# Speculative Futures: Digital Eco-Stories from an Environmental Humanities Teacher Training Program in Europe

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**Abstract**    Amitav Ghosh's declaration of 'a crisis of the imagination' with regard to the current period on our planet is the venture point for our paper to present digital Eco-Storytelling as a speculative participatory approach useful for stimulating cultural imaginations of futurities and hence counteracting this crisis. Guided by ecopedagogy, which aims at constructing learning towards increased social and environmental justices, we will present and analyze findings from the EcoStories International Teacher Training Program carried out in 2025 with students from the University of Malaga, Ca' Foscari University of Venice, and University of Graz.

**Keywords**    Ecopedagogy. Digital storytelling. International teaching. Creativity. Futurities.

**Summary**    1 Introduction. – 2 Ecopedagogy: Literacy Education and Climate-Justice. – 3 The EcoStories International Teacher Training Program. – 4 Eco-Storytelling: Towards Speculative Futures. – 5 Digital Eco-Stories as Speculative Futures: A Critical Narrative Analysis of *Living Lichen*. – 6 Conclusion.

# 1 Introduction

When Amitav Ghosh (2016, 9) declared the climate crisis as "a crisis of the imagination", he pointed towards the limitation of political, artistic and societal discourse on how to imagine a climate-just future that does not rely on extensive use of fossil fuels, mass exploitation of the most vulnerable (humans and nonhumans alike), and continuous unequal power regimes. Ghosh's analysis resonates with aspects that have been prominent in scholarly debates, and specifically in critical theory since its inception, namely the question of how societal forces limit cultural imaginings. Adorno and Horkheimer, for example, discuss in the *Dialectic of Enlightenment* (2002) the way in which instrumental reason leads to a reductive perception of the world. Already in 1944, they established a connection between this reductive form of thinking – which is defined by its need to identify – and the domination of nature. Today, this issue of how a limited imagination and thinking is intertwined with the material domination and destruction of natural environments has been invested with new urgency because of the ongoing climate crisis. When Ghosh links the current impoverished state of our future-orientated imaginaries to the climate crisis, he provides a framework for how we can discuss this connection between discursive limits and the ecological crisis in a contemporary context.[1]

The discursive conception of our current age of climate crisis aides in the search for new ways of representing environmental entanglements through narratives (Heise 2019). As a result, Ursula Heise, ecocritical literary critic, concludes that it "forces us to consider human society and the conditions that have enabled its survival in the past over long time spans, as well as to assess impacts that may last hundreds, thousands, or even tens of thousands of years into the future" (Heise 2019, 277). The impacts that are talked about here remain, however, often difficult to identify and grasp (Morton 2013). With the climate crisis, we see and understand, for instance, the increased melting of glaciers and abnormal weather occurrences, however grasping the entirety of the climate crisis remains nearly impossible. As this current period on Earth is marked by the complexities of individual phenomena and their interrelatedness, it is not easily understandable as a whole and thus relies on the ever-expanding development and experiments of new approaches and narratives.

To contribute to the ongoing scholarly and activist debate on how to tackle this "crisis of the imagination" (Ghosh 2016, 9), we argue

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that speculative approaches on how to envision the future are of utmost importance. Thus, we propose speculative Eco-Storytelling as a method grounded in ecopedagogy to encourage a creative engagement with futuristic scenarios within the classrooms of Environmental Humanities. As our terrain for speculative futures are the institutions of higher education in Europe, we think in our conceptualization of Eco-Storytelling with Bayne and Ross' (2024) proposal to view higher education as sites for speculations and creative world making, well aware of the residing limitations and power dynamics at play there. Framing higher education within the contradictory nexus of reproduction and resistance of normativity (Haring 2025), we agree with Bayne and Ross (2024, 2) to see higher education "as a space for openness within which we retain the freedom to speculate, to work with the limitlessness of imagination, to acknowledge the unknowability of and to creatively experiment with what does not yet seem possible".

