

# Learner Manual

IO2 - In Service Training





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## 1. Introduction to the Learner Manual

STEAM is one of the critical sectors of the economy in all EU Member States and as a sector **it needs higher female participation rates for sustainability.**

In today's rapidly evolving economy women need to be aware that careers in the STEAM sector are a real possibility. While academia as a whole needs to do more to actively recruit women into STEAM majors, continuing vocational education and training has a key role to play in reducing shortages of skilled people to sustain the growing STEAM sector. Research studies highlight the lack of female STEAM role models and mentors; the shortage of STEAM taster courses for women; an unconscious bias against women within human resource professionals in STEAM focused companies; a significant confidence-deficit among women where the STEAM sector is concerned.



## 2. Steamy Wonders Intellectual outputs

### 2.1. IO1: Compendium of Interactive Infographics

The objective of the STEAMY WONDERS project is to address the personal and professions deficits that contribute to the low representation of women in the STEAM sector. This output compromises a toolkit of 35 interactive infographics addressing the personal deficits of individuals to enable them identify the right career choice in STEAM. It addresses the motivational, confidence, planning, resilience and career management deficits that have been identified in research as key inhibitors of women in STEAM.

<b>7 European partners have developed five Interactive Infographics for each STEAM subject:</b>
Science
<b>Technology</b>
Engineering
Arts
Mathematics
<b>Each of the Interactive Infographics also address the following themes:</b>
Motivation
<b>Confidence</b>
Career planning
Personal resilience
Career management

Each individual interactive infographic resource comprises a series of 4 different learning elements that get incrementally more difficult to build different elements of the key transversal skill in question. These elements are presented using some combination of the following learning resource types: PowToon Video; VideoScribe Video; Magazine type article; Quiz or puzzle; Digital Breakout; Online Educational Escape Room; WebQuest.

A typical Interactive Infographic includes:

1. **Explainer video** or a magazine article that is specifically developed for the purpose at hand - this will present the key transversal skill being addressed and include a call to action to stimulate learner interest - it is created using StoryBoardThat, Powtoon or VideoScribe;





2. **Quiz or puzzle** - this will set an initial problem to be solved to further engage and encourage the learner - it will be built using KAHOOT or LearningApps;
3. **Digital breakout or online educational escape room challenge** - this is a time-limited exercise where learners are required to address or solve a more difficult problem based on prior knowledge - it will be built using Google Forms or Google Sites
4. **WebQuest** - this will be a team oriented resource that will require brainstorming, independent study, sharing of information, peer teaching, working as a team towards a solution - it will be built using a combination of open source educational software and social media channels like YouTube

## 2.2. IO2: In-service training for VET tutors

To maximize the potential of the Infographics produced, Steamy Wonders has prepared In-service training for VET tutors that will work with a young woman to motivate them to stay in the STEAM field.

It is expected that, by the end of this training programme, VET tutors will have developed critical analysis skills to understand the potential and limits of using new challenge-based educational resources (quizzes, videos, puzzles, digital breakouts and WebQuests), describing the training objectives to which they may or may not respond, and the learning situations and contexts in which this methodology promotes success.

The in-service training comprises 35 hours of learning, broken down into 21 hours of workshop-based training focused on the development of digital media skills and 14 hours of self-directed online learning focused on the thematic areas selected and working in online environments.





## Curriculum overview

Type of learning	Module	Hours
Face-to Face learning Workshop	Training resources for the development of digital media skills of VET tutors	21 hours
Self-directed learning materials	Building the competence and confidence of cVET tutors to work in on-line environments	7 hours
	Building and understanding of the potential of the STEAM sector for woman and examining the barriers that many women face in the sector	7 hours
TOTAL		35 hours

## Learning outcomes of the In-service training

On completion of this training program, VET tutors should:

1. Be introduced to the STEAMY WONDERS project goals and understand the potential of the STEAM sector for women and examining the barriers that many women face in the sector
2. Understand the pedagogy underpinning the development of videos, audios, quizzes, puzzles, digital breakouts, WebQuests.
3. Understand the work in online learning environments where the relationship between tutor and learner are completely different to face-to-face learning scenarios.
4. Be able to develop their own videos, audios, quizzes, puzzles, digital breakouts, WebQuests.





Knowledge	Skills	Competence
<ul style="list-style-type: none"> <li>▪ Understand the pedagogy underpinning the development of videos, audios, quizzes, puzzles, digital breakouts, WebQuests</li> <li>▪ Identify the steps required to develop successful and engaging videos, audios, quizzes, puzzles, digital breakouts, WebQuests</li> <li>▪ Understand the different learning methods for learners of different age using self-directed on-line learning</li> <li>▪ Understand the work in online learning environments</li> <li>▪ Be introduced to the potential of the STEAM sector for woman</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify the learning situations and contexts in which this methodology can promote an effective learner engagement</li> <li>▪ Design and develop challenge-based resources that will ensure best practice for woman in STEAM sector</li> <li>▪ Collaborate as part of a team to develop their own challenge-based educational resources</li> <li>▪ Design and develop new educational resources (videos, audios, quizzes, puzzles, digital breakouts, WebQuests) using widely available open-source software</li> </ul>	<ul style="list-style-type: none"> <li>▪ Willingness to integrate innovative educational resources into their current teaching practice</li> <li>▪ Facilitate learners' self-empowerment, valuing their achievements and incremental learning</li> <li>▪ Understand the potential of the new dynamic, media-rich challenge-based educational resources to examine the barriers that many women face in the STEAM sector</li> </ul>

### 2.3. IO3: Steamy Wonders MOOC

STEAMY WONDERS MOOC is 'massively-open' learning platform and will not require prerequisites such as prior learning or possession of a qualification. Access to the educational resources is free and the content generated by the STEAMY WONDERS consortium will be published as open educational resources so they can be reused by others. The learning materials developed will thus be available for access remotely via the Internet and will not require physical attendance at a classroom. This will ensure that anyone from anywhere in the world with an Internet connection, can immediately engage with the learning resources developed. The STEAMY WONDERS MOOC will allow access to a very large number of learners and will be scalable and capable of supporting a large number of end users.



