CEDIS
Circular Economy in DIgital Storytelling

Desk Research
Spain

Index

1. The context

The CEDIS project, which stands for Circular Economy in Digital Storytelling, aims to rethink key concepts such as 'circular economy', 'sharing', 'efficiency', 'sustainable development' and 'everyday behaviour' across Europe. The aim is to reduce the impact of climate change on participants' lives. Inclusion and diversity, environmental concerns, circular economy principles, digital storytelling methodology and digital conversion approach are the core pillars of the project.

In recent years, climate change has affected many regions of the world, resulting in various impacts. The Digital Storytelling School Education Methodology promoted by CEDIS emphasises collaboration and trust. It encourages teachers and students to consider forms of sharing and co-ownership within their protected contexts, as well as sharing assets based on their interests and living environments.

Digital storytelling has emerged as an important aspect of contemporary education, especially in secondary schools. It provides an interactive tool for expression and learning, combining traditional storytelling methods with digital media. In classrooms, the process begins with the selection of a topic relevant to students, ranging from historical events to personal reflections. Students engage in critical thinking and collaborate with peers, refining their stories until they are engaging and impactful.

2. The desk research

The main objective of this working paper was to research and compile general and national data, information, and resources related to Digital Storytelling (DST) as a learning methodology and Circular Economy (CE) as a topic for secondary education.

Project partners investigated previous experiences of using DST to teach Circular Economy across different fields and sectors. The collected material provided an up-to-date overview of digital tools and software, particularly mobile applications, suitable for DST. These tools were analyzed in terms of accessibility for students, ease of installation and use, cost-effectiveness (preferably free), and relevance to current trends in media consumption, such as the shift among young people from platforms like YouTube to TikTok. This analysis contributed to improving teachers' and students' media literacy, including awareness of open-source versus proprietary software and platform-based economies.

Partners selected and documented a set of Best Practices (three per country) related to DST and Circular Economy education, including national initiatives and learning materials available in each partner's language. The research also examined how Circular Economy and Sustainability topics were addressed across different national school curricula, acknowledging country-specific priorities and practices (e.g. plastic waste, electronic waste, sharing economy).

In addition, six video interviews with national experts or activists (one per partner country) were conducted to provide professional insights into DST and Circular Economy. An exemplary list of potential topics for student-produced digital stories and a list of suitable digital tools for their dissemination were also developed.

The desk research consists of 4 different sections

- **DST in the Secondary School Context.**

Report on up-to-date, existing digital tools and devices to apply DST in schools, descriptive types of Digital Stories and their current use in secondary schools and usability in the Classroom.

- **Collection of Best Practices.**

Collection of Best Practices of Digital Storytelling on Circular Economy in any field or sector.

- **National Reports about Education.**

Six National Reports about Education on Circular Economy in Secondary Schools (English and the six project's national languages).

- **Interview with a national expert.**

Collection of high-quality Video Interviews to national experts/activists on Digital Storytelling and on Circular Economy. 1 for each partner

3. Key Findings on DST in the Secondary School Context

3.1 The use of DST in the Secondary School Context.

In Spain, the use of digital applications and virtual platforms in schools has grown in recent times. New technologies are expected to continue to emerge in the future. This implies a change in teacher training and curriculum development with new interactive educational experiences and skills, improved teacher-student interaction, both face-to-face and distance learning, and a more market-driven teaching process.

Communicating effectively in the educational environment is essential, so the introduction of innovative techniques such as storytelling is appropriate.

It is clear that the creation of digital storytelling helps students to acquire key skills in their education.

As a result, the use of digital storytelling in education has experienced a particularly remarkable growth in recent years.

A study carried out by the University of Murcia on the knowledge and use of digital storytelling in secondary education classrooms yields the following figures:

51.3% of respondents mentioned that they do know about digital narratives; similarly 55.1% of teachers know what types of narratives exist; and finally 51.3% of respondents know that digital narratives are used as a methodology in the educational environment.

