

## FOSTERING CREATIVITY IN THE CLASSROOM. ECOFEMINIST MOVIES FOR A BETTER FUTURE

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### ABSTRACT

**Aim.** The aim of this work is to present a qualitative analysis of the movie proposals prepared by preservice teachers in the context of an educational experience around the ecofeminist movement. The responses to a final questionnaire about sustainability awareness are also analysed.

**Originality:** The description and analysis of an educational proposal based on the ecofeminist movement to foster creativity is of great novelty.

**Methods.** The participants were 47 alumni of the Grades of Early Childhood Education and Primary Education at a Spanish university. After a lecture about ecofeminism and reading a series of fragments of the young literature novel *Yabari* by Lola Robles (2017), preservice teachers had to prepare the proposal for an ecofeminist movie, with a synopsis, plot, characters description, cast, and the script for a key scene. To assess the experience, the students completed a questionnaire about different aspects of the proposal at the end of the semester, along with a validated questionnaire about sustainability awareness.

**Results and conclusion.** The analysis of the ecofeminist movies prepared and the responses to the questionnaires shows how the students were able to assimilate the ecofeminist theses and incorporate them in their reflection about sustainability. This is also manifested in the results of the "Attitudes toward Sustainable Development scale," which indicate a high level of sustainability attitudes in these preservice teachers, with no differences between genders. The creativity of these preservice teachers is evident in the variety of approaches to the topic in the different movies proposed. We can conclude that the ecofeminist topic is relevant in the classroom because it contributes to



enhancing the ethical debate and driving the teaching-learning process in an interdisciplinary manner, perfectly aligned with the objectives of the 2030 Agenda for sustainable development.

**Key words:** preservice teachers, interdisciplinarity, sustainability education, feminism, creativity

## INTRODUCTION

### An overview of ecofeminism

Ecological feminism or ecofeminism is a field of research of great importance within cultural studies. Ecofeminism pursues the configuration of a more sustainable world (with its three pillars social, economic and environmental) in which women play a very relevant role. This is due to, among other things, their pro-environmental attitudes and beliefs superior to those of men (Gifford & Sussman, 2012). Ecofeminist studies are clearly interdisciplinary and of great value to educational environments because of the possibility of integrating various curricular aspects, as will be explained.

Noel Sturgeon (1997) completes a panorama of the evolution of ecofeminism in the 20<sup>th</sup> century. Françoise D'Eaubonne coined the term ecofeminism in her book *Le Feminisme ou la Mort* (Feminism or Death) in 1974. In this work she established a relationship between male domination, overpopulation and the devastation of nature. This current of thought grew as the intellectual result of several movements of social activism at the end of the twentieth century (particularly pacifist and anti-nuclear) and the growing discontent at that time with what was considered a lack of sensitivity to gender and sexism in a large part of the environmental groups.

Some of the most relevant social movements related to ecofeminism are: the Citizens' Clearinghouse for Hazardous Waste, founded in 1981 by Lois Gibbs after the disaster caused by the chemical spills of the Hooker Chemical Company in Love Canal (Niagara Falls, New York), which resulted in high rates of cancer and malformations of birth among its residents; or the Bhopal Gas Peedit Mahila Udyog Sangathan (BGPMUS) founded by a group of women victims of the catastrophe after the leak in a pesticide plant in Bhopal in 1984, which makes an effort to raise awareness in society about the sustainability of the system and the role that women play in it. But perhaps the best known ecofeminist movement is the Chipko movement, also known as the women who embrace trees (chipko means 'to embrace'), which has its origin in 1973, in the district of Chamoli (India), but which later spread to other parts of the country. It is based on Ghandi's philosophy and seeks to protect and conserve trees and forests. One of the greatest successes of this movement was the prohibition of cutting trees for fifteen years in the forests of Uttar Pradesh in 1980, and later in other regions such as Himachal Pradesh or Rajasthan. Finally, we should remember that a Nobel Peace Prize was awarded in 2004 to the activist Wangari Maathai, associated with the Green Belt Movement in Kenya, which shows how poor women's lives can be improved through ecological measures.

These women were dedicated to planting trees (more than thirty million in twelve African countries) to combat deforestation.