## Module 1: Building and understanding of the potential of the STEAM sector for woman and examining the barriers that many women face in the sector

This In-service training is created as one of the intellectual outputs of the STEAMY WONDERS project.

The aim of the STEAMY WONDER project is to **pilot a multi-faceted educational intervention targeted at women of all ages to address these issues**. It seeks to achieve a **greater gender balance in the STEAM sector** by;

- a) promoting a culture of scientific thinking among women using evidence-based reasoning for decision making especially where career planning is concerned;
- b) provide appropriate and tangible role model case studies to ensure women have the confidence to participate in an increasingly complex scientific and technological world;
- c) develop a bespoke toolkit of resources for women that address competencies for problem-solving, innovation, analytical thinking, critical thinking, spatial awareness relating to STEAM subjects;
- d) provide guidelines to human resources managers that enable gender-neutral recruitment, retention and promotion in the STEAM sector.

Many of us experience the influence of science, technology and innovation (STI) on a daily basis across many of aspects of our lives, from personal well-being, to learning, participation, livelihoods, environment and social life. STIs have potential for not only making incremental progress in the everyday lives of women but also as the source for truly disruptive and game changing solutions. Therefore, the ability of women to access, benefit from, develop and influence these sectors will directly impact whether we achieve our goals of Planet 50:50 by 2030. If women are left out of these 21st century revolutions, we will not achieve substantive gender equality by then.

A study published by the Institute for Fiscal Studies, suggests that “only dramatic intervention will change women’s low representation in information technology, physics and maths at more advanced levels despite the fact that female students have long outperformed their male counterparts at pre-university levels including in the science, technology and maths subjects”. As technology advances at a rapid speed, the labor market keeps evolving. As a result, an increasing number of jobs require STEAM skills and knowledge. However, women are still majorly under-represented in STEAM jobs. While women constitute almost 50% of the labor market, there are only 28% of women in STEAM fields as opposed to 72% of men (Eurostat 2018). Gender bias in STEAM and the low participation rates of women has already been adequately recorded and reported. It has been estimated that closing the gender gap in the



STEAM field would increase the EU GDP per capita by 0.7–0.9 per cent in 2030 and by 2.2–3.0 per cent in 2050.

**This training session part consists of additional self-directed learning materials:**

- A Short History of Women in STEM
- Social, Cultural Factors that Push Women Away From STEM
- Combating Gender-based stereotypes (our own and helping others do so)
- How women can reach their potential in STEM
- Developing resilience, rediscovering your self-confidence and speaking up for yourself
- Career management



## Module 2: Building the competence and confidence of VET tutors to work in on-line environments

This module consists of the following Learning Units and is designed as 14 hours of Self-directed learning, combination of theoretical parts and activities to be done.

### Confidence for working in on-line environments

Despite the fact that most tutors and teachers have adapted to the new situation, a large number of them have faced a loss of self-confidence in their work. While some teachers are eagerly awaiting a return to normal, it is increasingly likely that in the future, from now on, blended learning will be used in most cases. The future lies in combination of classroom teaching with self-study materials, digital teaching resources and online lectures. The development of pedagogic skills and competencies for blended learning is no longer an option but a necessity for all teachers who do not want to face a lack of self-efficacy and self-confidence.

Self-efficacy refers to one's confidence in their ability to perform a task (Bandura, 1977). Self-efficacy is situation specific, so while we may have high self-efficacy when it comes to traditional pedagogical methods, we can have equally low self-efficacy for online or hybrid teaching.

Our individual assessment of our competence to teach, and our confidence to overcome the barriers to doing so, represents our self-efficacy for new teaching styles. While faculty have all shown that they can teach online or hybrid, tutors don't necessarily feel confident that they're doing it well.

Bandura's self-efficacy theory suggests there are four major sources for building confidence to perform and persevere at a task:

- mastery experience
- vicarious experience
- verbal persuasion and
- emotional arousal.

Based on these sources of self-efficacy, there are a few practical strategies that tutors can use to build confidence and competence for blended learning and on-line teaching.



### *Mastery experiences*

There is nothing that can boost our self-confidence that achieving a small victory and making small changes. Sometimes, trying to integrate a lot of big changes all at once can be very stressful and not easy to adopt to. This means that setting realistic and achievable goals in combination with practicing resilience of failures is a way to go. **This project proposes integration of Interactive infographics into your on-line teaching practice.** Using interactive and digital tools in your teaching practice can seem like a big challenge, but It will make a big difference. Teaching on-line can be very boring, but if you incorporate videos, quizzes, digital breakouts or WebQuests you will see that digital resources often meet very well with on-line environments.



With each small success you achieve a mastery experience that builds your confidence, until eventually, you feel totally competent and confident using a variety of technology-based teaching methods. You may experience failures along the way, but by setting reasonable goals, those small challenges do not ruin an entire class.

