



Digital exploration of the image in the Middle School History Lesson: didactic approaches

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Abstract

Digital tools are part of the current teaching and learning landscape. Learners live not just surrounded, but rather imbedded in the digital world, they are knowledgeable about it, so students and teachers consider the virtual possibilities as assets towards a motivating educational experience. History education benefits enormously from developing new ways to attract, motivate and engage students, and digital tools applied to History are a powerful means to enable autonomy and drive in the learning community. Particularly in Middle school teaching, History is a fertile ground on which differentiating and enriching digital tools may be applied. Therefore, this presentation aims to provide an overview on the benefits of online pedagogical resources, as well as, and foremost, to present and showcase the main pedagogical digital tools that the Portuguese history educational textbooks and publishers are applying and developing: to make History ‘alive’, and be able to ‘see’ historic moments when they happened, to interact with primary images sources through the digital resources presented, may derive and foster the competencies of communication in History, analysis and evaluation, making the students take ownership of their learning process, all peaking the students’ critical thinking which, in turn, will promote the holistic development in the subject of History.

Keywords: differentiation; digital solutions; motivation; teaching tolls for History; technology

1. Visual literacy in the History lesson

Teaching History becomes as more effective as the pedagogical resources are relevant and diversified. Teachers must facilitate and heighten the student’s learning process, which, desirably, would become increasingly autonomous and meaningful for each of them. To pursuing this goal, the visual resource is a powerful ally to the learning of History, in any cycle of studies, in and beyond the classroom. This is why visual education is so helpful — teachers may show and discuss what they are not able to explain orally or what the students may not be able to comprehend from textual sources. Visually-based teaching empowers learners by opening new possibilities for sharing. (Kedra & Žakevičiūtė, 2019).

Regardless of the individual learning styles, to ‘see’ History while happening, to be able to interact with it adds, significantly, to the learning process: “Students themselves mention that

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images make the past seem more accessible, giving concrete shape to a world that sometimes seems intangible”, as Anna Pegler-Gordon (2006) put it. In this age of the internet, in which the world is always visible to us, and visible to us through whatever technological means we have next to us, visual literacy is important towards developing a more empathic relationship between the learner and History.

So, what do we mean by visual literacy? As defined by its creator, John Debes in 1969, “Visual Literacy refers to a group of vision-competencies a human being can develop by seeing and at the same time having and integrating other sensory experiences.” (Central Connecticut State University, accessed 20th July 2022, <https://libguides.ccsu.edu/c.php?g=736311>) Teaching digital-native students implies, ever more, a holistic approach, imbedding History teaching in to technological means they are familiar with. Empowering students regarding their historical learning implies resorting to source analysis sustained in their critical thinking, thus “developing the process of historical thinking/understanding/imagination” (Dilek, 2009, p. 666. <https://files.eric.ed.gov/fulltext/EJ847774.pdf>, accessed 20th July 22), which can be enhanced by the use of digital and visual supports. The historical objects which have the quality of visual evidence have an important place in history education, being the visual materials one of the most effective tools in developing the students’ understanding, as pointed out by Graff (Graff, cited by Dilek, 2009, p. 668).

Using visual aids in the History lesson can be, as we said, an asset for both the teacher and students, promoting self-reflection (Rodrigues, n.d.), and teachers need digital resources that promote the application of different techniques and activities to analyze visual elements in their classrooms in order to develop students’ critical thinking and visual literacy skills (Romero & Bobkina, 2021). However, the resource must be thoroughly planned, as one must analyse to what extent does it efficiently support students’ learning, to what extent it challenges them... in other words, pedagogical intention must be present every time a teacher prepares and uses a visual resource. To work with imagery in class must imply a broad analysis of the context in which that resource was produced, focusing on the political, social and economic environments that surrounded that work, and how did public opinion react to it (cf. Pegler-Gordon, 2006).

