offers an excellent illustration of the new image-centred and hyperlink-driven reading style. A large percentage of words and all images, with the exception of the main site banner, are hyperlinked. The few non-hyperlinked words tell the reader what to expect on the page behind the link. This page is definitely not meant to be read from left-to-right and from top-to-bottom, but rather to be scanned in search of the most relevant hyperlinks. The suggestion remains, therefore, that written text does still play an important role even on the Web, where it has ceased to be mere text and has become *hypertext* (Oosterbaan, 2002: 16). Similarly, as shown by Figure 2.1, the homepage of the Historical Canon of the Netherlands, www.entoen.nu, is almost an all-image, all-linked page: there is not a single written word, with the

*Figure 2.1: Homepage of the Historical Canon of the Netherlands (Photo: O.N., 1 June 2011).*
exception of the navigational bar and the years marking the broad periods or eras symbolised by iconic representations. Additional text [more precisely: years and window titles] appears when the users position the cursor above an icon, or once they click on one of the icons to reach the back-pages. On those back-pages, almost two-thirds of the page contains a linear text, while about one-third – the right column and the top bar – contains hyperlinked pictures.

Explaining the logic behind the fifty-window website, the Canon Commission stated that ‘after each icon and title follows the story behind the window’ (Commissie, 2006a: 38). This is to say that the image is the beginning point, the doorway that leads to the text. The written word has become an option, but not the first option. The Memory of the Netherlands, another Web-based project managed by the National Library and which targets secondary-school pupils, presents a homepage similar to the one of the Canon, and one that was initially designed as a digital image website that had been intentionally made text-unfriendly (Schouten, 2009a: 11).

In short, the population of school-going children I am currently researching belongs to a cohort of people born around 1980 and after, whose lives are marked by digital media. Beside their general eagerness to interact with digital media, the Digital Generation has been described as seeking much more than mere interaction. They want more control over the contents and the freedom not only to choose but also to carry out multiple tasks simultaneously. In addition, that generation is said to be exceedingly image-minded, mostly because of the multimediality of digital media in general and of the Web in particular. Many major educational projects targeting the Digital Generation have responded to this by integrating enormous quantities of images and hyperlinks in their website design. The last point discussed in this chapter relates to the early attempts of history teachers to appropriate the Web.

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51 This new relationship between the written word and images, and their new roles, fall under what visual media and culture scholar José van Dijck (2002: 39-41 & 45-46) has called a self-adjusting mechanism, whereby media and their forms and properties adapt to each new situation, renew themselves, temporarily lose or gain their hegemony, but never [threaten to] disappear.

2.4 History Teachers and Their Embracing of the Web

Every thinker expresses only that which has been consciously perceived by his epoch, consequently the education of the younger generation in the sense of this consciousness is quite superfluous: this consciousness is already inherent in the living generation (Tolstoy, [1862] 1967: 9).

The previous section discussed one of the two types of actors involved in the history class – the learners – who could be called digital learners, since they belong to the Digital Generation. This section focuses on the other actors, namely the teachers, attempting to trace – from their own writings and those of history education didactics experts and scholars – how they have gradually embraced the Web as a didactic tool. A discussion of the teachers’ embracing of the Web and their thoughts about the importance of the medium is important for this research in the sense that its central subject – the uses of digital media and resources in the history class – involves both learners and teachers. Without this background, the empirical findings presented later in this book would appear to exist in a vacuum. In this section, then, attention is first paid to the pioneering period of the mid-1990s, when early adopters started – on their own or their schools’ initiatives – to integrate the Web into their teaching activities. Secondly, I discuss how teachers and history didactics experts and scholars have managed to share information namely via the magazine of the History and Civics Teachers’ Association [VGN], *Kleio*.

In 1996, history teacher and early adopter of digital media Reinard Maarleveld (1996: 26-27) published in *Kleio* an article entitled ‘Internet in the history class’. He began that pioneering article by expressing a regret: ‘You are reading this article from paper and that is unfortunate, because you could have accessed the sources used to create it with the help of a computer connected to the Internet’. As an enthusiastic user, he had discovered the basics of the Internet, especially its hypertextuality, and the advantage it offered to history teachers:

When I write about Thomas Jefferson for instance, the American flag and the American national anthem … you can immediately search for more information in the United States about these subjects. How is it done? Very simply: you see in the text … that the words ‘Thomas Jefferson’, ‘American flag’ and ‘American national anthem’ are underlined. Put the cursor on the underlined words, click with the mouse and a few moments later you have the information you have requested. This
is what is called ‘hypertext’. If you don’t know what hypertext or the Internet is, it is urgent that you go and take a refresher course. If you don’t know what a cursor or a mouse is, then it’s extremely urgent that you take a refresher course. If you don’t know what a computer is, then it’s too late (Ibid.: 26).