### **Vicarious experiences and verbal persuasion**

Today, in this very different learning environments, it is more important than ever to give support to your colleagues and receive the feedback from them. Social interaction in learning process is very important. So, even though you may not see your learners or colleagues in person, communication can be a very effective way to overcome that gap. Network with other faculty, talk to them, learn from them, and take encouragement from them. Observing successes and receiving genuine verbal encouragement can help boost our own internal confidence reserves. So, make time to connect with each other and be intentional about sharing your successes, not just commiserating about your challenges.

### **Emotional arousal**

Our own mental state impacts the way we respond to and perceive our sense of self. Bandura (1977) states that “high arousal usually debilitates performance.” When we are feeling mentally distressed about the circumstances surrounding our teaching, it is more difficult to stay positive and confident about how we are performing in the virtual classroom. It is important to practice self-care so that we can remain physically and emotionally healthy, which will help increase optimism and positivity about our own teaching experiences. Resilience when learning a new pedagogical method is critical and is easier to maintain when fear and self-doubt are not dominating thoughts. Taking a mindful minute before each class, practicing



a personal favorite stress management technique, or sharing our concerns with trusted colleagues can help balance our emotional arousal and should be made a priority.

Another potential reason for the decrease in teaching confidence in the online environment may be directly related to a lack of student engagement. Educators are professionals with the highest regard for student learning who desire to meet the social and emotional needs of students. As such, teachers need to experience successes in the online environment, attend quality professional development regarding design and implementation of online instruction, and receive quality feedback from their students.

### Blended learning

Whether teaching fully online, a hybrid model, or in-person with social distancing requirements, in the previous period, due to pandemic, everyone has had to make changes to the way they teach. The pedagogical style and practices that we previously relied on are either no longer an option or are not as effective given the current constraints. So, the tutors, trainers and teachers have adapted, learned the technology, and made necessary adjustments. The pedagogical strategy proposed in this case is blended learning.

Blended learning is nothing new, but it seems to have become increasingly applicable during the pandemic. Blended learning is teaching that does not exclusively use face-to-face learning, but combines the use of digital resources, classroom teaching, online lectures and self-directed learning. What seems like a problem at first is how the tutor monitors the learning process in his student. This problem, as always, is solved by checking the knowledge at the end of the learning process. However, in adult education, this process is somewhat simpler. Adult students want to learn as much as possible. They approach learning differently than children and they are mostly responsible for their own process and ultimately the learning outcomes. Therefore, it could be concluded that in this particular case VET tutors only need to be aware of the blended learning process, organize it and be mentors to their students. Focusing them on the materials and making them aware of learning outcomes will be the most important steps in this process.

### Challenge-based learning

Challenge-Based Learning (CBL) is a pedagogical approach that actively engages learners in a situation that is real, relevant and related to their environment. Core to CBL is that learning is driven by challenging, open-ended problems that have multiple solutions.

Challenge based learning - is a model of teaching in which learners are presented with very serious challenges. Through them they gain experience, making their activities much more meaningful. Combined with engagement and the use of personal potential, these activities serve to seek and process information and create new solutions for the local environment.



## Applying the challenge-based learning approach to learners

Challenge-based learning in practice involves working with learners to identify an existing interdisciplinary issue and then linking it to current events in the local environment and the world and identifying it as a problem. The role of the facilitator is to make learners aware that solving this problem will have a positive impact on the local environment. Afterwards, the facilitator defines the scope of the action to be taken, determines the forms of assistance, develops appropriate tools and monitors the course of work regularly.

Once the learners fully understand the problem and the impact it will have, they can carry out the assigned tasks with commitment, creativity and with their unique ideas. This process requires time and understanding, as well as the guiding hand of the facilitator who will guide or clarify concepts when necessary.

The CBL method can be divided into several stages of work, which are as follows:

### **1. Planning**

In the first step, the facilitator develops a plan of action strategy for implementing the model. In this step, it is important to think about the challenges that students might face. The facilitator should include the acquisition of new knowledge as well as the acquisition of skills. Challenges cannot be detached from reality, they should relate to the material discussed earlier, but also be in line with the needs of society.

### **2. Identifying the main idea**

Step two is formulating questions, brainstorming or initiating a discussion. The learner is given an interesting fact about the main topic of the challenge. It should be briefly introduced to the students in a way that is appealing to them and initiates a conversation/ brainstorming session or online research.

### **3. Practical action**

Learners identify ways to solve the task, think about the questions they need to answer as they work, and list the difficulties that might prevent them from achieving the desired outcome. In this case, the facilitator's role is to help students formulate as many pertinent questions as possible, and to guide them, if necessary, which will increase the overall problem-solving potential.

### **4. Carrying out the actual work**

This step involves the students preparing ways to tackle the challenge. There can be many ideas for solving a specific problem, including actions, films, finished products and research material. In this step the learners use their personal potential and creativity. However, it is crucial that the learners stay aware that everything they are learning today can be of great importance for solving local as well as global problems in the future.





## 5. Presentation of results

The last step is presenting the results of learners work to the public (publications, displays etc.). Such activity emphasizes the importance of students' achievements, motivates them to further research and implementation of innovative and original solutions.

The aim of the CBL method is to enable the learners to acquire knowledge and skills independently, by guiding and encouraging them to use their own creative and unconventional ways, research and brainstorming techniques in order to solve a certain problem. By ENGAGING students, they are encouraged to INVESTIGATE the problem and to ACT appropriately which results in creative problem solving and the development of their skills at different levels and in different fields.



## Module 3: Training materials for supporting VET tutors and career guidance experts to develop their digital skills

The module aims to empower VET tutors with the necessary knowledge and skills that will allow them to create new media-rich curriculum resources for their learners.