The teachers under study are in a process of training in the technical management of digital tools in order to improve the quality of education in accordance with the technologies applied in the education system. 50% of the teachers "agree" that it is important to use narratives.

Finally, it was concluded that the use of digital narratives indicates satisfactory levels in relation to their high academic performance in terms of final grades in their subjects.

3.2 Types of Digital Stories

The technique of digital storytelling in education allows for the creation of different types of stories. These can be classified into three groups:

1. Personal narratives. These can range from stories of one's own life experiences to creative fictional stories. To work well, they must have an engaging beginning, a middle and an end with a conclusion. They can be used to work on creative writing, as well as cross-cutting themes or education in values.
2. Stories that analyse historical events. They narrate and examine the milestones that have marked history. They can be illustrated using archival materials such as audio, images, videos, headlines from

old newspapers.
3. Informative or instructive stories. These are used to present and develop different topics or content, or even to explain processes.

In Spain there are many initiatives for the use of this tool in schools. An example of this is the EDIA project, promoted by CEDEC, a body under the Ministry of Education, Vocational Training and Sports through the National Institute of Educational Technologies and Teacher Training (INTEF). This project promotes and supports the creation of digital and methodological transformation dynamics in schools to improve student learning and promote new models of educational centres. It also provides schools with quality digital educational resources and content for the use and development of DST in the classroom. Furthermore, the Sub-Directorate General for Territorial Cooperation and Innovation in Spain encourages the development and promotion of studies and reports on innovation and good practices in education, including the use of digital storytelling in education

3.3 Usability of DST in the classroom.

"Stories of yesterday for people of today" is an activity in which students have to create animated digital stories, using the technique called "stop motion" (a succession of still images), made from the transformation of fragments of classic narrative in Spanish. This activity is part of a national government initiative.
"Storytelling Robots project". An initiative of an educational centre in Vila-seca in the province of Tarragona. This project aims to introduce educational robotics, audiovisual creation, service learning and collaborative work in the classroom in order to carry out motivating and meaningful activities to learn new content, while at the same time making use of the foreign language.
Collaborative work is carried out to create a game related to an illustrated album and audiovisual content to create stories.
This game can be exported to different realities and can be used by students from other schools to enjoy their creations and, at the same time, learn English.
"The Periodic Table of Storytelling".
stories can be connected to form molecules based on the priority elements that serve to define them. The story relates the seven elements that make up the semi-metals: Boron, Silicon, Germanium, Arsenic, Antimony, Tellurium and Polonium. Moreover, they are narrated in the same order in order to favour their positioning in the periodic table. An activity that, according to the results obtained, helps to improve students' grades in physics and chemistry.

3.4 Digital tools and devices

1.	
Name	**CreAPPcuentos**
Description (up to 500 characters)	This application allows you to create your own story and become the protagonist of your adventures! You can: - Choose a background for your story.

1.	
	- Use stickers to bring your creation to life.
	- Mix characters and objects from different sticker packs.
	- Make up a story: Write and edit text in different sizes and colours and place them wherever you want.
	- Add audio: Record your own narration or use sounds from the app's library.
	- Create as many pages as you want; change their order and browse through existing pages.
Keywords	**CreAPPcuentos ipad story**
Language(s)	Spanish
Best suited for (name comma-separated tasks that can be achieved with the use of this tool)	Creating stories. Create digital stories. Encourage pupils' creativity. To increase pupils' knowledge of digital skills.
Ease of use (provide a rating of 1 = very easy to use, 5 = extremely hard to use)	Users of the application agree that it is very easy and intuitive to use. You don't need to have extensive knowledge of digital skills.
Price (put 0 for a free tool)	Free
Logo of the tool	
Link	https://apps.apple.com/es/app/creappcuentos/id777978879

