Evaluating Digital Resources in Teaching History

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Abstract. This research article underscores the critical role of specialized digital literacy in history education for both teachers and students, with a specific focus on primary and secondary educational levels. Drawing upon a comprehensive review of existing literature, the article illuminates the essential digital literacy skills required to evaluate online information credibility. Furthermore, the article critically assesses different models of online information assessment and examines empirical research on user approaches to determining internet information credibility. The authors underscore the need for students to acquire the fundamental skills necessary for proficient digital resource evaluation before any expected academic improvement. The authors also introduce disciplinary literacy as a tool to enable readers to inquire and acquire knowledge. In sum, this research article underscores the vital importance of digital literacy in history education and offers valuable insights for educators and researchers.

Keywords: Digital Literacy · History Didactics · History Teaching

1 Introduction

In the realm of education, a diverse array of teaching materials and methodologies exist with the aim of achieving desired educational objectives. When it comes to instructing students in the discipline of history, a key emphasis centers on the analysis of sources. Within this context, students are expected to engage with primary and secondary sources either autonomously or in a collaborative setting, with or without guidance from the instructor. By working on sources, students practice historical skills by collecting sources, analyzing them, and creating conclusions or historical narratives. The precise form of pedagogical instruction is contingent on the accessibility and familiarity of the sources at hand to the instructor. At present, sources can be accessed not only through traditional books, textbooks, and printed materials but also via an array of digitized archives, digital libraries, and repositories. The available sources have expanded beyond printed materials over the past few decades and now encompass a range of multimedia formats, such as documentaries, feature films, newsreels, and audio recordings, as well as contemporary 3D objects and immersive technologies, including augmented and virtual reality.

The advent of the digital age has transformed the way in which information is produced and disseminated. The digital environment has enabled anyone to be an author, which poses a significant challenge to information credibility. The lack of oversight and editorial review on many websites, combined with the ease with which digital information can be altered, plagiarized, misrepresented, or created anonymously under false pretenses, compounds the problem of credibility. While the body of written sources has continuously expanded throughout history, the advent of the internet has facilitated self-publishing on an unprecedented scale, with speed, and with minimal regulation. However, the abundance of digital sources has introduced challenges in navigating through the sheer volume of available sources, making the scrutiny of source material and its veracity a pivotal issue [1]. Despite these challenges, the increase in available source material has facilitated the discovery of new insights into the past. The imperative to ascertain the authenticity of sources in contemporary times has led to the emergence of a distinct subfield of historical scholarship known as diplomatics.

The body of written sources that have informed our understanding of the past has been expanding continually, irrespective of the medium on which it is inscribed. Two historic events in particular stand out as being especially transformative: the introduction of movable type printing in the 15th century and the advent of the Internet into society towards the end of the 20th century. In relation to the printing press, its most significant consequence was the marked reduction in the cost of book production, which facilitated wider access to literacy for both publishers and readers alike. Nonetheless, the potential pool of publishers remained relatively limited. The revolutionary nature of the Internet, on the other hand, stems from its capacity to enable every user to become a content creator, thereby facilitating self-publishing on an unprecedented scale, speed, and with minimal regulation. Nevertheless, the utopian vision of media democratization appears to be mutating into a dystopia. The process of digitization has impacted not only the pedagogical practices of history teachers, but also the research methodologies of historians. While the dramatic increase in available source material has facilitated the discovery of new insights into the past, it has simultaneously introduced challenges in navigating through the sheer volume of available sources. Today, the number of digital titles on a researcher's computer or in the cloud can easily exceed the number of books available in the local public library. The scrutiny of source material and its veracity has been a concern since the inception of written records, with the detection of fraudulent documents being a pivotal issue. The imperative to ascertain the authenticity of sources in contemporary times has led to the emergence of a distinct subfield of historical scholarship, known as diplomatics.

An increasing number of books are being published without the involvement of professional editors or reviewers. The most recent approximation suggests that there are approximately 1.7 million self-published book titles produced annually [2]. Additionally, the total number of websites in existence worldwide is estimated to be around 1.14 billion, of which only 17% are deemed to be active, with the remaining 83% deemed inactive [3]. It is noteworthy that the majority of these websites are not created by established legacy institutions, such as museums, libraries, or archives, nor are they published by prominent publishing houses [4]. The potential of artificial intelligence for the analysis of sources and the synthesis of research results will significantly increase the number

of historical research and the dissemination of their results in the coming years. Thus, it is quite appropriate that the recommendations of the Council of Europe on the teaching of history in twenty-first-century Europe establish that digital resources have become an essential part of historical education. When used effectively, such resources invite questions about the authority and reliability of information and significantly increase access to historical information and multiple interpretations of the past. They can also contribute to the development of students' critical faculties, intellectual autonomy, and resistance to manipulation [5].

