



Co-funded by the  
Erasmus+ Programme  
of the European Union

# Multimedia-based and Interactive Tools

Project Output #2 of the



InterMedia  
Erasmus+ Project  
AT01-KA204-078005



## About the Project

The project serves to exchange experiences and develop digital skills, especially in the multimedia area within the participating organization's staff. Furthermore, the development and use of M&I learning materials should be worked out together, brought into context with multiple devices and developed in comprehensive documentation. A particular focus is put on methodology and approaches to support seniors in this digital-oriented learning and trainings. Furthermore, the organizations will use the gained experience and knowledge to promote Erasmus+ programs - and in this sense especially courses - to all generations in their home countries.

The project aims to increase the knowledge and skills in the participating organizations to create and use M&I content, with particular attention to multiple devices and a specific focus on seniors.

### Contact and further information

**Webpage** <https://www.intermedia-project.eu/>

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**Version:** 2.0 (April 10<sup>th</sup>, 2023)

**DOI:** 10.13140/RG.2.2.31423.59045

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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## 1. ABOUT MULTIMEDIA

Multimedia is a term that has become increasingly relevant in our modern, digital age. With the rapid growth of technology and the internet, it has become essential to understand the concept of multimedia to navigate and utilize the vast resources available. This short essay aims to provide a clear definition of multimedia and illustrate its importance in the contemporary world.

### 1.1. Defining Multimedia

Multimedia is a fusion of multiple forms of media, such as text, images, audio, video, and animation, integrated into a single platform to create a cohesive and interactive experience. This combination of various elements allows for a more engaging, dynamic, and immersive means of communication, making it an essential tool in numerous fields, including education, entertainment, advertising, and journalism.

### 1.2. Origins and Evolution

The term "multimedia" can be traced back to the 1960s, with the development of early interactive technologies and computer graphics. However, the concept truly took off with the advent of personal computers and the World Wide Web in the 1990s. The internet facilitated the seamless integration of various media forms, allowing content creators and users to access and share multimedia content with ease. As technology has progressed, multimedia has evolved to encompass virtual reality, augmented reality, and other immersive experiences.

### 1.3. Importance of Multimedia

Multimedia plays a crucial role in our lives by enhancing the way we communicate, learn, and entertain ourselves. Its significance can be seen in various aspects and examples:

- **Education:** Multimedia enhances the learning experience by engaging multiple senses, accommodating diverse learning styles, and promoting interactivity. It also allows for self-paced learning and increased retention of information.
- **Entertainment:** The film, gaming, and music industries rely heavily on multimedia to create engaging content, including movies, video games, and interactive performances, keeping audiences captivated and entertained.
- **Advertising and Marketing:** Multimedia enables advertisers and marketers to convey their message more effectively, utilizing a combination of visuals, audio, and interactive elements to create memorable and impactful campaigns.
- **Journalism:** The use of multimedia in journalism has revolutionized the way news is reported and consumed, making it more immersive, informative, and interactive.
- **Social Media:** Platforms like Facebook, Instagram, and YouTube rely on multimedia content to connect users, allowing them to share their experiences, opinions, and interests through a variety of media formats.

### 1.4. Multimedia as daily life's experience

Multimedia has become an integral part of modern society, providing us with new ways to communicate, learn, and entertain. Its dynamic nature has enriched our lives by creating immersive experiences, fostering creativity, and promoting interactivity. As technology continues to advance, the possibilities for multimedia will expand, further shaping the way we engage with the world around us.

## 2. INTERACTIVITY OR “THE ART OF ENGAGING COMMUNICATION”

Interactivity is a term that has gained significant attention in the digital age, as it plays a pivotal role in shaping our experiences with technology, media, and communication. This short essay aims to define the concept of interactivity and explore its importance in various contexts, from education and entertainment to business and social interaction.

### 2.1. Defining Interactivity

Interactivity refers to the dynamic exchange of information, actions, or feedback between two or more parties, typically involving a user and a system, such as a computer or other digital devices. In essence, interactivity is the process through which users can influence and modify the content, structure, or outcome of a given experience by engaging with the system in real time. This active participation distinguishes interactive experiences from passive ones, where users merely consume content without directly influencing it.

### 2.2. Types of Interactivities

Interactivity can be categorized into different types based on the nature and depth of user engagement:

- **Human-to-human interactivity**  
This type refers to the interaction between individuals, such as face-to-face conversations, online chats, or social media exchanges.
- **Human-to-computer interactivity**  
This type involves a user interacting with a computer system, such as browsing websites, playing video games, or using software applications.
- **Computer-to-computer interactivity**  
In this type, two or more computer systems communicate and exchange information without human intervention, such as in automated processes or networked systems.

### 2.3. Importance of Interactivity

Interactivity is vital in various domains for its ability to foster engagement, collaboration, and adaptability. Its significance can be seen in the following contexts:

1. **Education**  
Interactive learning environments, such as online courses or educational software, promote active participation, critical thinking, and problem-solving skills. They also cater to different learning styles and allow students to learn at their own pace.
2. **Entertainment**  
Interactive media, such as video games, virtual reality, and augmented reality experiences, provide users with a high level of immersion, personalization, and engagement, leading to more enjoyable and memorable experiences.
3. **Business:** Interactivity is essential in e-commerce, digital marketing, and customer relationship management, as it helps businesses understand their customers' needs,

preferences, and behaviours more accurately, leading to more targeted and effective strategies.

4. **Social Interaction:** Social media platforms and online communities rely on interactivity to facilitate connection, collaboration, and the sharing of ideas, opinions, and experiences among users.
5. **Accessibility:** Interactivity can make digital content more accessible to people with disabilities by providing alternative input methods, personalized interfaces, and adaptive content.

Interactivity is a fundamental aspect of modern communication, shaping our experiences with technology and media. By promoting active participation and engagement, interactivity fosters a sense of agency, personalization, and adaptability that enhances various aspects of our lives, including education, entertainment, and social interaction. As technology continues to evolve, the potential for interactivity will expand, offering new opportunities for innovation and collaboration.

## 3. ADDED VALUE OF MULTIMEDIA AND INTERACTIVE LEARNING CONTENT

Multimedia-based and interactive content has become undoubtedly an increasingly popular way of delivering educational content. Course participants of Adult Education courses confirmed this issue regularly. The multimedia approach adds significant value for both learners and training providers alike.

### 3.1. Addressing learners

For learners, multimedia and interactive content enhances the learning experience by engaging them in various ways. The use of multimedia elements such as audio, video, graphics, and animations provide visual aids that help learners to understand complex concepts more easily. Interactive content, such as quizzes, games, simulations, and virtual labs, provide hands-on learning experiences that allow learners to practice their skills and apply their knowledge to real-world scenarios. Additionally, learners can have more control over their learning experience, as they can navigate through the content at their own pace, and repeat sections as needed. This option is important for videos, for example, where learners can rewind certain sections to watch them again. As a result, learners can have a more engaging and effective learning experience, leading to better retention of the material and improved learning outcomes.