2.	
Name	Sway
Description (up to 500 characters)	Sway is a digital storytelling application that will help you create professional, interactive layouts in just minutes for images, text, videos and other multimedia files. It is a microsoft application. With this application you can: - Create digital content - Transform photos, videos, audio files, graphics, tweets and other elements into an elegant format and design to share with students, teachers and parents. Parents and others can view Sways on any device if a link is sent to them.
Keywords	Digital storytelling, digital content, education, parents, multimedia
Language(s)	Spanish
Best suited for (name comma-separated tasks that can be achieved with the use of this tool)	Students will be able to use it for presentations, and it is also a suitable medium for teachers to use. The compatibility with other Microsoft applications can also be highlighted, so that interesting synergies can be created.
Ease of use (provide a rating of 1 = very easy to use, 5 = extremely hard to use)	Sway is an easy-to-use tool, but there is a learning curve.
Price (put 0 for a free tool)	Free for individuals
Logo of the tool	

2.	
Link	https://sway.cloud.microsoft/

3.	
Name	StoryJumper
Description (up to 500 characters)	StoryJumper helps you share the stories in your heart and mind - both with those around you and across the world. Becoming a published author helps you make a real impact, leave a legacy, and share engaging stories people will love. With StoryJumper, you transform your ideas into reality - in a lasting, impactful way! We can make digital stories from a window that appears in the application and offers us several models of books so that we can choose the template that best suits our story. It has scene tools, you can add text and illustrations. We can also add our own narration to the story.
Keywords	Story, narration , digital stories, books

3.	
Language(s)	English
Best suited for (name comma-separated tasks that can be achieved with the use of this tool)	very interesting website to work on the creation of stories. Allows you to publish your own storybooks. Tell Your Story in multimedia format.
Ease of use (provide a rating of 1 = very easy to use, 5 = extremely hard to use)	Easy to use
Price (put 0 for a free tool)	No cost to use StoryJumper online.
Logo of the tool	storyjumper
Link	https://www.storyjumper.com/

4.	
Name	pixton
Description (up to 500 characters)	Pixton is an online tool for creating creative characters and comics. It can be used to reinforce the contents related to the different areas of knowledge of

4.	
	the educational curriculum that encompasses the stages of Primary Education and above. In addition to reinforcing knowledge, this application helps to broaden knowledge and to evaluate the contents worked on from a global perspective.

The tool offers several input options: for teachers, for students, for parents and for businesses.

Pixton provides several options to start creating. Either starting from a comic background with a theme or even starting with the creation of the characters. So it offers different themes and story design ideas, providing a wide range of modification and editing options. It also offers the choice of adding your own images.

Pixton is recommended for ages from primary school upwards. It has a wide range of use in different curricular subjects as it can be worked on in a globalised way. |
| **Keywords** | Comic, storyboard, story, education |
| **Language(s)** | Spanish, English and French |
| **Best suited for**

(name comma-separated tasks that can be achieved with the use of this tool) | Create a storyboard or comic, lay out the comic in any form or start it through a template, combine image and text, dialogue and speech bubbles with numerous choices of format and colour, options for designing characters with expressions and accessories, team comics, alternatives for organising a comic with your own images and personalisation, possibility of sharing with families and friends. |
| **Ease of use**

(provide a rating of 1 = very easy to use, 5 = extremely hard to use) | The first time we use the tool, we will need several sessions to understand how it works, once the students learn how to use it, it will only take a few minutes of class time to get it up and running. |
| **Price**

(put 0 for a free tool) | The tool is not free, but it does have a period of time in which we are allowed to try it out free of charge. Once the trial period is over, payment must be made in order to continue enjoying all the options it offers. |
| **Logo of the tool** | |