When we talk about speculative futures in our paper, we rely on the extensive scholarship and activist work on speculative methods, creative approaches, and participatory engagements with communities across the globe in how to create narratives and stories of potential futures. Having its origin in Black feminist thought and speculative writings,[2] most of the recent scholarship on speculative futures addresses technological advancements and its proliferating dangerous consequences for societies at large. Numerous creative workshops in recent years have explored how to imagine alternatives to our current system (e.g., *The Making Futures* workshop 2012, *World Machines* workshops 2015-17, see Light, Brereton, Roe 2015, 289-93). These predominantly draw on conceptualization by contemporary speculative thinkers, such as Donna Haraway, who rely on science fiction's popular prompt of 'What if?' scenarios to imagine possible trajectories of relationships, social formations, and entities (Markham 2021, 389). Yet, the goal here is not to try to predict what will happen in the future, but rather to encourage the imaginative process to unsettle assumed futures and attempt to imagine new ones (Bayne, Ross 2024, 4).

Guided by these principles, the paper presents and analyzes findings from the *EcoStories*[3] International Teacher Training Program carried

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**2**  Most notably here are speculative writings by Octavia Butler, Nalo Hopkins, and Nnedi Okorafor (to name a few). Black feminist scholarship by bell hooks, Audre Lorde, and Patricia Hill Collins (among others) have addressed the questions of livable and just futures, and thus can be seen as academic contributions to speculative futures and are worth mentioning here as well, aware of the slightly different context.

**3**  The *EcoStories Project* is a three year Erasmus+ project co-funded by the European Union with six project partners in Austria, Italy, and Spain. The project website can be found here: https://ecostories.org/.

out in 2025 with students from the University of Malaga (Spain), Ca'
Foscari University of Venice (Italy), and University of Graz (Austria).
Firstly, the paper presents ecopedagogy as a critical intervention
for teaching Environmental Humanities. Secondly, it discusses the
method of digital Eco-Storytelling within the international teaching
training program as a speculative approach for envisioning futurities.
Finally, a critical analysis of a sample of the created digital stories is
carried out to interpret how speculative creations present notions of
futurities in times of climate crisis.

## 2 Ecopedagogy: Literacy Education and Climate-Justice

Gutierrez and Prado (1999) pose the fundamental question of "How
can we, as citizens of the planet, participate in the creation of a
world that we want instead of simply observing how those who
are profiting off of extraction and exploitation create our world for
us?" This is a question that also lies at the heart of ecopedagogy,
a pedagogical model that centers around the idea of creating
knowledge about the relationships between human actions of
ecological violence and societal violence that lead to injustices and
unsustainability (Misiaszek 2020, 1). For Misiaszek (2020), in order
to achieve planetary sustainability, it is essential to incorporate
the understanding of social dimensions of environmental issues
in teaching. It is argued that this is possible particularly through
inter-disciplinary approaches, as "ecopedagogy represents the
confluence of multiple and transdisciplinary educational traditions
and methods and aims at several different outcomes" (Misiaszek
2020, 10). Tracing its origins to Brazilian thinker and educator Paulo
Freire (1968), ecopedagogy is grounded in critically engaging with
systems of extraction and oppression while simultaneously focusing
on fostering agency among learners. It centers on exploring how we
relate to the world – how humans coexist with nature – and calls for
a critical understanding of the climate crisis and its complexities as
a guiding framework for education. It invites teachers and educators
to begin by reflecting on their own practices and to translate this
awareness into the methods they use and the ways they teach.

    Kahn (2009) argues for a blending of environmental education
and critical pedagogy, suggesting that such an integration would
allow each field to overcome their limitations by envisioning a more
inclusive, critical, and transformative form of ecopedagogy to better
address current environmental and social challenges. This also aligns
with the recognition of environmental and social violence, positioning
the self as the starting point for pedagogical engagement. From this
place of personal reflection, teaching expands outward – locally,
regionally, nationally, and globally – to help learners navigate the

complex interdependencies of the world. Hence, it can be seen as a constant juxtaposition of the individual with the collective where the universal exploitative systems are challenged through pedagogical practices.