### 3.2. Training providers and Adult Education organisations

For training providers, multimedia and interactive content can also add significant value by improving the efficiency and effectiveness of the training process. For example, multimedia content can be used to deliver content to a larger audience and can be accessed from any location and at any time. These options already existed in text form. However, multimedia makes the content more interesting than reading a text or a downloaded PDF.

This might save training providers time and resources, as they don't need to spend as much time organizing and delivering training sessions in person and are used intensively in Blended Learning courses. Additionally, interactive content can be used to track learners' progress and provide feedback on their performance, allowing trainers to adjust their approach and personalize the learning experience accordingly. As a result, trainers can deliver more effective training programs that can better meet the needs of individual learners ("personalisation of content").

### 3.3. The added value for learners and trainers

The added value of multimedia-based and interactive content is obvious. For learners, this approach enhances the learning experience by providing engaging and effective content that improves retention and learning outcomes. For training providers, multimedia-based and interactive content might improve the efficiency and effectiveness of the training process, leading to better results and a more engaged and skilled workforce. As such, it's no surprise that multimedia-based and interactive content is becoming an increasingly popular way of delivering educational content.

### 3.4. Considering different ages of adults

For **young adults**, multimedia content might enhance their engagement and motivation to learn. By integrating visual aids, audio and video clips, and interactive elements, young adults are more likely to retain information and develop a deeper understanding of the topic.

For **adults in the mid-ages**, multimedia content helps them stay up to date with the latest technologies and advancements in their fields. Interactive elements such as simulations and animations provide practical examples that adults can relate to, allowing them to apply their learning to real-world situations.

For **seniors**, multimedia-based content often represents a different approach to learning, as this generation was shaped by the traditional school system (with lectures in classrooms). An interesting effect that should not be underestimated is the preservation of mental freshness (cognitive health) and the brain training associated with the different way of learning. Interactive content such as quizzes, games, and virtual tours can stimulate seniors' minds and offer new experiences that they may not have access to otherwise.

Overall, multimedia and interactive content offers valuable opportunities for learning and growth across all age groups. It can enhance engagement, increase retention, promote practical application, and can foster cognitive health.

## 4. ANALYSED TOOLS

The analysed tools have been selected by the team according to the following criteria:

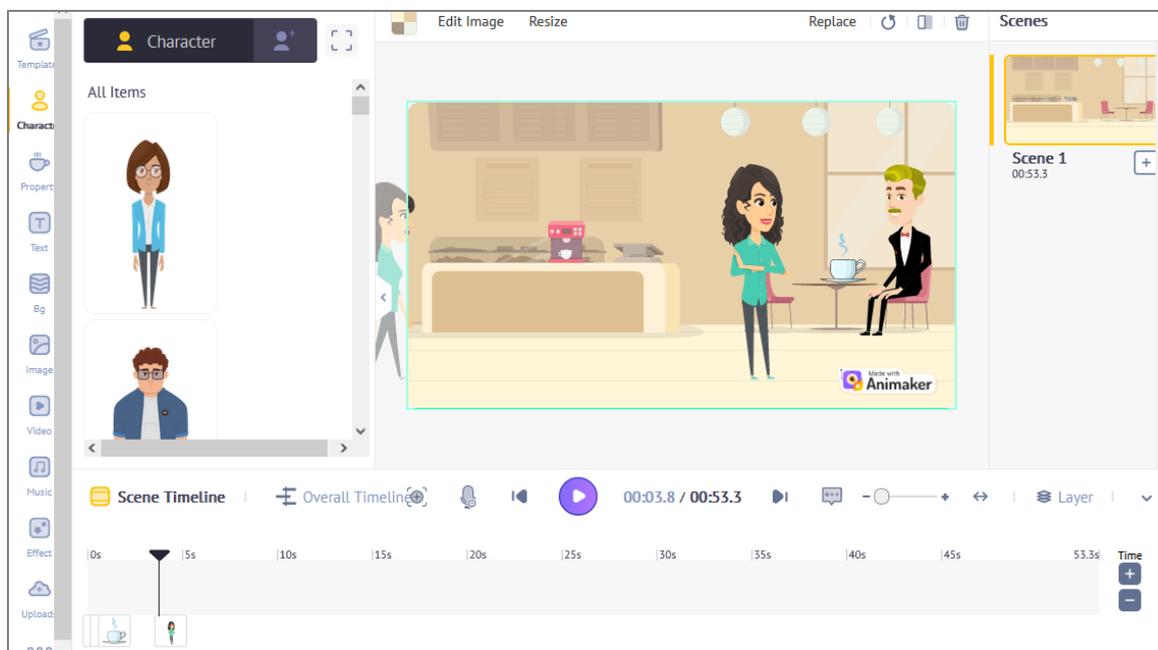
- Meeting identified needs related to the use of learning platforms.
- Free to use tools, either web based or locally installed (or both).
- The materials produced must add value for the learners in the learning process.
- They must be easy to use and require little learning effort.
- The generated materials must be easily integrated into various applications.

### 4.1. Animaker

In an era where multimedia content dominates the digital landscape, innovative tools have emerged to simplify and streamline the process of creating compelling visual stories. One such tool is Animaker, an online platform that has revolutionized video creation for professionals and amateurs alike.

#### What is Animaker?

Animaker is a cloud-based, do-it-yourself video creation platform that empowers users to design and produce high-quality animated videos, presentations, and other graphic outputs (with a specific focus on social media) with ease. Launched in 2014, the platform has gained popularity among businesses, educators, marketers, and content creators, due to its user-friendly interface, extensive range of features, and cost-effective pricing.



*Figure 1: Screenshot of the developing process of a simple animation.*

#### Features and Benefits

Animaker's primary appeal lies in its comprehensive library of pre-built assets, including characters, backgrounds, props, and animations. This vast repository allows users to create

visually appealing and engaging content without the need for advanced technical skills or expensive software.

Another significant advantage of Animaker is its drag-and-drop functionality, which simplifies the process of designing and editing videos. Users can easily customize their projects by selecting from various templates, adding or modifying elements, and adjusting the timing and sequence of animations.

Furthermore, Animaker supports the integration of various multimedia formats, such as images, audio, and text, offering users the flexibility to create a rich and immersive storytelling experience. This versatility is essential for producing content that caters to diverse audiences and purposes, from educational and informative videos to promotional and entertainment-oriented content.

The platform also provides a collaborative workspace, enabling teams to work together on projects in real-time, regardless of their geographical location. This feature facilitates seamless communication and coordination, ensuring that projects are completed efficiently and meet the desired objectives.

### Impact on Digital Storytelling

Animaker has contributed to the democratization of video creation by making it accessible to individuals and organizations with limited resources or technical expertise. By providing a user-friendly and affordable solution, Animaker has empowered countless users to bring their ideas to life and share their stories with the world.

Moreover, the platform has proven valuable in various industries and contexts, such as marketing, where engaging multimedia content is essential for capturing the attention of potential customers. Similarly, educators have embraced Animaker as a tool for creating dynamic and interactive learning materials that enhance student engagement and retention.