4.	
Link	https://www-es.pixton.com

5.	
Name	Buncee
Description (up to 500 characters)	Buncee is a web-based content creation & presentation tool for education. From digital stories, to engaging lessons and projects, the creation possibilities are endless. Featuring an easy-to-use drag and drop interface, thousands of unique graphics and animations, and countless creation tools, Buncee makes it easy to create fun and engaging multimedia based content, such as lessons, projects, activities, portfolios, newsletters, presentations, and more! With unlimited possibilities for bringing learning to life, Buncee is a powerful solution for all users across the schoolhouse. Within the application, educators also have access to classroom-ready templates, as well as Buncee Ideas Lab - which features a variety of tips, tutorials, and template activities, making it easy for classrooms to innovate learning at school - anytime, anywhere, and for nearly anything. With 1000+ templates, and 300+ ideas to choose from, educators can quickly create lessons and class materials, so they can spend more time teaching.

5.	
	Buncee is a simple yet powerful tool for your school. With Buncee, educators and administrators know they have all the resources on hand to personalize instruction and achieve their learning goals with ease.
Keywords	Educators, creation, students, communication tool, multimedia, sharing Ideas.
Language(s)	English
Best suited for (name comma-separated tasks that can be achieved with the use of this tool)	Buncee is for -Creativity -Communication -Critical Thinking -Communication -Inspiring Student Voice -Preparing students to be Future-Ready -Design -Note-Taking -Building School Culture -Digital Storytelling -Makerspace -Reflection -Flipping Classrooms -Differentiating Instruction -Alternate Assessments -Sharing Ideas
Ease of use (provide a rating of 1 = very easy to use, 5 = extremely hard to use)	easy-to-use
Price (put 0 for a free tool)	It is not free. It has a 30-day free trial.
Logo of the tool	

5.	
Link	https://app.edu.buncee.com/

4. Collection of Best Practices of Digital Storytelling on Circular Economy

4.1 Introduction to the selection of the best practices

On the basis that **"best practice" refers to practices that have been proven to work well and produce good results and are therefore recommended as a model**.

The criteria respond to two dimensions of analysis:

1) Content.

a. Adequacy to the general objective and specific objectives.

b. Agents involved.

c. Resources earmarked for its implementation.

d. Methodology of intervention.

e. High degree of coverage of the target population of the practice.

f. Innovation in relation to the resources used, the methodology, the target population...

g. Sustainability and social responsibility.

2) Results.

a. Effectiveness or degree of achievement of objectives.

b. Efficiency or achievement of results in relation to the resources used.

c. Impact or degree of achievement of results.

4.2 Best practices

1	
Case study name	La Familia Soste-Nible (The sustainable family)
Description of the context in which the best practices have been developed	La Familia Soste-Nible is the title of an animated mini-series on environmental education and circular economy made up of 47 micro-episodes, framed within the 2030 Sustainable Development Goals. Specifically, it relates to Goals 3 (health and well-being), 6 (clean water and sanitation), 11 (sustainable cities and communities), 12 (responsible production and consumption), 13 (climate action), 14 (underwater life), 15 (life of terrestrial ecosystems) and 17 (partnerships to achieve the goals). This miniseries explains what the circular economy is and how it is structured in Spain (and therefore Europe) at the level of the citizen. The central body deals with each individual waste; what it accepts and what it does not. The final micro-chapters contain tips on how to reduce our carbon footprint. It is translated into the 4 official national languages.
Location	Spanish Community of Aragon
How the methodology of DST have been used to develop contents related to the Circular Economy	This digital story has been produced, commissioned and created by the Llobregats Association. It is recognised by the Ministry for Ecological Transition as a very useful tool for raising awareness and educating children about the environment. The main objective is that it is a simple practical guide, essential due to the high level of ignorance that citizens have of the circular economy and their obligations as citizens inhabiting the planet.
Target group involved	Students and citizens in general
Three most important issues the case study addresses	Incorporate a digital and attractive tool to introduce the concept of circular economy. Involve them by making them feel that they are the protagonists of the digital story. Generate a real awareness of climate change.
Outcomes of the case study (link)	
Key words (or hashtags) related to the case study	Circular economy, Digital Storytelling, climate change, sustainability