It is sometimes, or often, noticed that in the History lessons, imagery is primarily used as a motivation or an attention hook, being explored in the written or oral way (Molina, 2007, p. 24); however, there are other ways to include and actually make it the cornerstone of the learning process... For example, teaching the Holocaust is a strong example of the power, richness and need of imagery in the History lessons: my A-Level students are profoundly drawn to this topic and part of this has to do with the impact that the images we all know have. Of course, we, teachers, must carefully select the images for students to analyse and evaluate, otherwise, and in this specific topic, we may easily get frozen by their ruthlessness, and hinder an exercise of empathic historical evaluation. But, if selected with varied pedagogical and scientific purposes, aiming that students reflect about not only control,

segregation and killing methods, but also about the causation and the interpretation of the Holocaust, then images and filming are one of the most meaningful resources to deepen and broaden historical critical reasoning.

2. Digital solutions in service of visual literacy in Portugal (Middle School)

Digital technology has made images more readily available and easier to incorporate into teaching and learning materials” (Hall, 2013). Currently, in the Portuguese educational market, publishers have been looking at tools which enable the best possible educational ‘profit’ from iconographic resources, by exploring and interpreting them efficiently, quickly and in great detail, all to match the quick interaction pace most student are now accustomed to, and the short length of lessons. Therefore, Portuguese textbook’s teams of authors have been investing on this, as the digital potential is enabling new and innovative strategies of exploring the image in historical education. Images are, generally, of easy access (in books, newspapers, magazines, internet, etc.), and recent studies show that classroom teachers, regardless of their disciplinary area, or that of the country they teach in emphasise that they understand the need to include more visual content in learning activities. (Özsoy & Saribas, 2021, p. 82). Portuguese teachers are no exception and nowadays, they resort to interactive experiences that boost the use of the image as the starting point for the construction of knowledge.

In this context, the text’s focus will now be on the newest and differencing digital solutions for the pedagogical exploration of imagery (whether it be photographic, illustrated, or even a painting) in Portuguese History Middle School textbooks, this meaning, the approaches that this digital era empowers the teacher with, so that the visual resources may be analysed as in depth as possible.

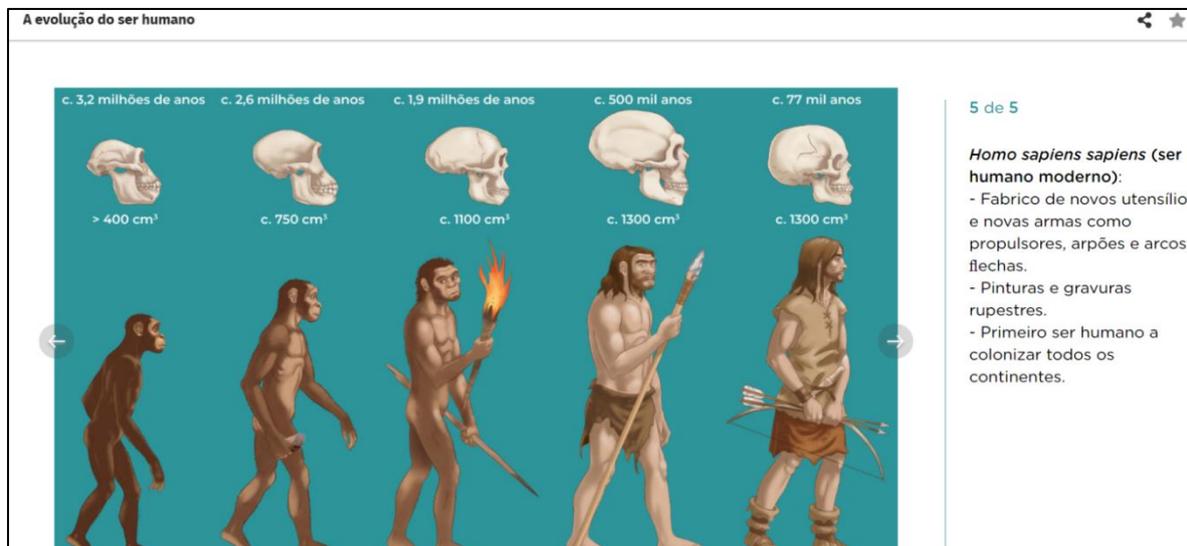
Infographic in progress

While still images also use complex visual conventions about which students should learn, teachers suggest that such images require students to do more of their own work focusing on details, scanning the background for useful information, and comparing images to one another. (Pegler-Gordon, 2006).