### Project team evaluation sheet

<b>Name of the tool</b>	<b>Animaker</b>
<b>Web page URL</b>	<a href="#">Animaker, Make Animated Videos on Cloud for free</a>
<b>Type of use</b>	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
<b>Type of license</b>	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for “PRO” Version”) <input type="checkbox"/> Educational Licence <input type="checkbox"/> Pay Version

### Tool characteristic

- Cooperative work possible
- Creates reusable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed

- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

### Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other (please describe)

### Initial estimation

#### Easy to use

complete agreement     partial approval     little approval     no consent at all

#### Well-done user interface

complete agreement     partial approval     little approval     no consent at all

#### Easy to learn

complete agreement     partial approval     little approval     no consent at all

#### Useful for future course development

complete agreement     partial approval     little approval     no consent at all

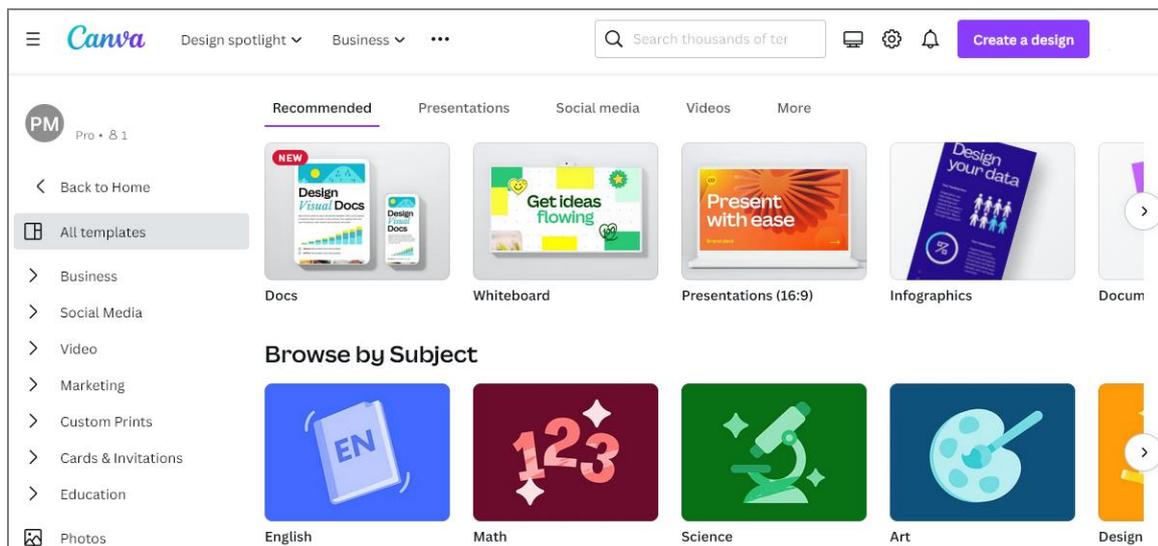
PROS	CONS
<ul style="list-style-type: none"> <li>• Use of templates make it easy to start.</li> <li>• Possibility to create very good-looking and professional products with limited graphic competencies.</li> <li>• Some interesting additional features like screen recording and voice creation.</li> <li>• 5 videos are a good compromise to get started.</li> <li>• Collaboration is possible also with the free version.</li> </ul>	<ul style="list-style-type: none"> <li>• No educational licence and not very cheap (from 8.50€ to 16€ for basic and starter versions)</li> <li>• no interactions</li> <li>• do not think it is for everyone</li> </ul>

## 4.2. CANVA

The proliferation of digital media has driven the need for user-friendly tools that enable people to create visually compelling content. Canva is one such tool that has made a significant impact in the realm of graphic design by making it accessible to a broader audience.

### What is Canva?

Canva is a web-based graphic design platform that allows users to create stunning visual content such as social media graphics, presentations, posters, and more with ease. Founded in 2012, Canva has grown rapidly in popularity among businesses, educators, marketers, and individuals, thanks to its intuitive interface, extensive range of pre-built templates, and affordability.



*Figure 2: CANVA screenshot, showing the selection of the to developed item (using a specific template).*

## Features and Benefits

One of the primary appeals of Canva is its comprehensive library of professionally designed templates, which cater to various design needs and industries. This vast collection allows users to create eye-catching and engaging content without the need for extensive design knowledge or experience.

Canva's drag-and-drop functionality further simplifies the design process, enabling users to easily customize their projects by adding, modifying, or repositioning elements on the canvas. This feature is particularly beneficial for those who lack technical skills or access to expensive design software.

Moreover, Canva supports the integration of various multimedia formats, such as images, text, and illustrations, offering users the flexibility to create rich and diverse visual content. This versatility is crucial for producing content that appeals to different audiences and serves a wide range of purposes, from marketing and advertising to educational and informative materials.

Additionally, Canva provides a collaborative environment, allowing teams to work together on design projects in real-time, irrespective of their location. This feature streamlines communication and coordination, ensuring that projects are completed efficiently and according to the desired specifications.

## Impact on Digital Design

Canva has democratized the graphic design process by making it accessible to individuals and organizations with limited resources or expertise. By providing an easy-to-use and cost-effective solution, Canva has empowered countless users to create visually appealing content that effectively conveys their message and captures their target audience's attention.

Furthermore, Canva has proven to be valuable across various industries and contexts, from small businesses looking to enhance their online presence to non-profit organizations aiming to raise awareness for their cause. Canva's versatility and user-friendly interface have made it an indispensable tool in the ever-evolving world of digital communication.

## Project team evaluation sheet

<b>Name of the tool</b>	<b>CANVA</b>
<b>Web page URL</b>	<a href="https://www.canva.com/">https://www.canva.com/</a>
<b>Type of use</b>	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
<b>Type of license</b>	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input type="checkbox"/> Educational License <input type="checkbox"/> Pay Version

### Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently from the used Operating System
- Content can be downloaded for local use

### Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units or similar applications
- other (please describe)

### Initial estimation

#### Easy to use

- complete agreement     partial approval     little approval     no consent at all

#### Well-done user interface

- complete agreement     partial approval     little approval     no consent at all

#### Easy to learn

- complete agreement     partial approval     little approval     no consent at all

#### Useful for future course development

- complete agreement     partial approval     little approval     no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>• Use of templates make it easy to start (numerous templates matching to various purposes available).</li> <li>• Possibility to create very good-looking and professional products with limited graphic competencies (you need your own images and graphics, which can be uploaded by drag and drop).</li> <li>• Some interesting additional features like screen recording and voice creation.</li> <li>• 5 different applications are a good compromise to get started.</li> <li>• Collaboration is possible also with the free version (using shared link).</li> <li>• Special PRO-Version for educational and non-profit organizations offered.</li> <li>• Download in numerous formats available.</li> <li>• Many languages available</li> </ul>	<ul style="list-style-type: none"> <li>• Pro-Version expensive</li> <li>• Even if described as extremely simple and usable without pre-knowledge essential graphics knowledge is necessary.</li> </ul>

### 4.3. eXe-Learning

The digital age has ushered in a new era of education, with online learning becoming an essential aspect of modern teaching and training. Amidst this transformation, tools like eXe-Learning have emerged as vital resources for educators and content creators, simplifying the process of designing and distributing e-learning materials (based on HTML5 and CSS).