Yayo Herrero (2016) proposes to distinguish two main ecofeminist currents: classical or essentialist ecofeminism and constructivist ecofeminism, although there are other currents, such as postcolonial ecofeminism or spiritualist ecofeminism in Latin America. The classic or essentialist ecofeminism defends the idea of recovering primitive matriarchy and has a spiritual and mystical dimension. It understands that biologically, women (giving birth, breastfeeding and menstruating) are closer to nature than men and have a tendency to preserve it. On the other hand, constructivist ecofeminism argues that the more intimate relationship between women and nature is a social construct and has been developed from the traditional sexual division of labour and the distribution of power and property in patriarchal societies. This constructivist current of ecofeminism is evident in the recent works of Maria Mies and Vandana Shiva (1993), Shiva (2006), Alicia Puleo (2011) or Herrero (2016). In the 21<sup>st</sup> century, it has become one of the most powerful lines of feminist research (there are many volumes and monographic issues; among the most recent, Kerlake & Gifford, 2013, and Phillips & Rumens, 2016).

### **Ecofeminism and education**

The integration of ecofeminism in educational systems is of great interest, because it allows us to work at the same time on environmental and social (gender related) issues. The educational dimension of ecofeminism has been stated in numerous studies. For example, Puleo (2011, p. 299) points out that we must walk “towards a not androcentric environmental education” and also María Novo (2007, p. 33) has recommended including “environmental and feminine values as values accessible to all,” highlighting the importance of the affective factor.

Different works defend the educational possibilities of ecofeminism. For example, Huey-li Li (2007) argues that ecofeminism helps people understand how gender ideology influences the worldview and, therefore, the construction of educational institutions. He thinks that ecofeminism can be integrated in a pedagogical project that should highlight ethical activism, while questioning the current social dynamics and norms to establish new ones. Annette Gough and Hilary Whitehouse (2019) think similarly: they advocate using ecofeminism to reconsider the sense of equity, sustainability and responsibility, in order to modify feelings and attitudes, both for the present context and for the future. Lara Harvester and Sean Blenkinsop (2011) propose to leave behind the concept of traditional school and build ecofeminist schools, as a learning environment to implement ecofeminist pedagogy. There are many successful examples of educational proposals based on feminist pedagogy, as specified by Tang Wen-hui (2013).

As for environmental education, Constance L. Russell and Anne Bell (1996) differentiate between educating about, in, for and with the environment. They conclude that for an effective environmental education, students should want

and be able to be actively involved. Stacy K. Zell (1998) stated that the ecofeminist perspective in environmental education has been systematically eclipsed and this will result in the loss of a “fresh perspective” (1998, p. 153). In the same line of thought Gough (1999) talks about the lack of a feminist perspective in many aspects of environmental education (policies, pedagogy and research). Karla A. Henderson (1997) demonstrates that the actions of individuals (towards the environment, but also towards one another) can be influenced using a philosophy such as ecofeminism. Clem Herman and Gill Kirkup (2017) have established the importance of gender both in teaching strategies and even in structuring disciplines.

Thus, ecofeminism appears to be an excellent starting point to achieve a complete and interlinked gender and environmental education, but there are not many concrete teaching units with this perspective. For education in experimental sciences Zell (1998) and Kristina Andersson, Anita Hussénius and Christina Gustafsson (2009) proposed concrete teaching units. Yolanda Echevoyen (2019) displays a series of tasks and didactic materials with a transdisciplinary approach in which environmental education and literary education are developed in an integrated way (Martín & Echevoyen, 2020). The results of the implementation of a teaching unit around ecofeminism with preservice teachers is analysed in Echevoyen and Antonio Martín (2021).

### **Sustainability attitudes**

In the educational proposal described below we want to address the sustainability attitudes using ecofeminism as a thematic node. In fact, the way of achieving environmental sustainability while developing our world socially and economically (sustainable development) is a fundamental challenge that the society faces today. The role of education in sustainable development is undeniable; chapter 36 of Agenda 21 (UNESCO, 1992) states that “education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making” and different policies at international level (UNESCO, 2006, 2014) brought it to light. Currently, education for sustainability is clearly aligned with the Agenda 2030 and the Sustainable Development Goals. Darlene E. Clover (1995) already indicated that both formal and non-formal education are critical tools to address the different crises around the world. And while higher education focuses mainly on cognitive skills, Kerry Shephard (2008) pointed out to the importance of the affective domain (values, attitudes and behaviour) in an effective education for sustainable development.

