

ITC and digital resources to teach history

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Introduction

Digital technology is now included in all kind of contexts: physical, economic, cultural, social or educative. Current students and teachers have access to different environments ubiquitously in their daily lifes. To integrate that type of technology in the educational system is one of the most important challenges that teachers have to face nowadays. It is necessary to design and plan new educational experiences and materials enriching them with new tools and resources.

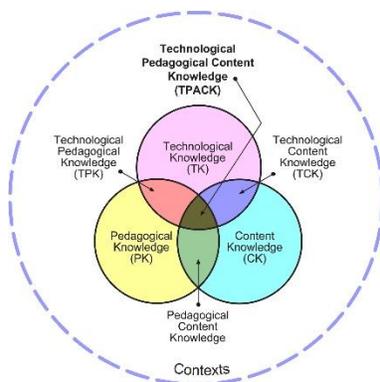
In this sense, the tendency is to design activities based on websites and applications. But to do it correctly is not only necessary to know the application but, also, to understand the possible educational uses of it. Linked to that, at the same time, it's important to plan activities and materials paying attention to the cognitive development of our students: capacities, expression, organization, collaboration and competencies.

A key idea, in this sense, is that the good use of educational technology depends more on the creativity of the teacher than on the original application. Moreover, it is remarkable that educational technooogy is not useful by itself, so the learning process will depend always on the objectives followed by the teacher.

So that, the use of technological resources in the educational system implies a careful planification by the teachers. To reach positively the goal of learning, teachers will take into account the correct link between technological tool, conceptual contents and pedagogical competencies (TPACK frame, fig. 1, Koehler & Mishra, 2009)

Figure 1.

TPACK framework



Source: Koehler & Mishra, 2009



Nowadays, the presence of technology is part of our daily lives. Among the multiple benefits of its use we can find to establish new social relationships, cooperative learning, development of new competencies, new paths to build knowledge, development of creativity, communication and argumentation. In this sense, a continuous update of digital resources it is needed in the school system, both on software and hardware. Digital native students ask for more activities based on technology and active-learning methods that, in terms of history teaching, open new paths for research and investigate (Prats, 2001), discover and be critical with historical sources and evidences (Seixas & Morton, 2013) and increase the student's motivation (Gómez-Carrasco et al. 2020).

Although there a lot of different application to use in history classes, we are going to explain some examples:

1. Virtual classrooms: Wiki and Moodle

Wiki and Moodle platforms are a bunch of interconnected webpages. Their pedagogical potential is a new way to organize contents and to facilitate communication and interchanges.

Wiki and Moodle allow to create a digital repository of knowledge, use different kind of resources (documents, videos, podcasts, etc.), to learn by pairs and to participate in collaborative projects. Through an asynchroneal connection, the contents could be expanded and improved by the teacher. In fact, there are three main benefits of using this kind of platform:

1. Allow the students to create their own educational materials
2. Permit on-line revisions of activities
3. Facilitate communication between teachers and students, but also among the students themselves.

2. Blogs, text and comic creators

In the educational field, blogs can be used as individual diaries organising the contents chronologically.

Blogs and text creators offer a good option of asynchroneal interaction between usuaries through comments. Moreover, blogs and text creators (google drive, for example) could be useful also for cooperative construction of knowledge, as the students could feed the blog in teams.

At the same time, blogs allow to publish activities, videos, audios, pictures, documents and othe historical sources. The teacher could make announcements for the students or the families regarding the teaching and learning process.

3. Social Media

Social media are website services that permit communication, collaboration and conectivity between individuals with similar interests. Usuaries can also share contents, knowledge, pictures, video or any othe kind of resources. The key idea of the educational use of social media is to create



a community of students but, at the same time, to allow personal profiles and communication between them.

The pedagogical potential of social media offer some advantages as they facilitate informal knowledge, promote active participation by the students, cooperation and learning by pairs.

4. Podcasts and Youtube channel

Podcasts or video-podcasts allow the teacher and the students to create new audio or video contents. That kind of contents could be used as a complementary resource for the course or, even, the main theoretical explanation of contents if the teacher decide to organize the course through a flipped-classroom strategy.

The benefit of using podcast or video-podcasts is that the students will have continuous access to the conceptual contents explained by the teacher. Besides, that contents will be always available for the students, whenever or wherever they are. So through podcasts or video-podcasts teachers will adapt the contents to the particular learning necessities of the students.

5. E-portfolio

An e-portfolio is a website application that permit the teachers to evaluate the different activities, exercises and competencies developed by the students in an on-going assessment mode. It consists of different evaluation criteria linked to the activities. These activities could be presented by the students in different formats: texts, video, audio, pictures, etc.