Thus, the concept of ecopedagogy provides us with the approaches, tools and essential questions of how we can negotiate environmental education, which was also applied in the development of the EcoStories project. The project follows the prominent definition by Misiaszek (2015) which can also be found in the developed glossary[4] for key terms, as following:

> Ecopedagogy represents the confluence of multiple and transdisciplinary educational traditions and methods and aims to:
> i.   promote affection, care, and respect for the natural and animal world through facilitating direct and sensorial experiences with place and engaging with fiction and art;
> ii.  build upon students' local knowledge and values and acknowledge culturally diverse forms of knowledge, socio-environmental perspectives, and ways of being;
> iii. foster the affective, social, aesthetic, and ethical dimensions of the human being, necessary for developing environmental just societies, through creative, arts-based, and collaborative practices;
> iv.  reveal the connections between human acts of environmental harm and social injustices (socio-environmental connections) and how they limit the possibilities for human and non-human others through critical frameworks;
> v.   promote social, ecological, and climate justice through imaginative practices and collective action. These methods include place-based and slow pedagogy, outdoor education, ecojustice, critical pedagogy, and arts-based education.

As a result, the backbone of the project lies in a critical pedagogy that engages with pressing, timely questions to which students can relate and through which they can perceive the interdependencies of the world.

Another critical dimension that adds to the ecopedagogical framework is the concept of Intersectional Environmentalism, introduced by Leah Thomas (2022). She defines this approach as one that recognizes that "social and environmental justice are

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**4**  One key objective was to develop an Eco-Storytelling Competency Framework. In the course of this, a glossary for the key terms used in the framework and the overall project was created to make the educational materials more accessible and clearer for educators and students alike. Ecopedagogy is a key term within this glossary and can be found here together with the framework: https://ecostories.org/competency-framework/.

intertwined" (2022, 39), highlighting the inseparability of ecological issues from structures of inequality such as race, gender, class, and colonial histories. Intersectional environmentalism builds on the long academic and activist legacies of Chicanx and Black environmentalism, which, since the 1960s, has urged us to view ecological violence through a multi-dimensional lens to unravel the colonial legacies and its unequal exploitation structures. As this period was marked by presenting a sharp distinction between human and nonhuman beings on the planet in the climate discourse, alternative approaches highlighted the importance of collective narratives of being in this world. This was also a reaction to the popular attempt of "zero population growth" which accused especially poor communities of color of causing ecological degradation. These limited perceptions caused rebellion to highlight how overconsuming elites benefit from the exploitation of the most vulnerable, who, in return, then suffer greatly from the caused climate crisis (Ontiveros 2013, 87-8). Hence, these voices have early on highlighted the intersecting dimensions of the climate crisis and formulated a distinct critique to viewing these power dynamics through an intersectional lens in order to move towards more just futures.

As a result, viewing the climate crisis through an intersectional lens, we move away from one-dimensional narratives and begin to understand how different communities are unevenly impacted by environmental degradation and exclusionary practices. This perspective urges educators to address not only ecological concerns but also the systemic injustices that shape how individuals and groups experience our current period of climate crisis. Thus, integrating intersectional environmentalism into pedagogical approaches helps teachers' commitment to inclusive, and critically engaged, education. Our proposed speculative Eco-Storytelling method aims at aligning and critically engaging with these principles.

## 3 The EcoStories International Teacher Training Program

At the beginning of 2025, our EcoStories team devised a teacher training program to introduce English teachers, pre-service teachers and interested university students at the partner institutions to the principles of ecopedagogy. Our aim was to create a community of practice keen on exploring the possibilities offered by climate fiction and digital eco-storytelling as critical ecopedagogical tools. The course was delivered in an online setting and engaged 37 participants in both synchronous activities (webinars) via Zoom and asynchronous activities (e.g., readings, forum discussions, reflective and creative activities) on Moodle. As a starting point,

these learning moments took the EcoStories competency framework[5] developed within the project. Developed as an interdisciplinary tool that outlines the values, attitudes, knowledge, and skills that educators should possess when integrating ecological principles into their classroom, the framework is far from being prescriptive. It combines principles from the Environmental Humanities, Literary Studies, Educational Linguistics, and Multilingual Education, and offers educators the opportunity to reflect on their beliefs and practice and identify possible areas of improvement. In designing the course, the framework allowed us to select both the contents and the learning structure necessary for creating a space of critical reflection and collegiality.