How it works – the image is presented in different moments. The students do not access it as a whole in their first visualisation, but participate and command the progression of the image, being autonomous to go forward or backwards through dedicated menus. This is suitable for images which convey evolutive content.

Didactic approach – this solution is most appropriate when the teacher aims to focus the student on details, or to enable him answering specific questions about the image.

Didactic potential – the step-by-step exploration of an image allows the student to gradually discover it according to their pace or the class’ pace, only moving on to another level of analysis only once the previous was fully mastered.



Source: Sousa et al. (2021). "A evolução do ser humano". Aula Digital. H.7, History Year 7.
<https://auladigital.leva.com/share/a410f63c-d74b-4138-b6d9-4f45fe1b1aac>

Image galleries

How it works – this is a resource of great visual stimulus, as it presents not one but several images on a particular matter. It is one of the most popular strategies when the goal is to categorise and organise several images under a specific topic. Some galleries can be enriched with informative content.

Didactic approach – this resource is an excellent tool to accompany the teacher and act as the entire-lesson resource. Art and architecture contents are specially suited for this kind of resource.

Didactic potential – in one single resource, the teacher has all the images to explore in the lesson at their disposal, without having to manage different files and folders for a single lesson.



Andrade et al., (2022). "Galeria de imagens", *Escola Virtual. Somos História. History Year 8*. <https://app.escolavirtual.pt/lms/playerteacher/resource/18700774/E?se=&seType=&coId=18856371&bkid=25431815>

Image Slider

How it works – an image slider is an animated WordPress design element used to display videos and images (<https://elementor.com/resources/glossary/what-is-an-image-slider/>). This is an image with a control bar, in which the image progresses manually, allowing the user to control its progression, in a user-friendly way. This solution provides a movement sensation to the image, as the transitions are fully controlled by the user, in what becomes a very attention-grabbing tool.

Didactic approach – this tool does not apply to all images, as not all have the technical features that justify this digital approach. This tool is highly appreciated by other subject areas as in Mathematics, particularly for the demonstration of solid shapes. However, it can also be applied to the History lessons, specially with 3D images or moving images, as one of the hierarchical structures of different civilizations.

Didactic potential – in a meaningful interaction, this is a very visual and appealing digital approach, and a clear example of the digital possibilities, allowing to visualize a progression *in loco*, which is not possible through the traditional and physical means.



Oliveira et al., (2021). "As sociedades egípcia, ateniense, romana e medieval". *Aula Digital. O fio da História. History Year 7*. <https://auladigital.leya.com/share/359e6797-cca3-433e-86a2-d92a4ceb0b38>

Virtual Tours/360° Images

How it works – in the impossibility of traveling to spaces of pedagogical relevance (past, present or even future) virtual visits/360° images have become an effective substitute that allow to “travel to” and explore them with the classes. The diffusion of 3D technology has increased the range of practical applications on images and, also, publishers in Portugal have been increasingly investing in this type of digital object, in which these images can be placed in a sequence with an interactive walkthrough, that simulates the process of a real-life and realistic environment. Additional audio and textual information (organised through hotspots) can be integrated to create a guided tour.

Didactic approach – the increasing virtualization of libraries, museums, galleries and monuments has opened room for new experiences in approaching the historical content related to this type of heritage. Thus, historical contents associated with these places of memory are preferred for this type of didactic resource. But it can also be an excellent method to explore content that the teacher cannot empirically show to their students, for example, a medieval lordship (see example).

Didactic potential – the experience of a student when looking at a photo of the pyramids of Giza compared to the experience of manipulating a virtual image of the same pyramids is very different: more enriching and inspiring, the virtual tour is perhaps one of the image exploration methods that most favors students' empowerment as “virtual tours are more than engaging simple photos. A virtual tour can be re-used, altered to specific needs, seen in