#### What is eXe-Learning?

eXe-Learning is a free, open-source authoring application designed to assist educators in creating interactive and accessible web-based content. Launched in 2005, eXe-Learning has been adopted by educators, trainers, and instructional designers worldwide, thanks to its user-friendly interface, rich feature set, and flexible output formats. The tool is currently further developed in Spain by a group of teachers and developers (with support of the Spanish Ministry of Education) as a freeware tool and is popular in Spain.

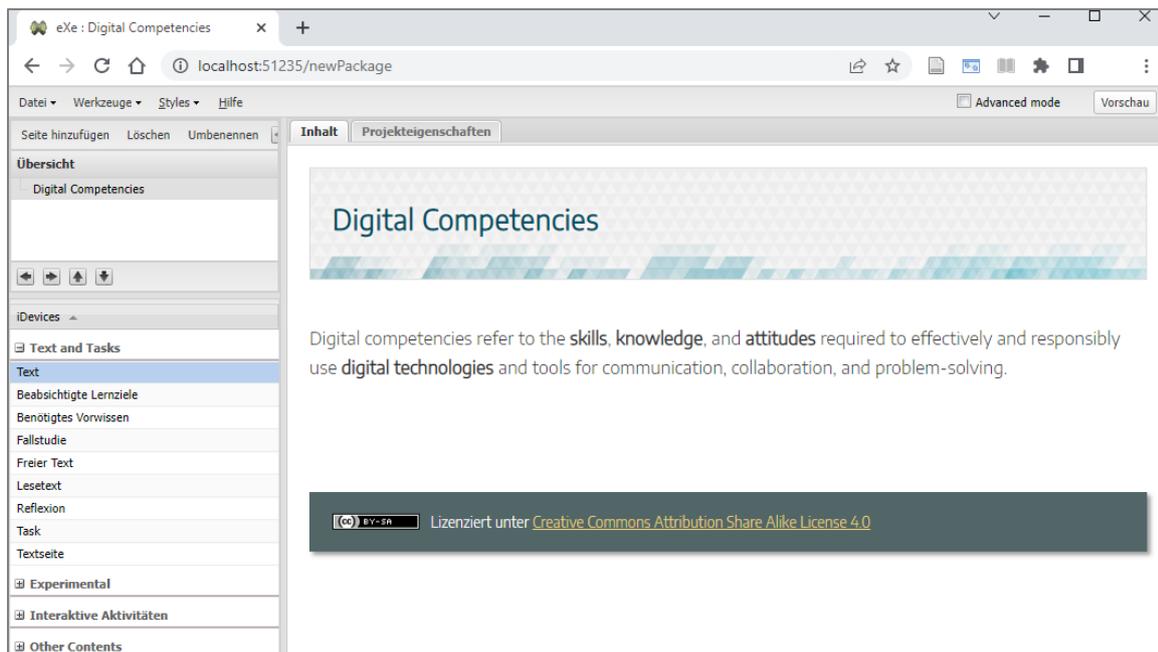


Figure 3: Interface of eXe-Learning Editor (running locally, from an in-built web server).

## Features and Benefits

At the core of eXe-Learning's appeal is its simplicity, which allows users with little to no technical expertise to create engaging and interactive educational content. The platform provides an intuitive WYSIWYG (What You See Is What You Get) editor, enabling users to design and structure their content without the need to write code. Nevertheless – if you want to code – this is also possible (including specific CSS styles).

eXe-Learning also offers a wide variety of pre-built content templates, or "iDevices," which serve as the building blocks for creating interactive learning experiences. These iDevices include features such as multiple-choice questions, quizzes, media embedding, and text input, among others. Users can customize the iDevices to fit their specific needs, ensuring that the content is relevant and engaging for their target audience.

Another noteworthy aspect of eXe-Learning is its commitment to accessibility. The platform adheres to international accessibility standards, ensuring that the content created is accessible to users with disabilities. This focus on inclusivity is crucial for educational institutions and organizations striving to provide equal learning opportunities to all individuals.

Finally, we want to state that it is possible to create complete web pages with this tool, as well as to distribute the content locally to users (this means that in this case an Internet connection is not necessary).

## Impact on Education

eXe-Learning has democratized the process of e-learning content creation by providing an accessible and user-friendly solution for educators and institutions with limited resources or technical expertise. By empowering users to create high-quality, interactive learning materials, eXe-Learning has enhanced the overall efficacy and appeal of online education.

Furthermore, the platform has proven to be valuable in various educational contexts, from high schools and higher education institutions to professional training and development programs. The flexibility and customization offered by eXe-Learning have enabled educators to tailor their content to the specific needs and goals of their learners, resulting in more personalized and effective learning experiences.

## Project team evaluation sheet

Name of the tool	eXe-Learning
Web page URL	<a href="https://exelearning.net/en/downloads/">https://exelearning.net/en/downloads/</a>
Type of use	<input type="checkbox"/> Web-based <input checked="" type="checkbox"/> Download
Type of license	<input checked="" type="checkbox"/> Free use of all functions <input type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input type="checkbox"/> Educational License <input type="checkbox"/> Pay Version

## Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently from the used Operating System
- Content can be downloaded for local use

## Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units or similar applications
- other (please describe)

The tool enables the creation of complete, menu-driven courses.  
Can be used in all environmental conditions

## Initial estimation

### Easy to use

complete agreement    partial approval    little approval    no consent at all

### Well-done user interface

complete agreement    partial approval    little approval    no consent at all

**Easy to learn**

complete agreement     partial approval     little approval     no consent at all

**Useful for future course development**

complete agreement     partial approval     little approval     no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>• Uses the standard HTML 5 format.</li> <li>• possibility to create very good looking and professional products with responsive graphics.</li> <li>• Offers a simple-to-use editor (as used in WordPress) and supports WORD-Insertion</li> <li>• Supports assessments in various ways.</li> <li>• Free license</li> <li>• Further development supported by the Spanish Ministry of Education (or connected organisations)</li> </ul>	<ul style="list-style-type: none"> <li>• The documentation is not at the current development status.</li> <li>• Needs some “Trial&amp;Error” work.</li> <li>• Some materials available in Spanish language only</li> </ul>

## 4.4. HTML Validator

The quality and accessibility of web content play a critical role in user experience and overall website performance. One tool that has become indispensable for web developers and designers is the HTML Validator, which ensures that web content adheres to established standards and best practices.

### What is the HTML Validator?

An HTML Validator is a software tool or web-based service designed to analyse the syntax and structure of HTML (Hypertext Markup Language) code; the primary language used to create websites. The primary function of an HTML Validator is to identify errors, inconsistencies, and non-compliant elements within the code that may affect a website's functionality, appearance, or accessibility.

### Features and Benefits

One of the main benefits of using an HTML Validator is the improvement of overall code quality. By identifying and highlighting issues within the HTML code, the validator enables web developers and designers to address problems and maintain a clean, efficient, and standardized codebase. This, in turn, results in faster loading times, better browser compatibility, and a more consistent user experience across different devices and platforms.

Another significant advantage of the HTML Validator is its ability to detect and flag accessibility issues within the code. By ensuring that the HTML code adheres to established accessibility guidelines, such as the Web Content Accessibility Guidelines (WCAG), the validator helps web developers create websites that are accessible to individuals with disabilities. This focus on

accessibility is not only essential for ethical reasons but also for legal compliance and broader user reach.