The module comprises 18 training resources, each of the training resource including a short tutorial and guidance for a hands-on workshop. The guidelines for the hands-on workshop are divided per 3 main sections as the following:

- the section “What to use” gives details on the available software to be used
- the section “Why to use it” gives information on the advantages of the chosen software and/or its added value to VET
- the section “How to use it” provides the user with the step-by-step process to be used for the chosen resource

Finally, each of the training resources provides also sources & references such as links to Power Point presentation, video tutorials or any other resource (included free online available resources).

At the end of the module, the VET tutors will be able to create new media-rich curriculum resources by themselves, as they will become able to understand and learn about the potential of the new media rich curriculum resources.





## 2.4. Training resources no.1 - Creation of Videos

<p>Training resource title</p>	<p>Creation of videos by using VideoScribe</p> 
<p>Duration (min)</p>	<p>13 min tutorial</p>
<p>What to use</p>	<p>VideoScribe: <a href="https://www.videoscribe.co/en/">https://www.videoscribe.co/en/</a></p>
<p>Why use it</p>	<ul style="list-style-type: none"> <li>● Easy-to-use interface</li> <li>● Available on many devices</li> <li>● Contains many pre built images and cliparts</li> <li>● Videos can be exported in high quality</li> </ul>
<p>How to use it</p>	<ol style="list-style-type: none"> <li>1. Go to <a href="https://www.videoscribe.co/en/Sign-Up">https://www.videoscribe.co/en/Sign-Up</a> and create an account</li> <li>2. Click “Create a Scribe”</li> <li>3. Click “Add Text” on bottom right corner, and choose personalised details such as font and filter</li> <li>4. Click on the “Drawing Options” section to set time specifications</li> <li>5. Click the “tick” when you are done</li> <li>6. Click the image icon on the bottom right section to add an image</li> <li>7. Use the search bar in the “Add Image” section to choose an animation suited to the text, or upload your own</li> <li>8. Click the camera icon to set camera to current position, so that the image and text are in frame when video plays</li> <li>9. Drag the images/text at the bottom to change the order if desired</li> <li>10. Click “Add text” again to start new section of video, and make sure to scroll to a blank part of the canvas</li> <li>11. Use top right for personalised background</li> <li>12. Click on the “Play” button in the top right corner to preview video or see the finished product</li> <li>13. Click “Save” in the top left corner to save video</li> <li>14. Click “Export” in top right corner to download video</li> </ol>
<p>Sources &amp; references</p>	<p><a href="#">How To Use VideoScribe Tutorial - Full Sparkol Video Scribe Training in Only 13 Minutes</a></p>





Training resource title	Creation of videos by using PowToon 
Duration (min)	15 min Tutorial
What to use	PowToon: <a href="https://www.powtoon.com">https://www.powtoon.com</a>
Why use it	<ul style="list-style-type: none"><li>● User-friendly visual communication platform</li><li>● Intuitive interface</li><li>● Quick and easy tool for videos and presentations</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://www.powtoon.com/">https://www.powtoon.com/</a> to sign up for a free account</li><li>2. Click on the button “Make a PowToon” on the top left or use the “Templates” button above to use pre-built animation templates</li><li>3. Click on “Blank PowToon” in the menu above to start a new PowToon</li><li>4. Choose a look for your PowToon</li><li>5. You can add new slides on the left and choose a scene or select one among the suggested built-in animated scenes intros and situations on the right</li><li>6. Click on the tabs on the right to personalize your text and background and add your own pictures and music to your video or record your voiceover</li><li>7. You can change intro and exit effect behaviour for every images or text on the timeline below</li><li>8. Click on “Export” and choose how you want to export your PowToon</li></ol>
Sources & references	<a href="#">Tutorial: How to Use Powtoon FREE</a>





Training resource title	Creation of videos by using Vimeo 
Duration (min)	4 min Tutorial
What to use	Vimeo Create
Why use it	<ul style="list-style-type: none"><li>● All-in-one video software</li><li>● Uncomplicated</li><li>● Suitable for professionals, teams and organisations</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://vimeo.com/create/video-maker-online">https://vimeo.com/create/video-maker-online</a>, and click on “New video” on the top left to create a video</li><li>2. Sign up and select the “Create” button on the left and choose your template</li><li>3. You can customize your text and add photos and videos to your background</li><li>4. At the toolbar on your left you can change style, color and format of your video or add music to it</li><li>5. Click on “Save &amp; preview” on the top left to create a preview</li><li>6. Click on “Finalize” to download or publish your video on social media channels</li></ol>
Sources & references	<a href="#">How to use Vimeo Create</a>





Training resource title	Creation of videos by using Animiz/Animaker 
Duration (min)	10 min Tutorial
What to use	Animaker
Why use it	<ul style="list-style-type: none"><li>● User-friendly interface</li><li>● Variety of options for characters</li><li>● Has many template options</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://www.animaker.com/?gspk=Y2hlbnNvbmdiaW40MTQz&amp;gsxid=t7ZdxobztoPO&amp;sid=c-131078-animaker">https://www.animaker.com/?gspk=Y2hlbnNvbmdiaW40MTQz&amp;gsxid=t7ZdxobztoPO&amp;sid=c-131078-animaker</a> and click "Sign up"</li><li>2. Click "Create" to create videos, GIFs, characters, voice recordings or presentations</li><li>3. Click on "Create a video" to start a blank project or choose your template</li><li>4. On the left side you can choose personalisations such as backgrounds, characters, music tracks, videos, images, stickers and texts</li><li>5. Click on "Create character" and add animated effects or voice recordings and dialogues to your own character to use on a video</li><li>6. Click on the "Preview" icon on top to get a complete view of your timeline</li><li>7. Click on "Publish" to export your final video</li></ol>
Sources & references	<a href="#">Animaker - Tutorial and Complete Review!! [ 2021 ]</a>