2	
Case study name	**Digital Storytelling for Teachers**
Description of the context in which the best practices have been developed	Digital Storytelling for Teachers is a Spanish government initiative within the framework of the activities designed for teachers to increase their TIC (Information and Communication Technologies) skills with the aim of applying them in their professional field. Digital Storytelling for Teachers is the first online teacher training course offered by INTEF (Instituto Nacional de Tecnologías Educativas y de Formación del profesorado). In this course, teachers from different institutes over two months have carried out interactive tasks of creating digital narratives using different collaborative spaces, participating in Twitter and creating a learning community connected from the virtual classroom of the course. "If a puzzle makes us want to put it together to feel the pleasure of solving the challenge, **with a story we feel an urgent optimism to feel the pleasure of discovering it**, immersing ourselves in a magic circle where we are attentive, active and motivated to find out how the story develops, for the pure pleasure of going through it". This intrinsic motivation of the spectator, which appears as if by magic, can be enhanced by making them not only listen to the story, but also interact with it. In other words, **transforming the spectator into a user**, who can hear and see, but also do and inhabit. And Digital Storytelling gives us that opportunity: we must be able to take

	advantage of that inertia that brings the viewer, who wants to increase their pleasure in discovering how the story unfolds, and facilitate their intrinsic motivation by allowing them to interact with it.
Location	Spain
How the methodology of DST have been used to develop contents related to the Circular Economy	A teacher equipped with the necessary resources to be able to motivate students to create digital stories can apply it to any sector of education. The basis for applying digital stories to the teaching of the circular economy is that teachers have sufficient training and resources to be able to use this powerful tool as an effective educational resource.
Target group involved	Teachers in educational establishments, both schools and higher education institutions
Three most important issues the case study addresses	Training for teachers Government resources for teacher training Digital resources available in schools to carry out the activity of digital storytelling.
Outcomes of the case study (link)	The results of the training would be teachers with greater knowledge and qualifications in this area, which would be of greater benefit to pupils when using this resource.
Key words (or hashtags) related to the case study	#Digitalstorytelling #TrainingTeachers #CircularEconomy #DigitalStoriesInTheClassroom

3	
Case study name	¿Qué es la economía circular? https://www.youtube.com/watch?v=aB2mK5QKyvY
Description of the context in which the best practices have been developed	The Ministry of Ecological Transition and Demographic Challenge within its strategy of transition towards a circular economy has designed a video explaining the concept of circular economy and its consequences through a narrated story.

	With this story, using graphic and visual elements, the aim is to reach out to young people and raise awareness of how the circular economy can positively affect our lives.
Location	The video is published on the social network Youtube and is accessible to all users.
How the methodology of DST have been used to develop contents related to the Circular Economy	The effects of climate change are already evident. Its impact on the hydrological cycle and the biodiversity associated with river ecosystems is very significant. It is up to all of us to act. What better way to internalise the concepts than by watching a story where you can appreciate in more depth the impact that climate change can have and the situation that can be reached if we do not make the transition to a circular economy. Images, numerical data, etc... have been used to create emotions in the viewer and generate awareness in the audience.
Target group involved	Young people, students and users of the Youtube social network in general.
Three most important issues the case study addresses	- To bring the concept of circular economy to young people who are the main users of this application. - To make people who watch the video aware of the concept and the impact it can have on our daily lives. - To convey the concept of circular economy in a fun and entertaining way in order to have a positive impact on the audience.
Outcomes of the case study (link)	The following have been obtained 54.549 views
Key words (or hashtags) related to the case study	#EconomíaCircular #EspañaCircular2030 #TransiciónALaEconomíaCircular

5. National Reports about Education on Circular Economy in Secondary Schools

5.1 Introduction

The legislative frameworks in Spain are characterized by an inadequate and deficient curricular presence, limited to the specific treatment of the topics in specific subjects, which means that the content related to sustainable development and climate change in the body of legislation is insufficient. At this time of regulatory transition, an insufficient improvement in the legislative framework is recognized, as the contents are not generalized in the preamble of the new education law. Technicians and managers have a positive and hopeful view of the new regulatory framework, although the need to develop them in the Royal Decrees of the Autonomous Regions in order to reach the

classrooms is highlighted. The development of educational actions is restricted to the voluntary nature of teachers and schools to implement them.