The proliferation of the internet has fundamentally altered the way individuals access information, and the vast quantity of information available online raises issues of both credibility and quality. As a result, the responsibility of ensuring the reliability of information has shifted from professional gatekeepers to individual information seekers, underscoring the necessity of critical evaluation of online sources. However, despite the paramount importance of developing the requisite skills for evaluating web-based information, extant research provides evidence of a knowledge gap among internet users regarding the assessment of online sources [1, 6]. In addition to the problem of choosing the appropriate source, there is a growing problem of distortion of historical narratives and falsification of sources.

Information technology is of no value in itself or by itself: it needs questions to drive it and disciplined forms of thinking to make sense of the answers that it can provide [7]. The pace of technological development has been so rapid that teachers have found it difficult to find time to reflect fully on how best to incorporate new applications into their teaching [8].

2 Plethora of Literacies

So-called digital natives know how to use ICT and the Internet, but this does not mean that they are critical in their use. There are many similar models for assessing the credibility of information found on the Internet: information literacy, digital literacy, digital citizenship, media literacy, news literacy, online reading comprehension ability, etc. The competence to proficiently search for, appraise, and authenticate social and political information online, referred to as civic online reasoning, is an essential skill set in today's digital age. Its mastery is crucial for individuals to make informed judgments about the reliability of the available information and prevent the formation of conclusions solely based on personal beliefs. However, it is essential to note that civic online reasoning is a distinct skill from other related digital competencies, such as digital literacy and online citizenship [6]. Efforts to educate and train users on establishing credibility in the online environment began soon after the issue was recognized, and many of these efforts were associated with the "digital literacy" movement. The literature outlines five criteria that users should apply when assessing the credibility of online information: accuracy, authority, objectivity, currency, and coverage. Accuracy pertains to the freedom from errors, the verifiability of information, and the reliability of the information on a website. Authority is assessed by examining the author's credentials, qualifications, affiliations, and whether the website is recommended by a trusted source. Objectivity involves identifying the purpose of the website, whether the information provided is fact or opinion,

and whether there is commercial intent or a conflict of interest. Currency refers to the timeliness of the information, while coverage pertains to the comprehensiveness or depth of the information provided on the website [1].

Navigating and engaging effectively in a digital world is crucial for individuals to become empowered citizens. While there is no single definition of digital literacy, numerous international, national, and local frameworks have been developed to promote and assess this skill, particularly among educators and students at various educational levels and citizens. Open, distance, and digital education has a lengthy track record of exploring and incorporating digital literacy into teaching and learning practices. However, due to the extensive research conducted on digital literacy since its inception in the late 1990s, comprehending the vast amount of information on the topic can take time and effort. Despite abundant research, there is still no universally accepted definition of digital literacy, and the concept continually evolves within the ever-changing digital landscape [9].

As one of eight key competencies for lifelong learning recommended by the European Commission, Digital competence involves the confident, critical, and responsible use of and engagement with digital technologies for learning, work, and participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competencies related to cybersecurity), intellectual property-related questions, problem-solving, and critical thinking [5]. Individuals should be able to use digital technologies to support their active citizenship and social inclusion, collaboration with others, and creativity toward personal, social, or commercial goals. Skills include the ability to use, access, filter, evaluate, create, program, and share digital content.

3   Criteria for Evaluating Sources in Teaching History

Diplomatics is an interdisciplinary subfield of historical scholarship that deals with the study of documents and their authenticity, origin, form, and purpose, as well as the institutions and practices involved in their creation, transmission, and preservation. It seeks to understand these documents' historical context and significance, including the individuals and institutions involved in their creation and use, the social and political contexts in which they were produced, and the broader cultural and intellectual currents that influenced their development.