Training resource title	Creation of videos by using Open Shot Editor 
Duration (min)	10 min Tutorial
What to use	Open Shot Editor
Why use it	<ul style="list-style-type: none"><li>● Free and open-source video editing tool</li><li>● Friendly to use</li><li>● Quick to learn</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://www.openshot.org/">https://www.openshot.org/</a> and download the software</li><li>2. Click on "Import file" on top to import your video, audio or image files on the project panel on the left</li><li>3. Once added you can drop the files on the timeline at the bottom to compose your clip video</li><li>4. Right-click on a clip to crop, rotate or scale your clip or to apply video and audio transitions or to change volume level and audio speed rate</li><li>5. You can enable the Razor tool above the timeline to split the clips</li><li>6. Click on "Title" and choose among different animated text templates</li><li>7. Click on "Choose profile" to adjust size and frame</li><li>8. You can check the video preview on the right</li><li>9. Click on the "Export video" button above to export your final video</li></ol>
Sources & references	<a href="#">OpenShot Video Editor - Tutorial for Beginners in 10 MINUTES!</a>





## 2.5. Teaching resources no.2 - Creation of Digital Breakouts

Training resource title	Creation of digital breakouts by using Word Search Maker 
Duration (min)	10 min Tutorial
What to use	Word Search Maker
Why use it	<ul style="list-style-type: none"><li>● Easy-to-use online tool</li><li>● Wide selection of puzzles</li><li>● Can be either downloaded or played online</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Write a title and a description and supply a single theme-based word list to create a word search puzzle</li><li>2. Submit your puzzle and share it with your friends to instantly play online or simply download it</li><li>3. Click on “Word puzzles” on the top left to access a wide collection of online word search puzzles on different topics</li><li>4. Click on the “Search” tab above to search for a puzzle</li></ol>
Sources & references	<a href="https://thewordsearch.com/maker/">https://thewordsearch.com/maker/</a>

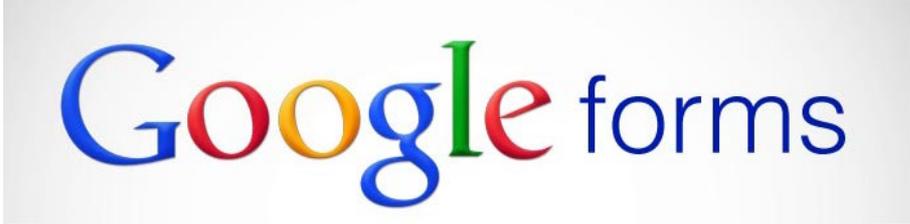




Training resource title	Creation of a storytelling by using Storyboardthat 
Duration (min)	5 min Tutorial
What to use	Storyboardthat
Why use it	<ul style="list-style-type: none"><li>● Browser-based Storyboard Creator for visual and graphic storyboards, comics and posters</li><li>● Up to 2 Storyboards per week with free account</li><li>● Suitable for educational, personal and corporate use</li><li>● Intuitive interface</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://www.storyboardthat.com/">https://www.storyboardthat.com/</a> and log in with your Google Account</li><li>2. Click on the “Create a Storyboard” button above to get started</li><li>3. Click on “Add / delete cells” on the bottom line to add the numbers of cells that you need and update your storyboard</li><li>4. Select the “Layout” button to add a title or a description</li><li>5. You can drag pre-loaded scenes, backgrounds, characters, word balloons and pre-formed texts into the cells from the panel on the top</li><li>6. You can use the “Search” tab to search for items to add to your scene</li><li>7. Click on “Copy scene” on the bottom line to copy/paste an entire cell</li><li>8. Click on “Move cells” to rearrange scenes</li><li>9. Click on “Save” to save your Storyboard</li><li>10. Click on “View details” on the bottom and copy/paste the link to turn your project into your teacher</li></ol>
Sources & references	<a href="#">How to Use Storyboard That</a>



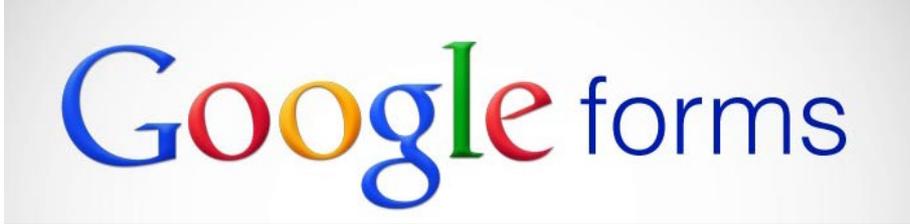


Training resource title	Digital Breakouts with Google Forms 
Duration (min)	20 min Tutorial + 40 min hands-on workshop
What to use	Google forms
Why to use it	<ul style="list-style-type: none"><li>• Easy to use.</li><li>• Intuitive.</li><li>• Possibility to create a wide variety of questions.</li><li>• Possibility to include images, videos and visual resources.</li><li>• Available with everyone with a google account.</li></ul>
How to use it	<p>To make mathematics more fun you have decided to create a breakout for your students. You have been working on multiplication and division lately so you have decided to create a story about Katherine Johnson, also known as “The human calculator”. In your story, Katherine Johnson has lost her ability to do operations and your students have to help her regain her gift by completing mathematical challenges. Create a breakout with a story that contextualizes the breakout and with 4 challenges that students must complete correctly in order to give Katherine her gift back. Remember to put a final message congratulating them for their efforts.</p> <p>Step 1: Watch the tutorial “Digital Breakout with Google Forms”. Step 2: Write in a piece of paper the challenges and the final challenge. Step 3: Open a new form in Google Forms. Step 4: Add the challenges in the Google Form and be careful with the sections and interactions. Step 5: Create a final code. Step 6: Don’t forget to write a final message congratulating. Step 7: Share your quiz with the rest.</p>
Sources & references	Tutorial: <a href="https://youtu.be/C8xyu-PPNAI">https://youtu.be/C8xyu-PPNAI</a>