As for the contents, the course consisted of three modules. The first gave an introduction to ecopedagogy and critical literacy, highlighting the power of utopian and dystopian literature to discuss environmental issues. The students were introduced to concepts from literary and cultural studies on how to read climate fiction and carried out close readings of the short story "The Lighthouse Keeper" by Andrew Dana Hudson (2018) and designated chapters from the novel *The Marrow Thieves* by Chérie Dimaline (2017). The second module focused on CLIL (Content and Language Integrated Learning) methodology, showing participants how to simultaneously develop subject and language learning through diverse types of learning activities and strategies. Finally, the third and last module familiarised participants with the principles and process of Digital Storytelling as a method to imagine alternative eco-futures.

All three modules followed the same learning structure: readings and discussions thereof on Moodle (first week), followed by a synchronous webinar with a plenary presentation and group discussions and activities in the breakout rooms on Zoom (second week), and the completion and upload of the group activities on Moodle (third week). This variety of activities aimed at creating moments of connectivity, critical reflection, and dialogue possibly leading to a critical engagement with the intersecting dimensions of the climate crisis. In line with critical pedagogies, we used the alternation of readings, plenary lessons, and group/reflection/creative activities as an opportunity to discuss different perspectives and understandings, challenge existing knowledge, and critically analyse reality as regards to the entanglements between environmental and social injustices. In this way, we invited the participants to engage with

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**5** The EcoStories Competency Framework outlines the key competencies that English eco-teachers should possess and serves as a reflective tool for educators seeking to integrate ecological principles into their teaching practices and can be accessed here: www.ecostories.org/competency-framework/.

liberating and transgressive educational practices when addressing the climate crisis and to speculate about possible eco-futures through digital Eco-Storytelling.

## 4 Eco-Storytelling: Towards Speculative Futures

Following the principles of ecopedagogy, we propose Eco-Storytelling as a participatory experimental method for environmental humanities' classrooms (and beyond) to contribute digital stories to the climate change discourse. Eco-Storytelling combines the philosophies of digital storytelling and ecopedagogy. The digital storytelling movement, founded by Joe Lambert and Dana Atchely in the 1990s in San Francisco, is "rooted fundamentally in the notion of a democratized culture" (Lambert 2013, 26) with a focus on media justice and activism. Guided by "a strong belief in the power of shared stories" (Macleroy 2024, 134), digital storytelling is a narrative approach aimed at providing ordinary people with a platform to share their stories. Through their own narration and by using digital elements, such as photos and film clips, short multimedia clips are created (Poletti 2013; Macleroy, Shamsad 2020; Haring 2024). As a versatile method, digital storytelling provides the ideal terrain for our endeavour. It allowed us to create narratives of environmental entanglements and the climate crisis, which represents how Willox et al. (2012) have described digital storytelling located on the "nexus of research, community engagement, and narrative" (130).

Many recent digital storytelling projects have created stories about the environment and the climate crisis to which we would like to add our contributions as well, in the ongoing and so important discussions on how to imagine our being on this planet. Based on transformative pedagogies beyond strict curricula, disciplinary boundaries, institutional requirements, and even nation-state borders, digital storytelling provided the ideal outlet for our project to speculate how university students from three different cultural contexts envision the future. Ideally, digital storytelling invites the participants to present cross-disciplinary insights into how they view the climate crisis and the potential future scenarios for our planet.