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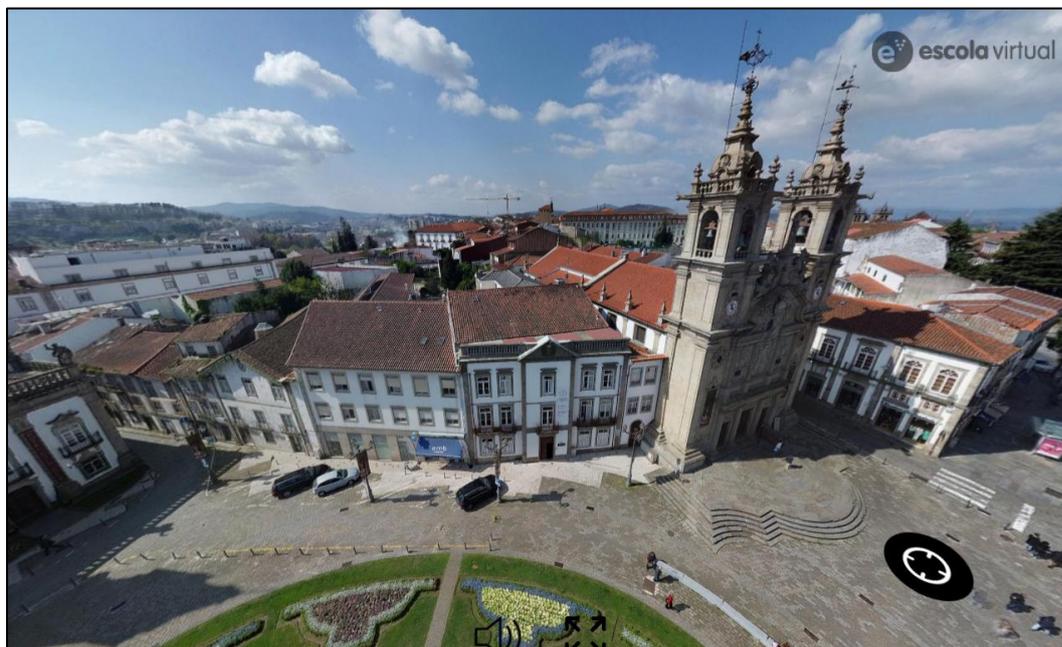
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student's own pace, accessible at any time and place and therewith provides a flexible learning experience" (D. Zhang, Zhou, Briggs, & Nunamaker, 2006).



Amaral et al. (2022). "Visita 360° à Igreja de Santa Cruz". *Escola Virtual. HSI 8. History Year 8*. <https://app.escolavirtual.pt/lms/playerteacher/resource/18652550/E?se=&seType=&colId=18849248&bkid=25325317>

Interactive Image Map (layers)

How it works – interactive maps can be categorized according to the level of interaction they enable, from low to high, ranging from basic interactions, like zooming, displaying additional information by clicking or mouse hovering. The most developed ones allow for search tools and filter information, and even analyse data inserted in the map.

Didactic approach – working with maps and graphics can be a real challenge for teachers, either because of the volume of information that is sometimes presented or because of the presentation options themselves, despite the wealth of historical information that can be extracted from cartographic representation being very meaningful. As maps and graphs are an unavoidable and even privileged image typology for the acquisition of historical knowledge, but not being, in most cases, an attractive image in the eyes of students, this interface solution can be an excellent resource when it comes to working with contents explained in maps and graphics through different layers.

Didactic potential – the use of images with a lot of information and which is best taken advantage of when it needs to be explored in a piecemeal and joint way, allowing its interpretation by layers (isolated or together). Once again, the potential of digital is evident here, allowing students and teachers to assertively explore maps that school textbooks, on physical paper, do not allow.

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Oliveira et al., (2021). "Peste negra". *Aula Digital. O fio da História. History Year 7*. <https://auladigital.leva.com/share/ec4ff405-7449-494a-a4f5-3e9ee3f7fc23>

Interactive images with hotspots

How it works – suitable for complex images, with a great deal of information and that require close attention to detail. It is important that the image contains multiple and relevant information.

Didactic approach – it is a particularly interesting resource for when the teacher wants to guide students in a detailed exploration of an image, training and improving their observation and interpretation abilities.

Didactic potential – the image analysis may be as in depth as richer the image is: paintings, publicity, photographs and cartoons are excellent iconographic objects for this sort of implementation/resource.