Furthermore, using an HTML Validator can lead to better search engine optimization (SEO) outcomes. Search engines like Google prioritize websites that adhere to best practices and have clean, well-structured code. By identifying and addressing errors within the HTML code, the validator can help improve a website's search engine ranking and visibility.

### Is it useful for training content developers?

Even though most learning content is delivered in HTML format, the HTML validator is not of practical use to non-technical people. Various learning platforms (MOODLE, WordPress-based) have built-in optimisation routines that ensure the best possible HTML text.

### Project team evaluation sheet

Name of the tool	HTML Validator
Web page URL	<a href="http://www.htmlvalidator.com">CSS &amp; HTML Validation Software for Windows</a> <input checked="" type="checkbox"/> ( <a href="http://htmlvalidator.com">htmlvalidator.com</a> )
Type of use	<input type="checkbox"/> Web-based <input checked="" type="checkbox"/> Download
Type of license	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input checked="" type="checkbox"/> Educational Licence <input checked="" type="checkbox"/> Pay Version

### Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

### Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other

The website can be used to validate HTML pages.

## Initial estimation

Easy to use

complete agreement    partial approval    little approval    no consent at all

Well-done user interface

complete agreement    partial approval    little approval    no consent at all

Easy to learn

complete agreement    partial approval    little approval    no consent at all

Useful for future course development

complete agreement    partial approval    little approval    no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>Professional tool for web developers.</li> <li>Can be used in searching errors (only by experts)</li> </ul>	<ul style="list-style-type: none"> <li>It is very sectorial;</li> <li>It can be used for lessons but not to develop contents.</li> </ul>

## 4.5. Padlet

As technology continues to transform the way we communicate, collaborate, and share ideas, innovative tools have emerged to make these processes more efficient and engaging. Padlet, a versatile digital canvas, is one such tool that has made a significant impact on education, business, and personal organization.

### What is Padlet?

Padlet is a web-based platform that allows users to create customizable digital boards for the purpose of collaboration, brainstorming, and organization. Launched in 2008, Padlet has become increasingly popular among educators, students, businesses, and individuals seeking an easy-to-use and visually appealing tool to share ideas, resources, and information in real-time.

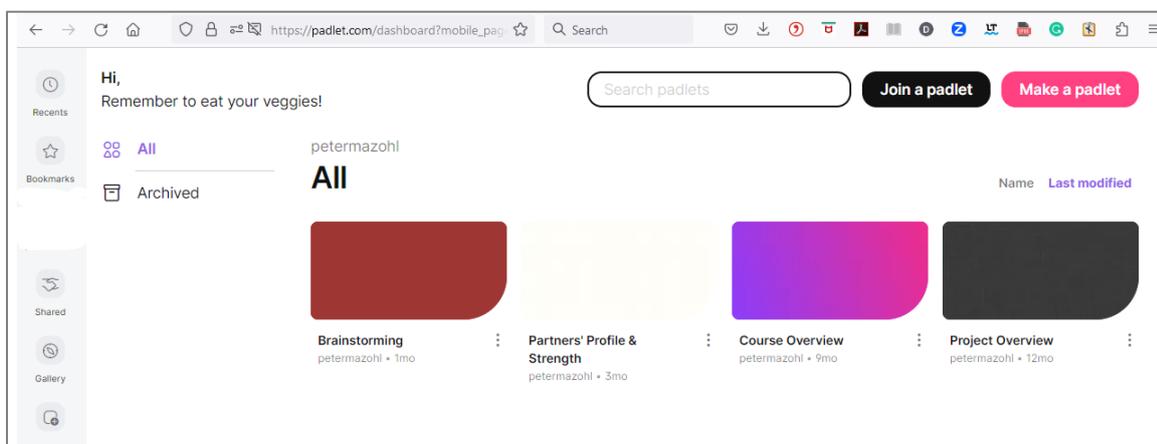


Figure 4: Dashboard of the Padlet Web Interface

## Features and Benefits

Padlet's primary appeal lies in its simplicity and flexibility, allowing users to create digital boards that cater to a wide range of purposes and contexts. Users can customize the appearance and layout of their Padlet boards, choosing from various templates and backgrounds to suit their specific needs.

The platform supports various types of content, including text, images, videos, documents, and links, enabling users to create a rich and dynamic multimedia experience. This versatility is essential for fostering creative expression and engaging different types of learners and collaborators.

Padlet also provides a collaborative environment, allowing multiple users to contribute to a board simultaneously, regardless of their location. This real-time collaboration feature streamlines communication and idea sharing, ensuring that projects and discussions progress efficiently and effectively.

Additionally, Padlet offers various privacy settings, enabling users to control the visibility of their boards and invite specific individuals to view or contribute to them. This feature is particularly useful for educators who want to create a safe and controlled environment for their students or businesses looking to protect sensitive information.

### Impact on Collaboration and Idea Sharing

Padlet has transformed the way individuals and organizations collaborate and share ideas by providing a visually engaging and easy-to-use platform for real-time interaction. Its versatile features and customizable options have made it an ideal tool for a wide range of applications, from brainstorming sessions and project management to content curation and digital storytelling.

### Impact on Education

In the education sector, Padlet has become a popular tool for facilitating classroom discussions, group projects, and resource sharing, promoting active learning and student engagement. Similarly, businesses have embraced Padlet as a means of fostering innovation, collaboration, and knowledge sharing among employees.

### Project team evaluation sheet

Name of the tool	Padlet
Web page URL	<a href="https://padlet.com/">https://padlet.com/</a>
Type of use	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
Type of license	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input type="checkbox"/> Educational License <input type="checkbox"/> Pay Version

## Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

## Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other

## Initial estimation

Easy to use

complete agreement    partial approval    little approval    no consent at all

Well-done user interface

complete agreement    partial approval    little approval    no consent at all

Easy to learn

complete agreement    partial approval    little approval    no consent at all

Useful for future course development

complete agreement    partial approval    little approval    no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>Easy to use and intuitive interface.</li> <li>Customizable layout and design options</li> <li>Versatile use cases for personal, educational, and business purposes</li> <li>Collaboration features that allow for real-time updates and commenting</li> <li>Integration with other tools for added functionality</li> </ul>	<ul style="list-style-type: none"> <li>Limited functionality with the free version, requiring a subscription for more advanced features</li> <li>Limited storage for media files with the free version</li> <li>Limited formatting options for text content</li> <li>May require some training or familiarity with online collaboration tools for some users.</li> </ul>

## 4.6. The H5P Framework

As digital learning becomes increasingly popular, the need for engaging and interactive content is more important than ever. One tool that has made significant strides in meeting this need is the H5P Framework, an open-source content creation platform designed to facilitate the development of interactive multimedia experiences.

### What is the H5P Framework?

The H5P Framework is a web-based platform that enables users to create, share, and reuse interactive HTML5 content without requiring extensive programming knowledge. Launched in 2012, the H5P Framework has become increasingly popular among educators, instructional designers, and content creators, thanks to its user-friendly interface, rich feature set, and emphasis on accessibility and responsiveness.