Agreeing with Macleroy (2024, 135) that digital storytelling has the potential power to "expose hard truths and seek out solutions" for young adults by granting them the agency to be creative, use their voices, and create something in a specific moment in time, we are also aware of the limitations of the method. Evidently, there are the potential individualistic trajectories displaying romanticized and homogenous contributions to complex topics such as the climate crisis. Moreover, the creation of digital stories is always bound to the environment of the workshop and in relation to the input and

strategies proposed by the leaders of such workshops, which may result in a specific portrayal of reality triggered by the input the participants have received (Poletti 2011). Although our setting was above institutional and curricula boundaries, the participants were nevertheless university students and teachers, and the project was bound to these institutional settings and guided by the objectives proposed within our European research and educational project. Moreover, the limited time of engaging with the participants and the online setting further influenced the process and the outcome of the Eco-Storytelling workshop visible in the stories. Acknowledging these limitations does not entail that our approach failed ecopedagogical principles or transformative pedagogies, but rather strengthens our argument by reflecting on potential stimuli that led the students to their creations of speculative futures.

Markham (2021, 385) further explains that "although the capacity for imagining something new or different resides in all of us, the available material for any imaginative act is greatly influenced by prior imaginations". All of this relies on the understanding of a "social imaginary", which is carried "in images, stories, and legends" and which is shared by large cohorts of people resulting in the creation of a "common understanding which enables us to carry out the collective practices that make up our social life" (Markham 2021, 385. This social imaginary has the great potential to limit us in our imaginaries, as we are constantly facing the limits of our own experiences and realities (Bayne, Ross 2024). Markham has defined this as "discursive closure" which she outlines as following:

> Discursive closure focuses on how certain patterns of thought, talk, actions, or interactions tend to function like negative feedback loops in social ecologies, discouraging evolution and change. Focusing on how discourses are normalized or locked into repetitive loops helps specify how hegemony works in everyday practices. In systems of highly effective oppression or, what Gramsci labeled "control through consent", people shut down alternatives themselves, naturalizing problems as "just the way things are". (2021, 392)

Attempting to counteract these "discursive closures", creative speculative approaches may open up the possibilities to envision alternative scenarios that may or may not lay outside of our social hegemony. Acknowledging our collective limitation of imagination, prompts to stimulate our envisions of possible futures can be helpful tools.

Digital Eco-Storytelling was integrated in the final module of the teacher training program following the theoretical introduction of ecopedagogy, the literary engagement with two climate fictions, and

the CLIL methodology. Designed as an interdisciplinary training program in the broader field of the Environmental Humanities, the participants engaged with a variety of approaches in the weeks leading up to introduction of digital Eco-Storytelling. It can be viewed here as a distinct method for the participants to share their knowledge gained through the training program in a creative outlet. Additionally, the students read scholarly articles on digital storytelling which explained not only the technicalities of the method, but also the advantages and pitfalls it can entail. Within the online sessions then, the participants were formally introduced to the key factors of the method, its scholarly reception, and had the opportunity to collectively reflect on the acquired knowledge of the method. They also had time to brainstorm together to come up with topics for their individual eco-stories and also previously created digital eco-stories were shown to them to showcase how the format of the StoryCenter's digital storytelling looks like. Eventually, the participants received four different options for the content of their digital story to choose from.

Option 1 was to base their digital story on any climate fiction that the participants have read prior. They were invited to create a 2-4 minutes digital eco-story as a creative response to their reading by using their own narrative voice combined with personal photos/ videos to bring their interpretation of the text to life.

Option 2 was to use one of the following prompts to create a 2-4 minutes digital eco-story which creatively explores life in an imagined future by also using personal photos/videos. Adapted from Andrea Richie's prompt in her book Practicing *New Worlds: Abolition and Emergent Strategies* (2023), we created the following two prompts:

1. Prompt
Imagine it's fifty years in the future, and climate justice movements have continued winning and advancing liberation and stopped the climate crisis. What would your life be like? What would your everyday routine be? You could write out your daily schedule, you could write a journal entry from the year 2074. You could write a letter to a loved one talking about the changes that have occurred over your life. You can be as creative as you like and feel free to use any of your languages.