## 2.6. Teaching resources no.3 - Development of Quizzes

<p>Training resource title</p>	<p>Quizzes with Google Forms</p> 
<p>Duration (min)</p>	<p>20 min Tutorial + 40 min hands-on workshop</p>
<p>What to use</p>	<p>Google forms</p>
<p>Why to use it</p>	<ul style="list-style-type: none"> <li>• User friendly interphase</li> <li>• Multiple type of questions</li> <li>• Interactive</li> <li>• Intuitive</li> <li>• Possibility to grade students' knowledge</li> <li>• Possibility to include images, videos and visual resources</li> <li>• Available with everyone with a google account</li> </ul>
<p>How to use it</p>	<p>Imagine that you are in a technology class and you have been learning about the life of Hedy Lamarr, a woman who became famous for being known as “the most beautiful woman in the history of cinema” but who later, because of her intelligence, became the inventor of the communications system called “Spread spectrum transmission technique”.</p> <p>Create a quiz in google forms to check how much your students have learned about the topic.</p> <p>Step 1: Watch the tutorial “How to create a Google Forms Quiz”.</p> <p>Step 2: Write in a piece of paper the questions and answers you want to add.</p> <p>Step 3: Open a new form in Google Forms.</p> <p>Step 3: Add the question in the Google Form and be careful with the sections.</p> <p>Step 4: Share your quiz with the rest.</p>
<p>Sources &amp; references</p>	<p>Tutorial: <a href="https://youtu.be/p4lINhYinuM">https://youtu.be/p4lINhYinuM</a></p> <p>Link extra: History of Hady Lamar <a href="https://youtu.be/L-Rn6q4o ko">https://youtu.be/L-Rn6q4o ko</a></p>





Training resource title	Quizzes with Socrative 
Duration (min)	20 min Tutorial + 40 min hands-on workshop
What to use	Socrative
Why to use it	<ul style="list-style-type: none"><li>• Easy to use.</li><li>• Multiple type of questions.</li><li>• Interactive.</li><li>• Intuitive.</li><li>• Possibility to grade students' knowledge.</li></ul>
How to use it	<p>Use Socrative to create a quiz on whatever you are currently teaching in your subject. Try to use all the question types that Socrative provides and encourage students to do the quiz.</p> <p>Step 1: Watch the tutorial “Socrative Tutorial – Quiz Creation and Launch” Step 2: Open Socrative and create an account Step 3: Click the “quiz” option and “add a new quiz” Step 3: Write a name for your quiz Step 4: Add questions Step 5: Write the question and the possible answers Step 6: Select the correct answer Step 7: When you finish, click “Save and Exit”</p>
Sources & references	Tutorial: <a href="https://youtu.be/zaaSVwq6adU">https://youtu.be/zaaSVwq6adU</a>





Training resource title	Creation of quizzes by using Mentimeter  <b>Mentimeter</b>
Duration (min)	10 min Tutorial
What to use	Mentimeter
Why use it	<ul style="list-style-type: none"><li>● Free digital software</li><li>● Easy-to-use interface</li><li>● Interactive classes, presentations and workshops</li><li>● Real-time feedbacks</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Go to <a href="https://www.mentimeter.com/login?continue=/app">https://www.mentimeter.com/login?continue=/app</a> and sign up for free account</li><li>2. Click on “My Presentations” tab on the left side to access previous presentations or run a new one</li><li>3. Click on “New presentation” to create new one and choose your own theme and built-in template</li><li>4. Choose among different quiz or content slides to create your own type of question</li><li>5. Below the question you can decide the number of answers each participant can send</li><li>6. You can use the “Profanity filter” to avoid use of inappropriate words</li><li>7. Click “Add slide” to add a new question to your presentation</li><li>8. Tell your students to go to <a href="https://www.menti.com/">https://www.menti.com/</a> and join the presentation using the 7 digit code</li></ol>
Sources & references	<a href="https://www.youtube.com/watch?v=9KvNg4Tc8eg">https://www.youtube.com/watch?v=9KvNg4Tc8eg</a>





Training resource title	Creation of quizzes using Kahoot 
Duration (min)	7 min tutorial
What to use	Kahoot
Why use it	<ul style="list-style-type: none"><li>● Encourages students to be more creative</li><li>● Teaches students how to research independently</li><li>● Students take control of their own learning</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Sign up for free with a teacher account</li><li>2. Click the "Create Kahoot" option that appears</li><li>3. Click "Enter Kahoot title" in top left corner and choose a title and a language</li><li>4. Click "Add question" to create a question for learners</li><li>5. Below the question there is an option to upload an image for visual aids</li><li>6. On the left, choose the time limit for each question, and the number of points a student will receive</li><li>7. Add your answers at the bottom (must add at least 2 answers per question)</li><li>8. Click the "tick" on the answer that is correct</li><li>9. Click "done" to finish creating quiz</li><li>10. Click "My Kahoots" to find your quizzes</li></ol>
Sources & references	<a href="https://www.youtube.com/watch?v=zBkVp8-CDeo">https://www.youtube.com/watch?v=zBkVp8-CDeo</a>