### Features and Benefits

One of the primary appeals of the H5P Framework is its diverse range of content types, which include interactive videos, quizzes, presentations, simulations, and games, among others. This variety allows users to create engaging and dynamic learning experiences that cater to different learning styles and preferences.

Another significant advantage of the H5P Framework is its ease of use, enabling users with little to no technical expertise to create interactive content. The platform provides a user-friendly editor that simplifies the content creation process, allowing users to design and customize their projects without writing code.

Furthermore, the H5P Framework is built on the principles of accessibility and responsiveness, ensuring that the content created is accessible to users with disabilities and displays optimally across various devices and screen sizes. This focus on inclusivity and adaptability is essential for reaching diverse audiences and promoting equal learning opportunities for all individuals.

### Impact on Digital Learning and Content Creation:

The H5P Framework has transformed the digital learning landscape by making it easier and more accessible for educators and content creators to develop interactive and engaging learning experiences. Its user-friendly interface and diverse range of content types have democratized the content creation process, allowing individuals and organizations with limited resources or technical know-how to create high-quality and immersive digital content.

Moreover, the H5P Framework's commitment to accessibility and responsiveness has helped raise awareness about the importance of inclusive design and adaptive content in the digital learning environment. By providing a tool that adheres to established accessibility guidelines and caters to various devices and screen sizes, the H5P Framework has encouraged educators and content creators to consider the diverse needs of their learners and create content that is universally accessible.

## Project team evaluation sheet

Name of the tool	H5P
Web page URL	<a href="https://h5p.org/">https://h5p.org/</a>
Type of use	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
Type of license	<input checked="" type="checkbox"/> Free use of all functions <input type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input type="checkbox"/> Educational Licence <input checked="" type="checkbox"/> Pay Version – if hosted on the H5P platform

### Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

### Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
  - Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other (please describe)

The tool includes several mm-b modules to create assessments at a high level

The assessments can send feedback to the grading in Moodle

### Initial estimation

#### Easy to use

complete agreement    partial approval    little approval    no consent at all

#### Well-done user interface

complete agreement    partial approval    little approval    no consent at all

#### Easy to learn

complete agreement    partial approval    little approval    no consent at all

#### Useful for future course development

complete agreement    partial approval    little approval    no consent at all

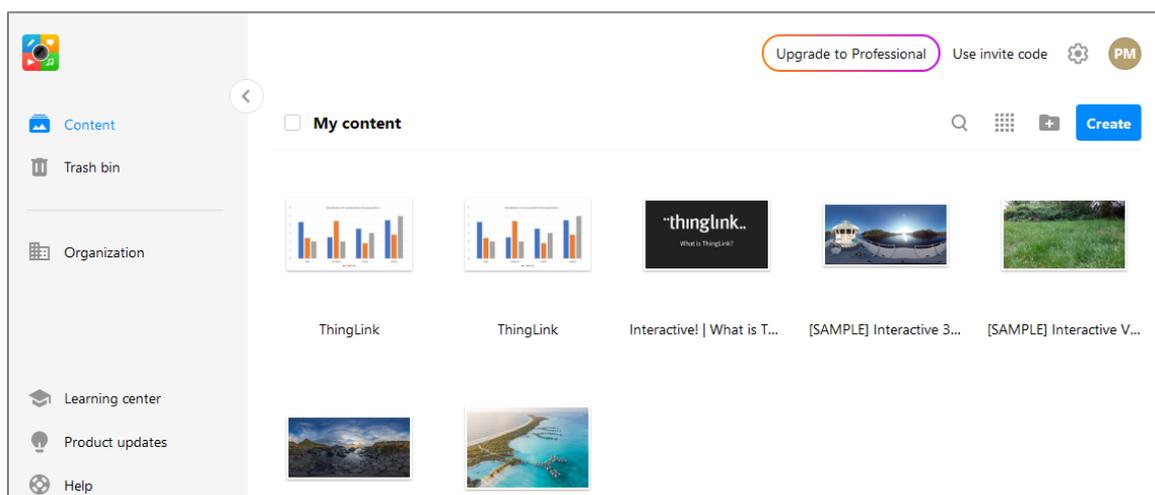
PROS	CONS
<ul style="list-style-type: none"> <li>• Excellent framework to create various interactive and multimedia-based content.</li> <li>• Huge number of different activities</li> <li>• Best (free) tool to create interactive videos</li> </ul>	<p>Needs a host that supplies the visualization of the content</p> <ol style="list-style-type: none"> <li>a) The H5P Platform, based on a fee</li> <li>b) Moodle, H5P is natively integrated in Moodle</li> <li>c) WordPress, H5P is integrated as a plugin</li> </ol>

## 4.7. ThingLink

With the constant evolution of the digital environment, the desire for engaging and immersive content has surged remarkably. ThingLink, a flexible platform designed for crafting interactive images, videos, and virtual tours, has risen as a vital resource in fulfilling this growing demand.

### What is ThingLink?

ThingLink is a web-based platform that enables users to create interactive and multimedia-rich visual content by adding clickable tags to images, videos, and 360-degree virtual tours. Launched in 2010, ThingLink has gained popularity among educators, marketers, journalists, and content creators, thanks to its user-friendly interface, diverse range of applications, and emphasis on engagement and interactivity.



### Features and Benefits

The primary appeal of ThingLink lies in its ability to transform static visual content into dynamic and interactive experiences. Users can add a variety of tags to their images, videos, or virtual tours, which can include text, images, audio, video, or links to external websites. This feature allows users to create rich multimedia narratives and provide additional context, information, or resources related to their visual content.

Another significant advantage of ThingLink is its ease of use, enabling users with little to no technical expertise to create interactive content. The platform provides a simple drag-and-drop editor, allowing users to add, edit, and customize tags quickly and efficiently.

Moreover, ThingLink is designed to be responsive and accessible, ensuring that the interactive content created is compatible with various devices, screen sizes, and assistive technologies. This emphasis on adaptability and inclusivity is essential for reaching diverse audiences and promoting equal access to information and learning opportunities.

## Impact on Digital Content Creation and Storytelling

ThingLink has transformed the way content creators and storytellers approach visual content by offering a platform that fosters engagement and interactivity. Its user-friendly interface and diverse range of applications have made it an ideal tool for various industries, from education and journalism to marketing and tourism.

In the education sector, ThingLink has been embraced by teachers and students for creating interactive learning materials, presentations, and digital storytelling projects. By providing a platform that enables users to add context and multimedia resources to their visual content, ThingLink has helped promote active learning and deeper engagement with the subject matter.

Similarly, marketers and journalists have leveraged ThingLink to create immersive and engaging content that captures their audience's attention and encourages exploration and interaction. By offering a more dynamic and interactive user experience, ThingLink has contributed to more effective communication and storytelling in the digital age.