2. Prompt
Imagine nothing changes in terms of a climate-just future. Big cooperates keep destroying the planet and exploiting marginalized groups, border regimes keep growing, political parties keep denying the climate crisis, inequalities keep growing, and biocultural diversity keeps dying. How would our world look like in 50 years? What would your life be like? What would your everyday

routine be? You could write out your daily schedule, you could write a journal entry from the year 2074. You could write a letter to a loved one talking about the changes that have occurred over your life. You can be as creative as you like and feel free to use any of your languages.

The two prompts play with the popular binary envisioning of utopian and dystopian futures. This was purposefully chosen to rely on societal strategies of oppositional thinking that enables the participants to follow a distinct pattern at the beginning of their creative process which eventually may lead to a final product that blurs the lines of these dichotomies and allows an interpretation of the ambivalent notions within their speculative futures.

Option 3 was an invitation for the future teachers in the program to create a 2-4 minutes digital eco-story useful for a future ecopedagogical classroom setting where they could introduce, explain, or explore any environmental topic in an engaging and transgressive way for a CLIL or environmental educational context. Here the focus was on including accurate content, clear language paired with a personal creative touch by using their own voice and visual elements, such as images, videos, or drawings.

Lastly, option 4 invited the participants to freely follow their own ideas in the creation of their digital eco-story as a means to overthrow any restrictive instructions for the ones who like to creatively explore this method.

As our digital Eco-Storytelling method enables a flow of creativity, these options are seen solely as a guidance that may help some to start their creative process, whereas others do not need it at all. Thus, this follows transgressive pedagogical principles of aiming at offering an array of methods to cater to the diverse needs of the people involved in the educational process. The digital stories were created independently and individually in the upcoming week; and eventually, the stories were shared with the group and watched in a community online event at the end of the project to collectively enjoy the produced stories. Consistent with our approach, the majority of the created stories used the two fictional prompts as a starting point in their brainstorming part for the digital story but then relied more on sharing personal experiences; and by doing so, creating their own blur of dystopian and utopian futures.

## 5 Digital Eco-Stories as Speculative Futures: A Critical Narrative Analysis of *Living Lichen*

The international teacher training program resulted in the creation of 28 digital Eco-Stories. The stories featured the participants' personal narrations in the form of voiceovers combined with personal photos, (stock) images, short videoclips, and, in some cases, music, resulting in 2-5 minutes multimedia clips following the principles of digital storytelling from the StoryCenter (Lambert 2013). The content of the stories differed vastly and presented a variety of topics and themes widely related to the overall questions of environmental entanglements and climate crisis. Purposefully, the instructions and the overall topic for the creation of the digital stories was kept open for the participants to choose for themselves and to see the input of the teacher training program prior to the storytelling as stimuli. This was a conscious methodological decision based on principles of the StoryCenter's digital storytelling approach and to remain faithful to the aim of creative speculations. As a result, some stories focused on the participants' personal entanglements with the environment, such as sharing experiences with environmental pollution and its consequences on the natural world, and their encounters with climate degradation in their everyday lives that made them critically re-think personal practices and systemic structures. Other stories engaged with general questions such as 'Where does a plastic bottle end up when it's thrown out?'. Again, other stories were more creative attempts where the narrators switched their viewpoints to the perspectives of animals to imagine how they see the world. Finally, some participants followed the creative prompts more closely and shared their vision of the future.