For the past decade, Dr. Simon Bates, the Associate Provost of Teaching and Learning at the University of British Columbia, has given a series of lectures that elucidate the role of teachers in the digital age [10]. Dr. Bates' "Anatomy of 21st Century Educators" model comprises six key roles educators must fulfill. Firstly, they must be proficient in facilitating learning by comprehending how students learn and devising practical learning activities. Secondly, they must act as curators by generating and consuming appropriate educational resources. Thirdly, they should possess technical skills to effectively use learning technology. Fourthly, they must collaborate with colleagues from diverse fields to enhance their educational approaches. Fifthly, they must remain abreast of research-based and appropriate pedagogical methods to act as scholars. Finally, they must be willing to experiment with new pedagogical approaches and technologies, reflecting upon their efficacy and learning from their experiences.

We can enable students to search for information and sources freely or let them work under the "glass bell" of pre-prepared controlled sources. Stradling (2003) suggests that the teacher should carefully choose internet sites to give students [11]. A positive consequence of that model is the complete control of the content, but the negative aspect is that students need to prepare for the real world. He advised the teacher to evaluate the websites based on their intended purpose, source, access, ease of navigation, design, and content. According to Stradling, an internet researcher must consider the following:

is it a primary or secondary source

who wrote the document

what does the document tell us about the author's position and thinking

for whom it was written

why was it written

what kind of document is it

what are the main messages the author wants to convey

can other sources confirm the information in this document

whether the information is correct

which the document does not tell us

is there evidence of the impact of this document on the people for whom it was written

have any documents have been produced in response to this

why the document was saved

why the document is included on this website

Based on his model Hajdarovic (2010) proposed criteria for the evaluation of websites on historical topics: credibility, accuracy, objectivity, content and functionality, and age appropriateness of students [12].

Fundamentally, the evaluation of digital resources for teaching history relies on the fundamental historical skills students acquire from their earliest exposures to history. In order to highlight the particularities of the digital world that contemporary students inhabit and operate within, these skills must be augmented with elements of digital literacy. Therefore, to ensure a high evaluation standard, it is recommended to structure the evaluation model into two distinct categories: activities designed for the teacher and activities intended for the student.

Metzger proposed four methods for evaluating the credibility of online information in the literature. These include [1]:

1) The checklist approach involves users asking and answering a set of questions to evaluate each criterion. However, this can be time-consuming and labor-intensive for individuals to perform for every website they visit.
2) Ascribing cognitive authority to internet information encompasses both credibility and quality.
3) In the iterative model, the seeker assesses the authority and credibility of the author, document, institution, and affiliations, combined into a global judgment of credibility. Strategies such as verifying a website's author and institutional identity through reputation or qualifications, considering the factual accuracy of the document and its presentation, and examining overt and covert affiliations of the website contribute to an overall impression of cognitive authority.

4) The contextual model, which focuses on external information to the site, recommends three techniques to determine the quality of online information, including promoting peer- and editorially reviewed resources available online, comparing information found on a website to other web sources or offline sources such as newspapers, peer-reviewed articles, or books, and corroboration, which involves seeking more than one source to verify information on a given topic.

3.1 Student-Oriented Criteria

In light of digital media's challenges, it is worth acknowledging that today's students are exposed to a diverse array of narratives, historical accounts, and social and political discourses that transcend national borders. This is facilitated mainly by the formidable influence of digital tools, which offer unparalleled power compared to traditional paper books. Multimedia in nature, digital resources seamlessly integrate audio-visual and written formats and enable users to perform cognitive operations related to information organization and retrieval effortlessly [13]. The widespread availability of applications and websites that offer visually-rich graphics and video sequences has led students to prefer them over text-heavy sites. While digital media offers students and citizens an extensive array of visual materials, there is no guarantee that they will accurately interpret them in line with their historiographical significance. Pre-existing knowledge, which can often manifest as prejudice or stereotypes, plays a vital role in the learning process, underscoring the importance of comprehending how historical concepts can be elevated to more intricate and disciplined representations of the past. Conversely, the historical concepts held by students and citizens frequently stem from national master narratives constructed from idealized and essentialist depictions, resulting in overly simplified representations [13]. Undoubtedly, students require fundamental techniques to decipher the text. Disciplinary literacy reinstates control to the reader. Sourcing demands that readers interact with authors, questioning their qualifications, investment in the narrative, and stance regarding the event they describe [14].