The e-portfolio allow the teacher to design a complete program and facilitate the continuous evaluation of the students.

6. Infographics, presentations: Power-point, prezi, genially and Canva

There are a lot of presentation applications that could be used in history lessons. They all allow the teacher to organize differently the conceptual contents of the topic. They permit to introduce new resources (video, audio, pictures, etc.) and, at the same time, it could be a good way to reorganize the official historical narratives and include “invisible” topics in history education as women, minorities, migrations, poverty, inequalities, social and economic crisis or other type of powers.

Power-point and prezi are application focused on slide presentation, but genially and canva also offer the option of creating infographics, posters and could be used as a way to sum up the contents learned by the students.

7. Mental maps

A mental map or conceptual map allow the students to organize the contents in a visual way. It is a perfect resource to establish hierarchy among contents and to link them with coherent relationships. Something very useful in history education as it will help the students to understand the multicausality and the consequences of the events.



These on-line mental maps creators permit both individual or team work and it is easy for the students to share the information. It can be used as a previous organiser of contents (by the teacher) or as final summary of concepts (by the student)

8. Timelines

Similar to the mental maps, the on-line timeline creators facilitate the students to organize the information. In this case, the conceptual contents are organized chronologically in a time axis. This type of digital resource improve traditional timelines as the students can feed the information with links to expand the contents, pictures, videos or infographics.

On-line timelines will encourage the students to work with second order historical concepts as change and continuity or historical relevance. But, at the same time, it will permit to work concepts as duration of events, diachrony and simultaneity.

9. Historical maps, Google Earth or geacron.

Although Google Earth and other maps applications are more related to the teaching and learning of Geography, maps and historical maps will be a very powerful resource in history education. The advantage of using maps is to allow a correct contextualization of the events, both in time and in space.

Besides, the use of historical maps will help the students the vision of the world that the characters of history had, so it is a perfect resource to understand the concept of historical perspective.

10. QR-Learning

The use of QR codes has been part of our daily life after the COVID-19 pandemic. Beyond its use in restaurants, cinemas or tickets, this technology could be a very helpful resource in history education. The students could use a blog or other text creator to generate and build conceptual concepts (though historical evidences) and then to disseminate their findings through QR codes which is easy to share with mobile devices.

Also, the teacher could create and improve the theoretical contents of the textbook with QR Codes linked to youtube videos, documentaries, films, podcasts, audio or oral sources. That way, the teacher could reach more steps and adapt the knowledge to different levels.

QR codes are also a very useful tool when we are creating a didactic itinerary out of the school. Teachers are able to include activities to develop during the visit through these QR codes placed strategically in important points of the visit.

11. Virtual / Augmented Reality



Similar than QR codes, Augmented reality codes or virtual reality could be a very good tool in history classes. The advantage of using these kind of resources is that the students can reconstruct historical places, buildings, monuments, documents or characters and watching them in its original form.

Augmented and virtual reality is especially important when we are teaching history and using cultural heritage as historical evidence. It also permits to watch 360° videos to make the students introduce themselves in to a historical event.

12. Robotics

The use of robotics in history education is still in its initial stage. But it opens a window to a new possibilities. On one hand, the students can use Lego education robotic kits to build and understand inventions, engines, means of transport, weapons or other historical objects.

At the same time, as teachers we can design gamified activities using robotics based on computer thinking skills. We can use bots and define historical itineraries inside our classroom. The bot will arrive to different points and in each one the teacher can include activities, questions or misteries to continue the travel.

13. Digital libraries

In the last decade, teachers are improving their lessons establishing new methodologies in classroom. Most of them are related to a more active-learning process where the students have a key role and work to build their own knowledge. In this process, teachers are crucial because they are responsible of the design of the units, activities and learning. Project-based learning, research metol, case studies, problem-based learning, flipped-classroom, gamification, service-learning or challenge-learning are just some options that could fit positively into history classes.

According to some authors (Gómez-Carrasco et al., 2022) these methods will encourage the students to have more autonomy and will increase their motivation. The students are always guided by the teacher who accompany them in the learning process. These methods are important to develop social skills as team work, oral and writing communication, cooperation, selection of information, being creative and critical thinking.

To implement research-learning in history classes it is important to work closely to historical evidences, sources and media. The students will search information, being critical with the findings, select and filter the correct historical information and, finally, disseminating the new knowledge. It is the method that historians use (Wineburg, 2018) and the best way to promote the students to make their own interpretations and ethical judgements of history (Heller, 1989).

Some interesting digital libraries to research and get historical sources (texts, documents, images, photographs, heritage, video, oral, archeological, objects, etc.) are: **History Lab; Europeana; Institute of historical research; GALE Primary sources.**



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