## 2.7. Teaching resources no.4. How to make WebQuests

<p>Training resource title</p>	<p>WebQuests with MS Word</p> 
<p>Duration (min)</p>	<p>20 min Tutorial + 40 min hands-on workshop</p>
<p>What to use</p>	<p>MS Word</p>
<p>Why to use it</p>	<ul style="list-style-type: none"> <li>• Easy to use.</li> <li>• Very intuitive.</li> <li>• Different functionalities.</li> <li>• Available for everyone with a Microsoft account.</li> <li>• Possibility to insert different type of media resources, text fonts and styles.</li> </ul>
<p>How to use it</p>	<p>Open MS Word and design a WebQuest according to the structure you have learned. You don't have to search all the links, just think the theme, topics, and structure you want for your WebQuest. What is the knowledge you want to acquire? What skills are developed in this WebQuest? How many and what are the tasks that must to be followed?</p> <p>Step 1: Watch the tutorial "What is a WebQuest and how to create one".</p> <p>Step 2: Open MS Word.</p> <p>Step 3: Think about the topic and the tasks you want to add.</p> <p>Step 4: Propose a structure of the WebQuest.</p>
<p>Sources &amp; references</p>	<p>Tutorial: <a href="https://www.youtube.com/watch?v=9g0Tq0IbCh4">https://www.youtube.com/watch?v=9g0Tq0IbCh4</a></p> <ul style="list-style-type: none"> <li>• Word for Windows training: <a href="https://support.microsoft.com/en-us/office/word-for-windows-training-7bcd85e6-2c3d-4c3c-a2a5-5ed8847eae73">https://support.microsoft.com/en-us/office/word-for-windows-training-7bcd85e6-2c3d-4c3c-a2a5-5ed8847eae73</a> <ul style="list-style-type: none"> <li>○ Create a document in word: <a href="https://support.microsoft.com/en-us/office/create-a-document-in-word-aafc163a-3a06-45a9-b451-cb7250dcbaa1?wt.mc_id=otc_word#">https://support.microsoft.com/en-us/office/create-a-document-in-word-aafc163a-3a06-45a9-b451-cb7250dcbaa1?wt.mc_id=otc_word#</a></li> <li>○ Add and edit text: <a href="https://support.microsoft.com/en-us/office/add-and-edit-text-ed1e3147-a846-41ca-8087-49e324cb50bd?wt.mc_id=otc_word#">https://support.microsoft.com/en-us/office/add-and-edit-text-ed1e3147-a846-41ca-8087-49e324cb50bd?wt.mc_id=otc_word#</a></li> <li>○ Add and format text: <a href="https://support.microsoft.com/en-us/office/add-and-format-text-2e76a31b-a6d6-4b4e-95c2-fb780e3ac8d3?wt.mc_id=otc_word#">https://support.microsoft.com/en-us/office/add-and-format-text-2e76a31b-a6d6-4b4e-95c2-fb780e3ac8d3?wt.mc_id=otc_word#</a></li> <li>○ Change margins: <a href="https://support.microsoft.com/en-us/office/change-margins-da21a474-99d8-4e54-b12d-a8a14ea7ce02?wt.mc_id=otc_word#">https://support.microsoft.com/en-us/office/change-margins-da21a474-99d8-4e54-b12d-a8a14ea7ce02?wt.mc_id=otc_word#</a></li> <li>○ Insert a table: <a href="https://support.microsoft.com/en-us/office/insert-a-table-a138f745-73ef-4879-b99a-2f3d38be612a?wt.mc_id=otc_word#">https://support.microsoft.com/en-us/office/insert-a-table-a138f745-73ef-4879-b99a-2f3d38be612a?wt.mc_id=otc_word#</a></li> </ul> </li> </ul>





## 2.8. Teaching resources no.5 - Development of QR codes, posters and infographics

Training resource title	<p>Posters with Canva</p> 
Duration (min)	20 min Tutorial + 40 min hands-on workshop
What to use	Canva
Why to use it	<ul style="list-style-type: none"> <li>• User friendly</li> <li>• Interactive.</li> <li>• Intuitive.</li> <li>• Possibility to use a wide variety of visual resources.</li> <li>• Wide variety of images and visual elements.</li> <li>• Existance of different templates.</li> </ul>
How to use it	<p>Imagine you are hired to design the poster for a cooking class. The event will be a week after you read this activity and it will last an entire morning. Choose your template wisely or design a new one. Just make sure that you have an attractive title, slogan, logo and that the day and time are well shown. Remember that it is a cooking class, so choose the elements according to the topic and work for the poster to engage people and want them to sign up for the class.</p> <p>Step 1: Watch the tutorial “How to use Canva for beginners”.</p> <p>Step 2: Open Canva and create an account.</p> <p>Step 3: Choose a template from the posters section.</p> <p>Step 4: Choose the elements you are going to include.</p> <p>Step 5: Share with the rest of the people your result.</p>
Sources & references	<p>Tutorial: <a href="https://www.youtube.com/watch?v=zJSgUx5K6V0">https://www.youtube.com/watch?v=zJSgUx5K6V0</a></p> <p>Design stunning posters in Canva: <a href="https://www.youtube.com/watch?v=9_TRnwSmALw">https://www.youtube.com/watch?v=9_TRnwSmALw</a></p>