For this reason, there are many research works measuring attitudes, beliefs and competences in education for sustainable development. Most of the existing assessment tools (Biasutti & Surian, 2012; Michalos et al., 2012; Olsson, Gericke, & Chang Rundgren, 2015) focus on the three pillars of sustainability (environment, society and economy), but lack a focus on education, which is an important component for achieving a sustainable development. Michele

Biasutti and Sara Frate (2017) developed the "Attitudes toward Sustainable Development scale" for university students, which includes the dimension "education." The items for this dimension address student-centred teaching methods, future-oriented thinking skills or higher order thinking skills, among other issues. This will be the instrument used in this study, because the education factor for sustainable development is especially interesting with preservice teachers.

### **The importance of creativity in teacher training**

Another important aspect of this educational proposal is that it wishes to contribute to the development of creativity among the students. Although creative thinking is still an emerging construct, the broader and intrinsically related construct of creativity has been thoroughly investigated. For example, Jonathan A. Plucker, Ronald A. Beghetto and Gayle T. Dow (2004, p. 154) define creativity as "the interaction between aptitude, process and environment with which an individual or group produces a perceptible product that is new and useful according to the social context," reflecting its social and multidimensional nature.

A fundamental role of education is to provide students with the competencies they will need to be successful in society. In this sense, the importance of creativity and creative thinking is well established, being a capacity that some authors indicate must be developed specifically in children and young people (Ortega Béjar, Llamas, & López-Fernández, 2017). Bernie Trilling and Charles Fadel (2009) insist on the reevaluation of creativity and its necessary greater presence in the educational system according to what they consider to be the growing demands of the 21st century. In the same line of thought, Bill Lucas and Ellen Spencer (2017) stated that creative thinking is a competency that today's youth need to develop because it can help them adjust to a rapidly and constantly changing world.

The role of teachers in developing children's creativity is crucial. However, some authors as Serene Chan and Mantak Yuen (2014) or Ellen Yates and Emma Twigg (2017) affirm that in order to develop students' creativity, the teachers need to have previously developed the creativity of their own. In the Office for Standards in Education report on creativity in teaching (OFSTED, 2003), some barriers to the development of children's creativity in schools are described. In addition to those related to curriculum or school organisation, there are the ones related to the teacher's own sense of security. In this context it is very important to address creativity in teacher training. Among the options to develop creativity, storytelling is the one commonly agreed upon because it is useful to develop at the same time as the communicative competence and the logical and critical thinking skills (Ochs & Rudolf, 1992; Kara, 2013). The educational proposal described herein, which include the conception of a movie and the writing and performance of one of the scenes had the purpose of developing preservice teachers' creativity.

## METHODOLOGY

### Participants

The participants were undergraduate students at their sophomore year of Primary Education or Early Childhood Education at a large public Spanish university. Data reported here pertain to one group of students who were enrolled in the subject “Natural Sciences for Teachers” during the course 2018/2019. Of the 47 pre-service teachers, 73.6% were female and 26.4% male, the mean age was 20.06, with the standard deviation of 1.29.

### Objectives

The main objective of this proposal was to raise awareness in future teachers about the environmental and social situation on the planet, two of the three pillars of sustainability (social, environmental and economic) (Purvis, Mao, & Robinson, 2019). The secondary objectives were to introduce the ecofeminist philosophy and the main environmental issues, work transversal competences as the communicative competence and gender equality, to potentiate the students’ creativity and encourage the habit of reading.

### Description of the teaching unit

The implemented teaching unit is a socio-formative one (Tobón, Pimienta, & García, 2010) and is structured around tasks in small groups, as well as autonomous and collaborative work. It has three phases: introduction, activities/tasks and assessment.

In the first session the ecofeminist movement was explained by the teacher with a short lecture on its evolution and main currents. The teacher also described some of the most representative activist movements related to ecofeminism, such as the Green Belt in Kenya, founded by the Nobel Prize for Peace laureate Wangari Maatai in 1977, which has planted more than 51 million trees.

In the second session, a series of fragments of the novel *Yabarí* by Lola Robles (2017) were read in small groups. This is a science fiction novel in which resources in our planet are meagre and the action is developed in one of the colonies of humankind (in the planet Yabarí) where fuel is extracted. In the selected fragments the relationship between how male humans treated women and nature was evident. The students answered a series of questions and afterwards a debate took place about feminism, ecology and sustainability.

In the second phase a series of tasks related with these issues were prepared in small (3-4 people) groups:

- a) A slide-mural on the situation of women and environment in planet Earth.
- b) The outline of an ecofeminist movie that should include the following information: title, description of the main characters (even the cast), time and place of the action, synopsis and the script of one of the key scenes.