Gathering information online poses several challenges for students, particularly concerning searching for and assessing the credibility of sources. In the context of an unregulated internet search, young individuals tend to view the order of search results as a reliable indicator of the trustworthiness of websites. Instead of meticulously assessing information based on its source's credibility or the accuracy of its evidence, students rely on several heuristics commonly used by adults. These include website design, navigability, and how well the content aligns with the information sought by the students [6]. McGrew et al. (2018) conducted a study where 15 tasks were created, and 2,616 responses from middle school, high school, and college students were collected. The findings reveal that students needed help performing fundamental assessments of authors, sources, and evidence. History teachers must aid them in acquiring the skills essential for locating dependable sources. When considering the criteria for evaluating digital sources, a fundamental question arises regarding the skills and abilities students can apply before and after acquiring knowledge of the topic. Before acquiring basic knowledge about a topic, it is crucial for students to investigate the source's credibility. This involves asking questions such as who is behind the information and not only considering the author but also the creator and maintainer of the website. Once students have

acquired basic facts, they can utilize adapted historiographical content analysis to evaluate sources based on various factors, including the type of source (primary, secondary, encyclopedias, dictionaries, textbooks, and other reference materials), the presence of a reference list, the use of professional or scientific formatting, the objectivity of the text, and the inclusion of different perspectives.

Novice readers often rely solely on the information presented within the text, while historical readers view the text as a gateway to a different era. Contextualization establishes the setting and time frame for the text. Disciplinary literacy requires that students utilize their total intellectual capacity while reading. In addition to sourcing and contextualization, corroborating details and closely examining the text are essential components in comprehending historical literature [14]. The Stanford History Education Group's curriculum, "Reading Like a Historian," centers around the duty of citizenship rather than the profession of history. This approach is particularly relevant in the digital age.

Digital misinformation has been a concern since the medium's inception, prompting extensive research to develop critical approaches for evaluating online information. Despite these endeavors, recent studies indicate that students need help critically analyzing digital information. One of the contributing factors to this issue is the need for more emphasis on critical analysis in the early stages of the educational system, as well as an insufficient emphasis on these concepts throughout secondary school. Although fake news has been a persistent problem, the failure to incorporate critical analysis in the curriculum exacerbates the challenge of digital misinformation [15, 16].

3.2 Teacher Oriented Criteria

The term "digital teacher competencies" refers to a collection of skills, attitudes, and knowledge that educators must possess to facilitate student learning in a technology-driven world, transform classroom practices, and enhance professional development. Educators must be able to evaluate digital texts critically and make connections within the school context, especially given the rise of fake news and the abundance of information accessible online [17]. Research has indicated that when deciding on the credibility of a website, adults rely on cues and heuristics such as the search engine's authority, the design and functionality of the website, previous experience or referrals to the website, and perceived expertise [6].

Research has demonstrated that the skills cultivated in historical inquiry, known as historical thinking, align with informed and critical digital citizenship principles. Historical thinking encompasses proficiencies in information assessment and analysis [15]. When researching the evaluation of websites, Goulding combines the research of Hilligoss, Rieh, Metzger, Wathen & Burkell. Heuristic assessments allow quick judgments without deep engagement with information and are used when cognitive load or motivation is high. Hilligoss and Rieh identified four categories of heuristics in online evaluation: media-related, source-related, endorsement-based, and esthetics-based. Disciplinary heuristics of sourcing, corroboration, and contextualization were of limited value in evaluating websites. Wineburg and McGrew suggested going beyond the website and using tools like Google Search to corroborate and contextualize the site.

Kelly used the deliberate creation of fictional historical narratives as a teaching method on two occasions [4]. As part of the Lying About the Past course, Kelly's students

created the Edward Owens hoax in 2008 and the Reddit serial killer hoax in 2012. While the ethical implications of such an assignment can be questioned, Kelly utilized this unconventional method to transform the creation of forgeries into an educational tool. In doing so, his students enhanced their historical and digital skills through group work while honing their creativity. Historians often stress the importance of teaching students to think historically, and Kelly's approach to this assignment allowed his students to do just that.

4   Conclusion

In conclusion, the democratizing potential of the Internet has brought forth a critical responsibility for individuals to evaluate the veracity of online information carefully. Social studies classrooms are crucial in equipping students with digital literacy skills to navigate this challenge [6]. As online sources increasingly become the first choice for students, historians need to consider the many ways students use these sources to create new forms of history. While the limitations of textbooks restrict their format, online resources can aid in students' historical research and broadening of historiographical horizons. However, caution must be exercised as online material can be selective, intentionally spread misinformation, or promote specific ideas or political groups [11]. Applied digital literacy is essential for developing historical literacy and critical thinking. Despite the increased workload on history teachers due to digitization and technological progress, addressing this issue has become unavoidable in the fake facts and post-truth era.

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