Training resource title	Posters with Power Point 
Duration (min)	20 min Tutorial + 40 min hands-on workshop
What to use	Power Point
Why to use it	<ul style="list-style-type: none"><li>• User friendly</li><li>• Very intuitive.</li><li>• Different functionalities.</li><li>• Available for everyone with a Microsoft account.</li><li>• Possibility to insert different type of media resources, text fonts and styles.</li></ul>
How to use it	<p>You are hired to design a poster for a thematic day in your School. The thematic day will turn around women in science. The task is to create a poster that invite people to attend the day and all its activities. It will be a week after you read this activity and it will have a duration of 4 hours in the afternoon. Make sure that the elements you use are accordingly selected to the topic and that the day and time are well shown. Don't forget this is an event that aims to empower young women to study STEAM careers. Go and design a poster that will engage people and invite them to attend the event!</p> <p>Step 1: Watch the tutorial "How to use PowerPint (Basics)". Step 2: Open Power Point. Step 3: Choose a template for your poster. Step 4: Choose the elements you are going to include (pictures, text, icons) Step 5: Save your result and share it with the rest of the people.</p>
Sources & references	Tutorial: <a href="https://www.youtube.com/watch?v=Eer0_GHEumM">https://www.youtube.com/watch?v=Eer0_GHEumM</a>  How to create a poster in PowerPoint: <a href="https://www.youtube.com/watch?v=1c9Kd_mUFDM">https://www.youtube.com/watch?v=1c9Kd_mUFDM</a>





Training resource title	QR codes with QR Monkey 
Duration (min)	20 min Tutorial + 40 min hands-on workshop
What to use	QR Monkey
Why to use it	<ul style="list-style-type: none"><li>• User friendly</li><li>• Intuitive.</li><li>• Available online in a free version.</li><li>• Only needs a url.</li><li>• Possibility to download the file in different formats.</li></ul>
How to use it	<p>You are preparing an activity in your classroom that involves YouTube videos. These videos are about a topic you are working on in class, short videos related to the topic that you want your students to watch. In order to make it more fun, you decide to generate QR codes for each of the videos and distribute them in the class and school, so students have to find them, watch the video and then get back to you with their reflections.</p> <p>Step 1: Watch the tutorial “QR Code Tutorial – QR Code Monkey”. Step 2: Open QR Monkey. Step 3: Insert the link you want to transform. Step 4: Download the QR Code. Step 5: Save it as a PNG image.</p>
Sources & references	Tutorial: <a href="https://www.youtube.com/watch?v=EW-A9tJLPbc">https://www.youtube.com/watch?v=EW-A9tJLPbc</a>





<p>Training resource title</p>	<p>Interactive infographics with Genial.ly</p> 
<p>Duration (min)</p>	<p>20 min Tutorial + 40 min hands-on workshop</p>
<p>What to use</p>	<p>Genial.ly</p>
<p>Why to use it</p>	<ul style="list-style-type: none"> <li>• User friendly</li> <li>• Interactions</li> <li>• Animated elements</li> <li>• Easy to use</li> <li>• Gamified resources</li> <li>• Wide variety of templates</li> <li>• Possibility to create a lot of different type of resources</li> </ul>
<p>How to use it</p>	<p>To get started with your classes, you decide to create an infographic about the subject you teach. Use Genially and all its elements to create an interactive infographic that shows to the students the topics, skills, and activities you will perform during the year. Don't forget to make it attractive and interactive.</p> <p>Step 1: Watch the tutorial "Getting started with Genial.ly!".</p> <p>Step 2: Open Genial.ly and create an account.</p> <p>Step 3: Choose a template from the interactive images section.</p> <p>Step 4: Choose the elements you want to add in your infographic.</p> <p>Step 5: Save and share it with the rest of the people.</p>
<p>Sources &amp; references</p>	<p>Tutorial: <a href="https://www.youtube.com/watch?v=49YQifsXwLA">https://www.youtube.com/watch?v=49YQifsXwLA</a></p> <p>How to make an interactive image: <a href="https://www.youtube.com/watch?v=skCdIBnk-9I">https://www.youtube.com/watch?v=skCdIBnk-9I</a></p> <p>Genially – infograpchics: <a href="https://www.youtube.com/watch?v=2YMwDNC2Yzc">https://www.youtube.com/watch?v=2YMwDNC2Yzc</a></p>





Training resource title	Creation of Interactive infographics by using MS PowerPoint 
Duration (min)	10 min Tutorial + 110 min hands-on workshop)
What to use	PowerPoint QRCode Monkey
Why use it	<ul style="list-style-type: none"><li>• Easy to use interface</li><li>• Wide variety of templates to choose from</li><li>• Easy to create colourful and attractive designs</li></ul>
How to use it	<ol style="list-style-type: none"><li>1. Open PowerPoint</li><li>2. Go to the Design Menu, click on the "Slide Size" button and choose "Custom Slide Size"</li><li>3. Choose Portrait orientation and the appropriate slide size</li><li>4. Add text and elements to the slide</li><li>5. Organise everything in an attractive way</li><li>6. Go to <a href="https://www.qrcode-monkey.com/">https://www.qrcode-monkey.com/</a></li><li>7. Copy the desired link from any website/file and paste it in the "Content" tab</li><li>8. Click the "Create QR Code" button</li><li>9. Click the "Download PNG" button</li><li>10. Insert the QR code to the poster</li><li>11. Right-click on the QR code, choose the Hyperlink button and paste the same link to the website/file used in the QRCode Monkey tool</li><li>12. Save the poster in pdf format</li></ol>
Sources & references	<a href="https://www.youtube.com/watch?v=NZfVV8PG1b0">https://www.youtube.com/watch?v=NZfVV8PG1b0</a> <a href="https://www.youtube.com/watch?v=M9FMjawbgJo">https://www.youtube.com/watch?v=M9FMjawbgJo</a>



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