The development of educational actions is restricted to the voluntary nature of teachers and schools, with the burden of action falling on teachers who are aware of the issue.

Efficient actions are carried out both in the classroom and in the school. Their objectives are to make the problem visible, raise awareness of recycling, develop environmental education projects, train teachers, provide teachers with educational tools and encourage a change in the consumption model. Teachers at all levels, in initial, in-service and occupational training, should be trained in Education for Sustainable Development. This will have an impact on students, who are seen as the decision-makers of the future, by ensuring that they are adequately trained. Finally, the inclusion of enabling mechanisms will make possible interventions that facilitate the development of actions that foster metacognition processes and, as a result, a change in habits.

In order for schools to be drivers of change, it is necessary for them to develop their own projects, which are included in the School Education Project (PEC), and to involve management teams and students in their deployment.

5.2 From Linear to Circular Economy, the directive of the Ministry of Education

The Spanish Circular Economy Strategy lays the foundations for promoting a new model of production and consumption in which the value of products, materials and resources is maintained in the economy for as long as possible, in which the generation of waste is minimised and those that cannot be avoided are used to the greatest possible extent. The Strategy thus contributes to Spain's efforts to achieve a sustainable, decarbonised, resource-efficient and competitive economy.

The Strategy has a long-term vision, Spain Circular 2030, which will be achieved through successive three-year action plans to be developed, which will incorporate the necessary adjustments to complete the transition by 2030.

The Strategy establishes strategic guidelines in the form of a decalogue and sets a series of quantitative objectives to be achieved by 2030:

- A 30% reduction in the national consumption of materials in relation to GDP, taking 2010 as a reference year.
- Reduce waste generation by 15% compared to 2010.
- Reduce food waste generation throughout the food chain: 50% reduction per capita at household and retail level and 20% reduction in production and supply chains from 2020 onwards.
- Increase reuse and preparation for reuse to 10% of municipal waste generated.
- Improve water efficiency by 10%.
- Reduce greenhouse gas emissions to below 10 million tonnes of CO_2 equivalent.

On the other hand, the main lines of action on which the policies and instruments of the Circular Economy Strategy and its corresponding action plans will focus are eight. Five of them are related to closing the circle: production, consumption, waste management, secondary raw materials and water reuse. The remaining three are cross-cutting: Awareness-raising and participation, Research, innovation and competitiveness, and Employment and training.

5.3 Conceptual Background of Circular Economy in Spain

In Spain, the first law that offered a legal definition of the concept of circular economy was Law 16/2017, enforced on the 1st August 2017, on climate change particular only to the Autonomous Community of Catalonia. It would not be until 2022, five years later, when Law 7/2022, of 8 April, on waste and contaminated soils for a circular economy, was enacted, that a definition of the concept of circular economy was offered by the legislator for the whole country.

Over the last decade, sustainable consumption has undergone a process of expansion, gaining presence in the public sphere and on political agendas. The period between the financial crisis of 2009 and the crisis resulting from the COVID19 pandemic has guided Spain into exploring and consolidating alternative economic logics in the face of public disaffection, and the growing perception of the impacts of the climate emergency and the eco-social crisis. However, compared to Europe, Spain is very behind on these issues.