## Project team evaluation sheet

Name of the tool	ThingLink
Web page URL	<a href="#">ThingLink: Vivi un'esperienza unica con immagini interattive, video e mezzi espressivi a 360°</a>
Type of use	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
Type of license	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input checked="" type="checkbox"/> Educational Licence <input type="checkbox"/> Pay Version

## Tool characteristic

- Cooperative work possible
- Creates reusable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

## Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content

- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other (please describe)

## Initial estimation

### Easy to use

complete agreement     partial approval     little approval     no consent at all

### Well-done user interface

complete agreement     partial approval     little approval     no consent at all

### Easy to learn

complete agreement     partial approval     little approval     no consent at all

### Useful for future course development

complete agreement     partial approval     little approval     no consent at all

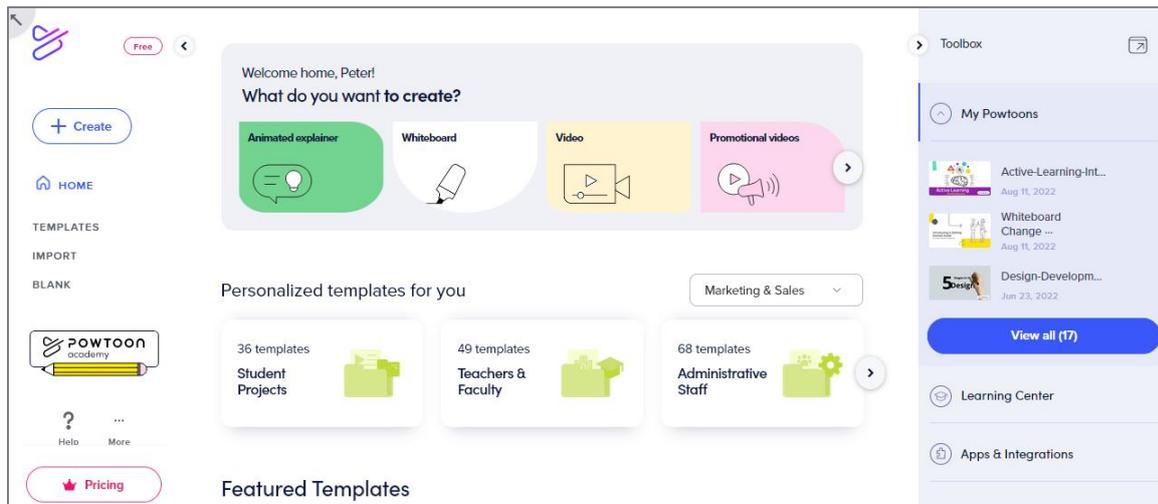
PROS	CONS
<ul style="list-style-type: none"> <li>• It is possible to start with a free version.</li> <li>• The paid version for school is cheap (35€/year)</li> </ul>	<p>No interactions in the quizzes.</p>

## 4.8. PowToon

In the age of digital content, captivating and engaging storytelling has become a crucial aspect of communication, education, and marketing. PowToon, an online platform for creating animated videos and presentations, has emerged as a powerful tool that enables users to craft compelling visual narratives without the need for specialized skills or software.

### What is PowToon?

PowToon is a web-based platform that allows users to create professional-looking animated videos and presentations with ease. Launched in 2012, PowToon has gained popularity among educators, marketers, businesses, and individuals seeking an accessible and user-friendly tool to create engaging visual content for a variety of purposes, including education, marketing, and entertainment.



## Features and Benefits

One of the primary appeals of PowToon is its user-friendly interface and intuitive drag-and-drop editor, which enable users with little to no design or animation experience to create high-quality visual content. The platform provides a wide range of pre-designed templates, characters, props, and backgrounds, as well as the ability to import custom assets, allowing users to create unique and engaging animations quickly and easily.

Another significant advantage of PowToon is its flexibility and adaptability, catering to a diverse range of applications and industries. Users can create animated explainer videos, educational resources, marketing materials, or even personal projects, all with the same ease and efficiency.

Moreover, PowToon offers a variety of export options, enabling users to share their creations across different platforms and devices. Users can export their animations as video files (paid version) or upload in YouTube, embed them on websites, or even generate shareable links for easy distribution and collaboration.

## Impact on Animation and Visual Storytelling

PowToon has transformed the landscape of animation and visual storytelling by democratizing the content creation process and making it accessible to a wider audience. By providing an easy-to-use and cost-effective platform for creating animated videos and presentations, PowToon has empowered educators, marketers, businesses, and individuals to communicate their ideas more effectively and engage their audiences more deeply.

## Impact on Education

In the education sector, PowToon has become a popular tool for creating dynamic and engaging learning materials that capture students' attention and promote active learning. Similarly, marketers and businesses have leveraged PowToon's capabilities to create impactful promotional materials and explainer videos that resonate with their target audiences.

## Project team evaluation sheet

Name of the tool	Powtoon
Web page URL	<a href="https://www.powtoon.com/">https://www.powtoon.com/</a>
Type of use	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
Type of license	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO & PRO+" Version") <input checked="" type="checkbox"/> Educational Licence <input checked="" type="checkbox"/> Pay Version (Business Plan)

### Tool characteristic

- Cooperative work possible
- Creates reusable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

### Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other (please describe)

### Initial estimation

#### Easy to use

complete agreement  
  partial approval  
  little approval  
  no consent at all

#### Well-done user interface

complete agreement  
  partial approval  
  little approval  
  no consent at all

#### Easy to learn

complete agreement  
  partial approval  
  little approval  
  no consent at all

#### Useful for future course development

complete agreement  
  partial approval  
  little approval  
  no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>• It is possible to start with a free version;</li> <li>• The paid version for school is cheap.                             <ul style="list-style-type: none"> <li>○ Students 4\$/month;</li> <li>○ Teachers 6\$/month;</li> <li>○ Classroom 10\$/month.</li> </ul> </li> <li>• Ready-made templates are included even in the free version</li> <li>• You can upload already created a PPT or photoshop file.</li> <li>• You can download your videos as MP4 files.</li> </ul>	<ul style="list-style-type: none"> <li>• Most of the content can be accessed only in the paid version, which makes the free version very limited.</li> <li>• You can use your content only online without the PRO version.</li> </ul>

## 4.9. W3schools

As the digital world continues to expand and evolve, the demand for web development skills has grown exponentially. W3Schools, an online platform that offers tutorials and resources on various web development technologies, has emerged as a valuable tool for aspiring developers and experienced professionals alike. This essay will explore the essence of W3Schools, its features, benefits, and the impact it has had on web development education.

### What is W3Schools?

W3Schools is a web-based platform that provides comprehensive tutorials, references, and resources on a wide range of web development technologies, including HTML, CSS, JavaScript, and various programming languages and frameworks. Launched in 1998, W3Schools has become a go-to resource for millions of developers and students around the world seeking to learn or enhance their web development skills.