A number of points are important in Maarlefeld’s article: to begin with, it was the first ever to appear in Kleio on the subject of Internet in the history class.\footnote{The Internet should be understood as the World Wide Web, two different concepts that are often used as synonyms (see the beginning of Section 2.1).} Secondly, its intimidating, frightening, apocalyptic tone, a sort of ‘it’s now or never’, is on the one hand a translation of the expectations of early adopters and, on the other hand, an indication of the prevailing anguish among teachers. As seen in Section 2.2, the general idea was that teachers were not part of the network society. This implied that history teachers had to make extraordinary efforts to survive or otherwise they should renounce their careers. Maarlefeld emphasised the hypertextuality of the Internet as the most important aspect he had enjoyed from his experience with the Web, especially because it allows one not only to contextualise historical events, experiences, and figures, but also to expand pieces of knowledge to related, relevant sources.

Around the same period, other history teachers were experimenting with the Web in their classes. For instance, with a 16-computer media room, three history teachers at Cals College in Nieuwegein turned their classes into digital classes (Van Boxtel & Oattes, 1997: 27-29). They divided the class into groups of four and gave assignments that were to be conducted using online resources. The pupils had to report back to the teachers for group evaluations as well as individual evaluations. The teachers were satisfied about the results of this experience. Furthermore, the three teachers also noted certain challenges posed by the new medium: there was too much information, and most of it was in English; it was not always an easy task knowing whether a source was trustworthy. Despite that, their conclusion was unambiguous: it was very profitable and possible to teach history this way, in particular because pupils enjoyed and appreciated the freedom of choice offered by the new medium. Speaking about this unique experience, the teachers remarked that ‘there are fewer low marks, but also fewer high marks. There is now more balance’, despite the fact that ‘the challenge is bigger’. What they found most positive is the fact that the Web made it possible to discover a different side to pupils – a side they would otherwise not have discovered: ‘Pupils whom one hardly noticed in the traditional
class environment suddenly emerge as the motor for the group. The reverse is also observed (Ibid.: 28).

This experiment provides one with some understanding of the perceived influence of the Web on the learning process during the late 1990s. It also brings to light three essential points: first, teachers perceived the Web as fostering collaborative work, as certain pupils developed to become the motors of their groups; second, they perceived it as allowing pupils to show their previously hidden sides, that is, their strengths and/or weaknesses, on the basis of which teachers could develop personalised approaches and solutions; third, they perceived the Web as increasing pupils’ engagement with the subject matter.

For his part, Albert van der Kaap, who was teaching history at Jacobus College in Enschede at the time, was experimenting with the Web as a pedagogic, didactic tool from a different perspective. He had turned himself into a webmaster as early as 2001. Van der Kaap was running his own history class website hosted by his school. He understood that ‘pupils have new expectations based on ICT’ and, for that reason, highly valued the Web, as ‘they want to work in a fast, speedy way’. Not only did he become a webmaster, but his pupils became Web-authors and self-publishers. Learning from this experiment, Van der Kaap spoke of the new challenges facing the history teacher:

Pupils can publish the results of their research in the form of a website. In that respect, teachers must ask themselves a number of questions: as a teacher, what technical knowledge do I need? You must ask yourself what you are going to judge: only the content? Or the design as well? The Web is a communication medium: are you going to check how efficient a pupil is at communicating with the visitors to his site?

The above-mentioned experiments were not part of a larger, coordinated endeavour, but rather the isolated initiatives of individual teachers who were enthusiastic about ICT. However, as early as the mid-1990s, Kleio started publishing not only articles about those pioneer initiatives, but also about the basics of digital media in general and the Web in particular. Oattes, who emerged as Kleio’s new media didactics editor in 1997, authored several articles. For example, he wrote articles on ‘Film, Sound and New Media’ (1997); on the ‘Internet: The First Time’ (1997); on ‘The Media Room as an Impulse to Innovation’ [co-authored with Van Boxtel] (1997); and on ‘The Net in the Class’ (1998); and many other related subjects.

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55 Ibid., p. 23.
He was instructing history teachers on the basics of both the computer and the Web because ‘In many schools, pupils and teachers are discussing the advantages of the Internet’ (Oattes, 1997b: 40). This sort of eye-opening articles for a wider public started appearing in mainstream newspapers starting in 1994 and with growing intensity in 1995.

*Kleio* intensified eye-opening articles in the late 1990s, culminating in September-October 2002 in a special issue dedicated entirely to ICT.\(^{56}\) The articles compiled in that special issue reflected the metamorphosis that the history class had gone through in the previous years. One might say that the Big Project (Section 2.2), which had just completed its *Education Online* phase [September 1998–August 2002], had started to bear fruit. One article demonstrated how history was currently being taught and learnt in ‘Electronic Learning Environments’; another discussed ‘The virtual world in practice: collaborating in Active Worlds’, thereby suggesting that *virtuality* and factuality or materiality were no longer mutually exclusive; yet another suggested ways of learning about ‘The Middle Ages in [digital] Images’. Others were about the National Library’s Memory of the Netherlands project, ‘Het Geheugen van Nederland’; and ‘Virtual exhibitions on the Internet’. The issue also briefly introduced cultural memory websites and digital projects. I should remind the reader that digital contents did not exist in 2002, which explains why history teachers were being provided with an overview of the few existing digital projects relevant to their discipline.