The evolution of the consumption of organic products has experienced permanent growth, which has been particularly intense in the last five years in Spain. This is due to an overwhelming shift in people's perspective on the need for climate action as well as an increased institutional recognition of the consumption and promotion of sustainable lifestyles. Cooperatives for the production and marketing of renewable energy have experienced a boom in 2010, which contributes to benefit this growth in demand.

5.4 Circular Economy and Sustainable Development

Spain manages the circular economy through the Spanish Circular Economy Strategy.

The Circular Economy Strategy is approached in a context in which, both at national, regional and local level, there are already initiatives from which to build a coherent and systematic circular economy model.

The document "General guidelines for the new Spanish industrial policy 2030", prepared by the Ministry of Industry, Tourism and Trade, contains references in its main lines of action to sustainability and circular economy issues. Therefore, the move towards the circular economy, starting with this first Spanish Strategy on the subject, is coherent and compatible with this approach, aimed at promoting greater growth in the size of companies.

The adoption of this Strategy is foreseen in the Agenda for Change, adopted by the Government in February 2019 as a roadmap for the reforms required for sustainable and inclusive growth, and also in the Declaration of Climate and Environmental Emergency approved in February 2020, which includes it among the priority lines of action. Furthermore, it has been recognised as a Lever Policy of the Spanish Government's Action Plan for the 2030 Agenda and is aligned with the Spanish Urban Agenda, taken into consideration by the Council of Ministers on 22 February 2019, which includes within its strategic framework a specific objective, SO.4, on "Sustainable Resource Management and Circular Economy.

5.5 Spanish perspectives On Circular Economies

In Spain, efforts regarding the implementation and promotion of circular economy can be described as relatively recent. The Spanish Circular Economy Strategy, called Spain Circular 2030 was approved by the Spanish Council of Ministers on the 2nd of June 2020, this Strategy expands until 2030 with the aim to create policies and action to combat climate change.

Spain doesn't have a circular economy law like the ones we have seen in other EU countries, so the way to regulate this is marked by the Law on Climate Change and Energy Transition, which set a goal of achieving climate neutrality by 2050.

In this sense, a series of cooperating bodies are being promoted in the country, both between public administrations and through citizen participation plans, which are a very clear example in the promotion of a multilevel culture of circularity to achieve the needed goals.

Circular economy strategies can reduce global greenhouse gas emissions by 39% and play a crucial role in avoiding climate collapse. Creating more efficient and sustainable products will help reduce energy and resource consumption, as it is estimated that more than 80% of a product's environmental impact is determined during the design phase, which is why it is important to continue to promote sustainable production. On the other hand, the transition to a more circular economy will increase competitiveness, stimulate innovation, boost economic growth and create jobs, which Spain will very much benefit from as it is one of the leading countries in unemployment in the EU.

In short, Spain's perspective is that moving towards a more circular economy could generate benefits such as reducing pressure on the environment, improving the security of supply of raw materials, stimulating competitiveness, innovation and economic growth. It will do so by implementing plans and regulations to get all actors of society involved to create a more sustainable future.

6. Interview with a national expert/activist on Digital Storytelling and on Circular Economy.

6.1 Introduction of the expert

Ignacio Masso (Nacho) works for Recurrent Energy (https://recurrentenergy.com/) a multinational company working directly with renewable energy. This company works has two main lines of work; the first one is focused on the selling of solar panels around the world for both individuals and big companies. The second line of work is the development of projects for the promotion and usage of renewable energy, both in creating these projects and also carrying them out. Ignacio works in the second line of work, focused on the projects. He has been working in this company for over 3 years. We chose him as a candidate as he is very invested in the circular economy in his personal life as well as being in a company that links directly to one of the main pillars of circular economy which is Renewable Energy. A lot of the projects that he currently works with are related to the promotion of renewable energy as a way to help the environment.