The assessment phase took place at the end of the semester and each group presented their movie to the rest of the class with a short explanation of the plot and played the scene they had written. After all the groups had presented their

movies, the “best ecofeminist movie” of 2018 was voted for and there was an award ceremony.

#### Evaluation of sustainability attitudes

The students’ sustainability attitudes were evaluated with the “Attitudes toward Sustainable Development scale” (Biasutti & Frate, 2017). This is a quantitative 20-item scale with four dimensions: environment (ENV), economy (ECON), society (SOC) and education (EDU). The response format for the items is a 5-point Likert scale. As the authors stated, this questionnaire could be useful for understanding the ways in which students think about sustainability issues and could be used to investigate the relationship between sustainability attitudes and other variables. Internal reliability, which was found using Cronbach’s alpha, varies between .660 and .854. The data collection took place at the end of the semester (May 2018) and the questionnaires were filled online in the computer classroom.

Descriptive statistical analysis was done using SPSS software version 26. Particularly mean and standard deviation was calculated for each of the factors in the questionnaire. To check the normality of the distributions Saphiro-Wilk test for one sample was used. For normal distributions t Student test for independent samples was used, after Levene test to assess the equality of variances. For non-normal distributions Kruskal-Wallis test was used for independent samples. In all cases the significance level was 0.05.

## RESULTS AND DISCUSSION

### **Analysis of the ecofeminist movies and the proposed activities**

There were 13 ecofeminist movies that the students prepared in random groups of 3 to 4 people. Among them, there were movies related to biodiversity loss, deforestation, fires or marine environment contamination and overexploitation; the most common plot was related to deforestation. The analysis of the characters of these movies is shown in figure 1. The proposed movies had between 3 and 16 described characters (main or secondary characters) with specific names, but the most common number of described characters was 6 (in 5 of the movies). From the 76 described characters 63% were female and 37% were male. Most of the characters (84%) were adults aged between 20 and 65, although some movies also included children and older people as relevant characters. In one of the movies, main characters were aliens.

In general, there were no special features in the main characters (apart from some of them being aliens), but in one of the movies all women had names related to nature (Emerald, Daisy, Lily, Rose, Coral, Jasmine) and in other one the protagonists were real relevant women, most of them related to the ecofeminism movement (Rachel Carson, Jane Goodall, Wangari Mathaai, Vandana Shiva). The virtual cast was mainly composed of Spanish and Hollywood actors and actresses (i.e. Penélope Cruz, Meryl Streep, Mario Casas, Johnny Depp...).

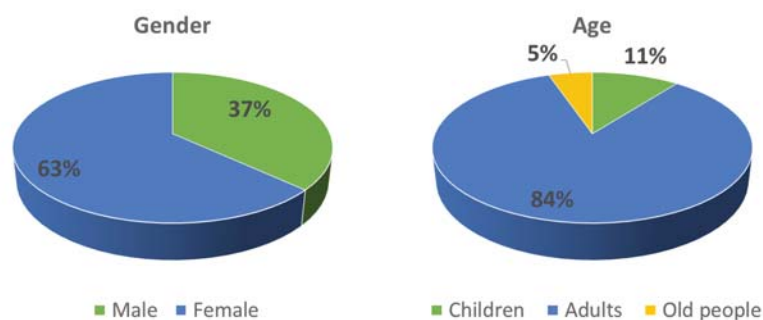


Fig. 1. Characteristics (gender and age) of the main characters.

Source: own elaboration.

The setting of the stories is shown in figure 2. Most of the movies did not change location throughout the story and were located in Spanish villages or cities (42%) or in undetermined places (25%), although some students set their movies also in other European countries (Poland and Ireland) or countries from other continents (Mexico, Colombia and India). In one of the movies the action took place between an undetermined place on Earth and the planet Venus.

Almost all the movies were set in the present time from 2015 to 2018 (the movies were prepared in the course 2018-2019). There was only one movie set on the last century (concretely at the end of the 80s) and other one set in the future (in 2030).