Arguably, all digital stories aim at negotiating different futures both on the individual and collective level by challenging not only personal behaviours but also structural circumstances that enable the current vast anthropocentric exploitation of the planet. Different temporalities are negotiated through personal experiences in various spaces and places that highlight also the international character of the project's participants whilst at the same time viewing a shared Europeanness. However, specifically these shared ideals can be interpreted as being built on a set of assumptions when it comes to the future, which predominantly focus on *personal* behavioural changes rather than on radical systemic changes. This again represents how human interaction with nonhumans and the planet as a whole relies heavily on capitalist mindsets which limit radical and transgressive futures built on true equality and social justice; a typical trait of late-modernity mindsets in Europe and the rest of the so-called Western world (Vergés 2024). Additionally, the method of digital storytelling encourages an individualistic engagement with topics

as the focus lies on connecting personal experiences and memories with general topics. On the one hand, this aspect of the method can be seen as an advantage to juxtapose individual stories with collective narratives. On the other hand, the danger remains to use yet another method in educational settings that overlooks the greater picture and opts for personal and individual solutions to global problems.

Keeping these ambivalent trajectories of digital Eco-Storytelling in mind, we will engage with one digital story here to unravel the speculative futures the method invites. To do so, we follow Haring's (2025) critical narrative analysis approach which was developed for reading digital stories as texts. Crucial for this reading is the awareness that digital stories are produced in a certain moment in time bound to the environment and setting where the workshop was carried out. As a result, "a critical narrative analysis juxtaposes the individual with the collective [...] whilst acknowledging the time and place where the stories were created to engage critically with cultural narratives that accompanied this creation" (Haring 2025, 146-74). Hence, for our specific context of the digital eco-story production, the common European focus on human interaction on the planet, personal behavioral changes, as well as the limited ability to imagine anything beyond our petro-bound being, are central narratives influencing the process and further "discursive closures" (Markham 2021). Yet, through a critical narrative analysis of digital eco-stories we hope to unravel potentials for radical imagination and speculative futures to also resist reading the stories superficially but look for the contradictions within them to highlight the potential of speculating about eco-futures.

The digital eco-story called *Living Lichen*[6] by Sophie Le Bihan Daubigney is a prime example for our endeavour as it encourages viewers to imagine ecological and social futures by learning from lichens found in Venice, a non-human life form which is "a fusion of both algae and fungi" (0:01′05″-0:01′07″). We see this particular digital story as a successful experiment of transcending the possible individualistic limitations of digital storytelling pointing towards unthought narratives of environmental entanglements by using lichen in Venice as the main actor in the story. Set on a rocky boat, the story takes the reader on a ride through the waters of the Venice canal [fig. 1], "a symbolic site of fusion between land and water, fresh waters and salt waters" (0:00′9″-0:00′14″), where lichen live. The listeners are virtually taking on this ride by the use of moving images and experiencing the movement of the boat in order to explore how

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6 The digital story *Living Lichen* (2025) by Sophie Le Bihan Daubigney can be viewed here: https://www.youtube.com/watch?v=g9LBdp_ZWpU&feature=youtu.be.

these organisms can represent a blurring of "what it means to be an individual" (0:01′00″-0:01′03″).



**Figure 1**  Screenshot of the digital story *Living Lichen* (2025) by Sophie Le Bihan Daubigney

The narrator invites us on a journey of blurring ecological knowledge with their imaginative attempt of showing how lichen may represent an entity from which anthropocentric approaches to the climate crisis can learn from, when they explain that the fusion lichen consists of is called a "mutualistic symbiosis where both parties contribute to keeping the other alive" (0:01′14″-0:01′18″). To show their scientific knowledge about this organism and at the same time guiding us towards the overall meaning of lichen in the story, a detailed explanation of how the two organisms, algae and fungus, work independently and eventually contribute to each other to create lichen, is given:

> The algae partner is a collection of single cells and is a primary producer, or what is known as an autotroph, meaning that it can make its own food through photosynthesis. However, algae can only photosynthesize when it is moist and has no way of protecting itself from drying out. Fungus, on the other hand, is a heterotroph, which means that it cannot make its own food, unlike algae. But fungus can subsist on carbon harvested by others, dissolving matters and liberating its minerals. Fungus then relies on algae for sugars from photosynthesis, while algae rely on the fungus to maintain moisture levels in order to stay alive. (0:01′19″-0:02′04″)

As a metaphor for collaboration and collectivity, the author claims that lichen can be seen as prime examples of "how to relate to people,

problems, and places as we face the prospect of climate change" (0:00′32″-0:00′36″). Thus, lichen **[fig. 2]** is thought of as an amplifier for future temporalities from which humans can learn to highlight the interconnectedness between all organisms.