The 2004 *History didactics: Handbook for teachers* (Wilschut et al., 2004), in particular the chapter on ICT, could be regarded as an assessment of the experiments and findings of the previous ten years or so. The authors, all prominent history didactics experts – Arie Wilschut, Dick van Straaten and Marcel van Riessen – identified, among other things, the potential of new technologies vis-à-vis the teaching process, and formulated recommendations for teachers. The assessment focused on the five main functions of ICT in the history class, and remarked that [1] ICT offers and facilitates access to an unlimited number of sources, which is ‘unthinkable with traditional means’; [2] it makes the presentation of the resources found more attractive and helps teachers to structure their presentations in a logical way; [3] it has simplified the editing of resources; [4] it has speeded up communication between teachers and pupils via e-mail and other learning environments; [5] finally it offers good testing and evaluation options for history teachers (Wilschut et al., 2004: 200-212; see also Kanselaar & Andriessen, 2000: 96). Wilschut et al. (2004: 199) stressed that ‘working with a computer

\(^{56}\) *Kleio*, 6, September/October 2002.
motivates pupils’, and ‘surely makes history education more attractive’. Therefore, they concluded, departing from the previous print-dominated era, each course should be supported with digital illustrations, because only then would pupils be able to ‘follow the lesson easily’ (Wilschut et al., 2004: 204).

Despite this praise of the Web and the new didactic possibilities it offered, other voices have called for caution. For instance, in its 2006 report entitled Naar meer evidence based onderwijs [Towards More Evidence-Based Education], the Education Council observed that teachers tended to adopt new approaches and methods without having any evidence of their efficiency and superiority over existing ones (Onderwijsraad, 2006: 12; see also Haydn, 2003: 11 & 13; see also Buckingham, 2007: 177). In an earlier report – www.webleren.nl (2003) – about Web-based learning, the Council recognised the existence of tested or evidence-based methods and to-be-tested Web-based methods. It suggested that teachers would have to find a balance between these two categories (Onderwijsraad, 2003: 34).

I started this section with one aim in mind: to map the early integration of the Web into the history class. This mapping has shown that integration began with the pioneering initiatives of individual teachers, who, as they discovered the new medium’s potential, used Kleio to exchange experiences and views with colleagues. Early experiments showed that the Web had many advantages as a pedagogic tool for the history teacher: it made contextualisation easy through hyperlinking, it increased the efficiency of collaborative learning while bringing to light previously hidden strengths and weaknesses of pupils, and it introduced new communication skills among pupils through online self-publishing, to name a few. It is also clear that the History and Civics Teachers’ magazine Kleio played an eye-opening role from the mid-1990s onwards. The above-mentioned experiments and the ground-breaking work by Kleio showed that, although the Web was a useful tool for history education, it should be approached with some caution.

### 2.5 Summary

This chapter provided a short but comprehensive background of four main aspects relevant to my research, namely, the Web, official policies leading to its integration in education, the Internet Generation, and the early attempts of history teachers to appropriate the Web. With regard to the Web, as I pointed out, just after its birth in the early 1990s, activists and hackers succeeded in making it available to a wider Dutch public and even managed to associate themselves with official institutions in order to create the freely accessible Digital City. I also mentioned the fact that, unlike the in-
vollvement of local official institutions in digital cities and villages, government officials remained in the margins. The main loser in this situation was the educational sector, which is generally forced to rely on government investment rather than private investment.

On the subject of government policies on connecting education to the Web, I reviewed the various steps taken by the Ministry of Education, Culture and Science in order to bridge the gap between education and the rest of society. I discussed the Big Project, the multi-million investment plan that ran from 1997 until 2005, highlighting the successive stages it went through. Although the plan’s implementation witnessed many shifts in focus, it ultimately managed to fill the gap. All schools have been equipped with computers that are connected to the Web since 2005.

The Internet Generation, the subject of my research, has been presented as referring to the cohort of people born around 1980 who grew up – or are growing up – with digital technologies. Interactivity was identified as one major feature about which members of the Internet Generation are enthusiastic. They are exceptionally interested in media objects that offer them the possibility of bi-directional engagement. Control over media contents is another major feature that characterises this generation. In one sense, control refers to the freedom to choose which route to follow when using media objects and contents. In another sense, it implies the possibility of engagement with many of those contents and objects simultaneously, without losing track of any of them. Image-mindedness, too, was identified as an important characteristic, which has been amplified due to the visual nature of the Web itself.

Finally, this chapter briefly traced the early appropriation of the Web by history teachers. A number of pioneering initiatives of individual teachers show how history teachers were being seduced by the Web. Some welcomed the new ways in which it easily provided historical contexts; others discovered that it created a favourable environment for collaborative learning that brought to the surface previously invisible strengths and weaknesses of pupils; yet others found that it was an empowering tool, as it provided pupils with an opportunity to publish their own historical accounts. By now, I have discussed the medium and the subjects at the heart of this research. The medium is digital, and the Internet Generation is described as being digitally minded. The missing piece in the puzzle is the digital contents intended specifically for that medium and designed with the Internet Generation in mind. The next chapter focuses on the digitisation of cultural heritage collections for educational purposes.