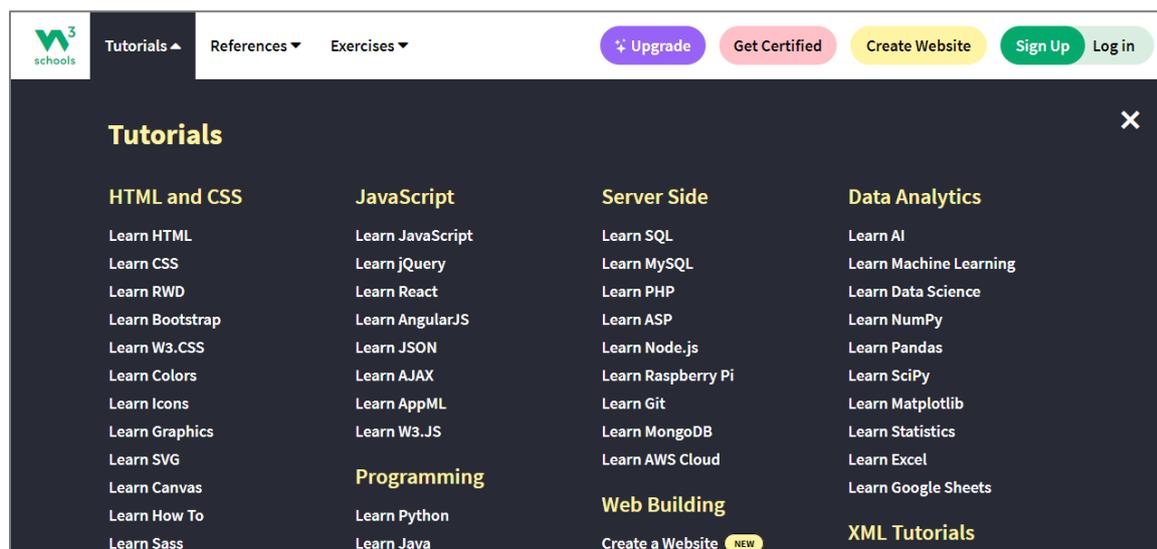


Figure 5: W3Schools - a huge offer of technology-focused learning material.

### Features and Benefits

One of the primary appeals of W3Schools is its extensive library of tutorials and resources, which cover a diverse range of web development technologies and concepts. This

comprehensive approach ensures that users can find information on virtually any topic related to web development, from basic HTML syntax to advanced concepts in server-side programming and database management.

Another significant advantage of W3Schools is its focus on practical, hands-on learning. Most tutorials include interactive examples and code editors, allowing users to practice and experiment with the concepts they are learning in real-time. This emphasis on active learning and immediate feedback helps users build confidence and solidify their understanding of the material.

Moreover, W3Schools is designed to be accessible and user-friendly, catering to learners of all experience levels, from complete beginners to experienced developers. The platform's clean layout, clear explanations, and straightforward examples make it easy for users to navigate and understand the material, regardless of their prior knowledge or expertise.

### Impact on Web Development Education:

W3Schools has played a significant role in shaping web development education by providing an accessible and comprehensive resource for learners worldwide. Its extensive library of tutorials and resources, emphasis on practical learning, and user-friendly design have made it an invaluable tool for individuals seeking to learn or enhance their web development skills.

By offering a free and easily accessible platform for web development education, W3Schools has democratized the learning process and empowered countless individuals to pursue careers or hobbies in web development. The platform has also become a reliable reference for experienced developers, who may need to refresh their knowledge or explore new technologies as the digital landscape continues to evolve.

### Project team evaluation sheet

Name of the tool	W3school
Web page URL	<a href="#">Home</a>   <a href="#">My learning</a>   <a href="#">W3Schools</a>
Type of use	<input checked="" type="checkbox"/> Web-based <input type="checkbox"/> Download
Type of license	<input type="checkbox"/> Free use of all functions <input checked="" type="checkbox"/> Free use of basic functions (fee for "PRO" Version") <input type="checkbox"/> Educational Licence <input type="checkbox"/> Pay Version

### Tool characteristic

- Cooperative work possible
- Creates re-usable content
  - Means use the link (direct to the content)
  - Means download and upload at a different location
- Created content needs a host to be displayed
- Content can be displayed independently of the used Operating System
- Content can be downloaded for local use

## Possible use of the tool

- Use to create additional multimedia-based (mm-b) content (graphics, videos, animations, ...)
- Use to create interactive content
- Use to create complete learning units
- Use to create interactive / mm-b assessments, self-evaluation units, or similar applications
- Collaborative use (brainstorming, ...)
- other

The website has a great potential in terms of learning resources and practicing. Learners can learn through video tutorial, then test through quizzes and finally creating their own websites or web spaces.

## Initial estimation

### Easy to use

complete agreement    partial approval    little approval    no consent at all

### Well-done user interface

complete agreement    partial approval    little approval    no consent at all

### Easy to learn

complete agreement    partial approval    little approval    no consent at all

### Useful for future course development

complete agreement    partial approval    little approval    no consent at all

PROS	CONS
<ul style="list-style-type: none"> <li>• There are many free resources for learning and testing in the ICT field.</li> <li>• A not-experienced person could start learning or trying some of these resources and get in contact with a more difficult field of expertise.</li> </ul>	<p>It is a sectorial and more dedicated to ICT schools and coding classes</p>

## ABOUT THE PROJECT PARTNERS

### AJITER

**Youth Association of Terceira Island - AJITER**, is a non-profit institution that was started in **April 2003**, starting from the essential objective of promoting and strengthening youth associations in the Azorean community, as an innovative way to promote the integration of integration into the community it is inserted in, and fight against generalized indifference that, at times, is very harmful to our youth.



Since then, there has been a lot of work developed, we have had a social and community intervention in the most varied **areas of relevance to youth**, from education for citizenship, through education for health, prevention of risk behaviour, solidarity, combating social exclusion, sports, promoting access to the new information society, enhancing the historical and cultural heritage of Terceira Island, among many others.

### EuphoriaNet

Euphoria Net Srl is an Italian company set-up in March 2019 with the main scope of providing services in the project management field, in terms of supporting organizations in carrying out and managing projects as well as providing training on this topic. Euphoria is specialized in the educational field and works in projects related to bringing innovation in such fields.



The three main areas of activities are the following:

- [1] Project management: we follow all the aspects related to EU projects.
- [2] Training courses: we organize training courses especially for schools of any grade, Universities and associations on the following topics: project management, digital competencies, entrepreneurship, boosting STEM at school, EU citizenship, personalized learning, soft skills and innovative methodologies.
- [3] Organization of events and communication strategies: we organize dissemination strategies within projects, including the set-up of project branding, communication, mapping stakeholders, organizing, and coordinating events all over Europe.

Our headquarter is in Rome, but we travel all over Italy to deliver our training courses and to Europe to implement EU projects.

## BrainLog

BrainLog is a non-profit organization developing and managing national and international funded projects focusing on innovation and education within business development, web and mobile applications, entrepreneurship, innovation within sport and wellbeing, non-formal education, and social inclusion in Denmark.



## Europäische Bildungsinitiative EBI/EIE

The "Europäische Bildungsinitiative" EBI - (in English European Initiative for Education EIE) - is an international Private Non-Profit Education and Training Association located in Wiener Neustadt /Austria. EBI's mission is to endorse an innovative approach to education, training, and culture.



Target groups are schoolteachers, teachers, and trainers in general education as well, in adult education.

The three departments of the EBI are a teaching unit, a technical department, and a special research group. The offered training focuses on project management, Flipped Learning 3.0, eLearning, Technology Enhanced Learning (and Teaching, TEL), Distance Learning, Online Distance Learning, Blended Learning, and other related topics.

The EBI/EIE is the coordinator of this project and regularly involved in European Projects (Erasmus+).

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