6.2 Interview highlights on the Circular Economy

In the interview Nacho talks about the rising importance of Circular Economy since the linear model we are currently using is creating more and more pollution, so we all have to do our part in order to mitigate the issue. He talks about focusing on using the resources that are already available and recycle them, reuse them or fix them up instead of buying new ones. He talks about how important renewable energy is for Circular Economy as the main focus of this is using a resource that is already there and taking advantage of it to the fullest. As a society, we are transitioning to use these types of energy more in the present and this is a very positive and recent change and there has been a lot of investment in this by the private and public sector in Spain and other countries. His company focuses on solar panels, but he says that this not the only type of renewable energy and that there are many ways that renewable energies are being used for the benefit of a more sustainable future. He also speaks about the large quantity of these solar panels that are present in Spain in rural areas which highly benefit our country's economy as well as the environment. In the last years technology for this has advanced a lot, but it is important to keep going as he highlights that most of the human consumption of energy still comes from non-renewable sources which means circular economy is not present. Diminishing the consumption of non-renewable energies is one of the main focuses at the moment, not only because these are damaging for the environment but also because they are limited resources that sooner or later will not be available anymore.

In addition to what he spoke about, the benefits of moving to a circular economy, we spoke also about the barriers that we find when trying to promote things in our society. One of the big barriers he talks about is cultural barriers – he mentions how societies are used to using non-renewable energies as it is the most commonly used in the past. Another reason can be that in some cases it is economical reasons in the conventional way (e.g. plastic bottle of water is cheaper than a cardboard bottle of water). Fixing these barriers takes a long time, but it is important to keep promoting it to overcome them.

6.3 Interview highlights on the use of Digital Storytelling

As the interviewer explains, he has knowledge of DST but not in the academic usage. He believes that this can be a very powerful tool to reach all audiences, including kids and adults. He says that using such a dynamic tool is beneficial to promote and learn about different topics such a Circular Economy. He says that it is easier for people to digest information using these tools, as he also adds that in the past years we are all more adapted to screens such as TV or phone screens so having these kinds of tools is necessary to reach new generations and to facilitate the learning of new things.

6.4 List of the main topics to develop during the school lessons

-Linear Economy vs Circular Economy
-Renewable Energy
-Reducing consumption
-Reusing + fixing
-Recycling
-How to do our part in our everyday life

7. Conclusion and recommendations

The use of Digital Storytelling (DST) in secondary school education in Spain has experienced a considerable growth in recent years. This growth aligns with the increasing integration of digital tools and platforms, enhancing teacher-student interactions and supporting both face-to-face, digital and blended learning. Teachers are becoming more proficient with digital tools, recognizing the value of DST as a methodology to boost creativity, communication, and engagement in students.
The data from the University of Murcia highlights that more than half of the teachers surveyed are familiar with DST and recognize its potential in education. Teachers are not only aware of digital

narratives but also actively involved in their use as a teaching methodology. This trend shows a positive shift towards embracing innovative educational practices that better prepare students for a technology-driven world. Furthermore, the various types of DST being used in the classroom, such as personal narratives, historical analysis, and instructional content, provide versatile options for teachers to cater to different learning styles and subjects. This adaptability makes DST a powerful tool for improving student engagement, creativity, and academic performance in schools.

Parallelly with the growth of DST, there is a strong emphasis on integrating Circular Economy concepts within the educational curriculum in Spain. It focuses on promoting sustainable practices that minimize waste and maximize the reusing of resources, this is very important in the face of the current environmental challenges. Educational initiatives, such as those supported by Spain's Circular Economy Strategy, aim to insert these principles within secondary education, ensuring that students not only learn about sustainability but also actively engage in practices that promote it in their every day life.

By combining DST with Circular Economy education, schools are equipping students with both the technical skills and the environmental awareness needed to succeed in a future that will demand innovative solutions to complex global challenges. The use of DST to teach concepts related to the Circular Economy not only makes learning more interactive and engaging but it also helps students internalize these concepts, fostering a generation that is better prepared to contribute to a more sustainable future.

8. Bibliography

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