**Figure 2**    Screenshot of the digital story *Living Lichen* (2025) by Sophie Le Bihan Daubigney

By scientifically explaining its components and the roles thereof, the narrator shows how different contributions can create an alternative whole by relying on each other's potentialities and strengths; or as the author of the digital story states:

> Lichen shows us that there is a way to find variety in alternatives, alternative relationships that are based on reciprocity and not extractivism. Lichens show us that this bond is more long-lasting, more meaningful, more creative than any quick techno-fix could be ever guaranteed. (00:02′18″-0:02′42″)

Thus, the story highlights that ecological understanding cannot be separated from societal structures and collective human-nonhuman interdependencies. As a result, anthropocentric and extractive approaches to social and environmental relationships are challenged. Through its narrative, the digital eco-story engages viewers in speculating about possible futures by illustrating how humans might learn from other life forms and possibly rethink current rather strict divides of humans and nonhumans. This attempt also shows how ecological imagination can inspire alternative ways of relating and coexisting in this world by highlighting reciprocity and resistance. Finally, it attempts to challenge our collective "discursive closures" (Markham 2021) by reading this fusion organism within the broader

context of the environmental crisis and metaphorically uses it to guide the listeners towards challenging their own anthropocentric perception of our future on the planet. Shifting the focus of only learning from humans on how to save the planet, to look to nonhumans for solutions, aligns with what Donna Haraway calls "multi-species storytelling" (2016) as a promising opportunity to change the direction in the climate crisis. Thus, the story can be read as a potential invitation to speculate about the future by not only changing our human-centered viewpoints, but to attempt to learn from more-than-humans and translate their strategies and processes into solutions for all beings.

## 6    Conclusion

Digital Eco-Storytelling aims to follow Hill's (2010) urge to view digital storytelling as a media making process resulting in a production of a text which always demands an investigation of the power dynamics, as well as historical, cultural and social contexts. As Poletti (2011, 77) has rightly pointed out, "stories are often told in the service of relationships" where our role as workshop leaders and the context of the presented teacher training program here play significant roles in how the storytelling process unfolds. Being aware that digital storytelling is also not an "unmediated and direct window on life experiences" (Davis 2011, 528) as it is always influenced by negotiations of technology, institutional and cross-cultural mediation, we view the process of Eco-Storytelling and its outcomes in the form of digital stories as yet another optimistic but flawed approach of doing participatory research in light of current global crisis. However, following feminist media studies and transgressive pedagogies, we believe that the acknowledgement and the awareness of these limitations can also be seen as the potential of our proposed method and an invitation to continuously reflect on our positionality to challenge our own research principles, pedagogies, and personal engagements within the classroom and with our communities at large. It is our constant attempt to contribute to the great urge of creating scholarship that, as Byne and Ross (2024, 16) have adequately put it, "connects our desire for better futures to the colonising, extractive, oppressive and ecocidal models of social organisation that constitute our past".

The case study of the created digital eco-story *Living Lichen* shows a successful experiment of how digital storytelling can provide the tools to speculate about alternative futures where human and nonhuman boundaries are blurred, mainstream knowledge production is challenged, and hopeful scenarios of our being on the planet are created. Linking scientific knowledge with personal

encounters, *Living Lichen* has proven to be a speculative eco-story representing the potential of the method for any Environmental Humanities classroom in Europe. Hence, Eco-Storytelling can be viewed as an imperfect but ambitious approach to tackling "the crisis of the imagination" (Ghosh 2016) and "discursive closures" (Markham 2021). It allows to create "stories, visions, and actions that work quietly towards a more hopeful future" (Mauch 2019, 20), which are necessary for bringing about change.

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