Oliveira et al. (2015). "Guernica, de Pablo Picasso". Aula Digital. O fio da História. History Year 9. <https://auladigital.leva.com/share/6c806a69-716d-422d-8c6b-ca62e1cfd2f>

Before and after slider

How it works – this digital educational object allows users to effortlessly compare two images with an interactive slider feature. It is possible to opt for vertical or horizontal sliders. This resource may become impactful in class, given its strong visual component and is easy to use, simply moving the controller and dragging the image that the teacher wants to explore.

Didactic approach – the before-after interaction is usually used to show comparisons and change (for example, past-present, interior-exterior), presenting itself as a very efficient solution when the teacher aims at comparing two images side-by-side.

Didactic potential – this is a very suitable tool to highlight benefits, tell a story, compare images as well as easily emphasize the differences between them, promoting a more immersive learning.

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Sousa et al. (2022). *Descobrir uma nau quinhentista*. *Aula Digital. History Year 8. Leya*.
<https://auladigital.leva.com/share/c48e6c57-bd91-4165-a684-e0f31e4cee3c>

Time Machine

How it works – without resorting to any user interaction, this resource consists of an image overlay: a current image upon which a recognised historical episode is placed over.

Didactic approach – not being a resource ‘that is enough’ by itself, it is a digital application different from an image, not so much associated with specific historical contents but serving the pedagogical intention of motivation for the study in the classroom.

Didactic approach – this format, which links physical spaces in the present time to historical events that took place on that same location reveals its potential regarding the promotion of historical awareness, critical thinking and even visual literacy.



Oliveira, et al. (2015). “*Experiência Time Machine – Praça do Comércio (Regicídio)*”. *Aula Digital. O fio da História. History Year 9*. <https://auladigital.leva.com/share/ef47025b-c5b2-465e-b585-3574f1e0885a>

Moving Image in Animations and Videos

How it works – nowadays, it is extremely common to add value to any image, with photo animation effects. This technique implies the building up, frame by frame, of the moving picture by exact timing and choreography of both movement and sound. These are expository resources that do not require interaction with the user.

Didactic approach – moving and sequenced images contribute to the understanding of any historical content mainly and when compared to a still image, the sequenced and moving image allows for a better explanation of notions and more abstract and difficult concepts to understand, facilitating academic practice.

Didactic potential – these resources, which generally have an expository profile, complement the explanations of textbooks and help to develop skills such as reasoning, critical thinking, observation, imagination and visualisation of concepts, in addition to stimulating an interest in the subject. However, this potential could be compromised in the case of educational resources that are too long. In addition, functionalities that allow pausing, freezing images, repetition of sequences that are most interesting, enable the user to manipulate the document(s) by fragmenting and changing the order of sequences, permitting the most significant ones to be captured.



Conclusion

The teaching and learning of History often were, and still are, bound to traditional practices and methodologies, lectured-style, that guide students through different contents, delivering them the main readings on key events. With the transition from memorised content taken from literature towards a pedagogy of competencies built upon a student-centered methodology, to teach and learn History has necessarily changed, as have the means for it. Currently, History education relies on much more than compendiums of information populated with predictable exercises; the technological and digital reality enables publishers to provide teachers and learners with possibilities beyond the textbook; the students directly engaging and interacting with sources and various types of educational resources, which increases the student's awareness and motivational levels for historical analysis, interpretation and evaluation.

Resources such as image sliders, interactive maps and 'time-machine' foster readiness in the learner for studying, while they appreciate, analyse and manipulate images in order, for example, to uncover differences or evolution, architecture and painting techniques, how aviation evolved from the Great War to World War II, how a city was redesigned over the centuries to what were the differences between the Ancient Greek society and the Roman social structure, amongst many different possibilities.

Historical education plays an ever more relevant role towards the holistic development of young citizens in the current globalised world. To teach History poses challenges to both teachers and learners, and given the complexity of the matters, as well as the richness and demand of the historical skills, technology enables a myriad of differentiative digital tools which bring innovation in to the teaching methodologies. Embedding the digital into the History lessons is to present a convincing invitation to learners, aiming for them to become committed stakeholders of their own learning process, thus allowing for deeper reasonings, which better shape the critical thinking of the History student.

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