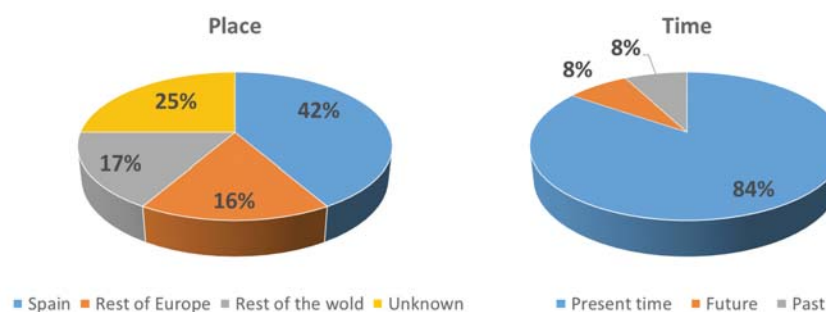


Fig. 2. Setting of the story.

Source: Own elaboration.

As for the proposed activities, they were mainly related to outdoor education (trips to natural environments where the children had to plant trees, observe nature or pick up trash), with visual arts (drawing, preparing posters or murals, sometimes with natural elements like wood sticks, dried leaves, etc.) or activities that sought to favour children's reflection over issues related to ecology, sustainability and feminism. There were also some activities like symbolic games, gymkhanas, book reading in the classroom or theatre plays.



The proportion of each type of activities is shown in figure 3.

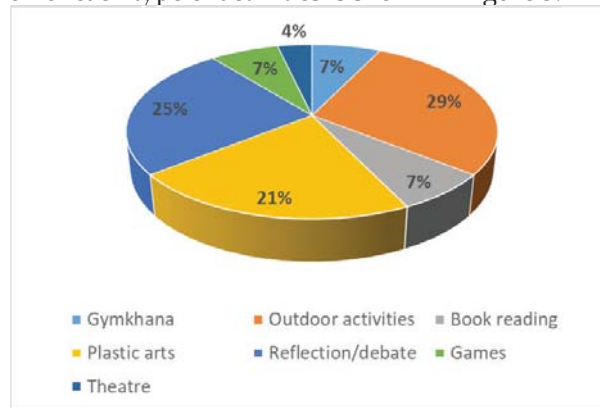


Fig. 3. Types of proposed activities.

Source: Own elaboration.

#### Student's assessment

After all the phases of the teaching unit, the students completed a questionnaire about different aspects of this educational approach. Although less than 30% knew the ecofeminist movement beforehand, all the students considered this teaching unit very (72.3%) or quite (27.7%) interesting.

Most of the students also considered very (55.3%) or quite (38.3%) interesting the selected fragments of the novel and 25.5% of them affirmed that they wanted to read the complete work, while 66% would think about it. The parallel between what happened in this dystopic novel and events in planet Earth was apparent for 76.6% of the students. There was consensus about the importance of addressing feminist issues both at university level and at schools.

As for the more practical aspects of the teaching unit, most of the students found it easy to imagine an ecofeminist movie and all aspects related to it. However, some students indicated that they had some difficulties in selecting the main idea for the movie, making it attractive for the potential viewers, deciding on the plot, the writing of the particular scene, the characterisation of the characters or agreeing with the rest of the group in some of the above mentioned aspects. They all loved the last session with our special Oscar ceremony and awards, which they highlighted in their comments.

Here we include some of the student's opinions that they could express freely in one of the questions: "It has been a very interesting activity, where we have enjoyed science and environmental education and, above all, we have learnt about ecofeminism." (F.L.); "The way we worked it in class seemed very interesting to me. Therefore, with my future students I would like to do something similar, using children's literature and doing dynamic activities later." (A.S.); "It has been a dynamic and fun teaching unit, where we have all had the opportunity to demonstrate our creativity" (P.B.); "I value especially the

awareness-raising process that has emerged through the proposed work, the visibility that has been given to the feminist movement and the good atmosphere that has been generated in class" (L.R.); "I think it is essential to enjoy learning and therefore be playful. With this activity we have promoted creativity and ecological awareness." (E.V.)

### Sustainability attitudes

The results of the descriptive statistical analysis for the sustainability attitudes questionnaire are shown in Table 1. As can be seen, the students have high sustainability attitudes in all dimensions of the questionnaire, with values above 4 for all of them. The lowest value was the one obtained in the environment dimension (4.15) whilst the highest value was the one related to education (4.60).

Table 1

*Descriptive statistics for the responses to the questionnaire*

Dimension	Min	Max	Mean	SD
ENV	1.20	5.00	4.15	0.74
ECON	1.20	5.00	4.35	0.74
SOC	1.00	5.00	4.54	0.82
EDU	1.00	5.00	4.60	0.82

Source: Own elaboration.

This is a logical result because they are preservice teachers and are hence aware of the importance of education to address many issues, including sustainability. Figen Akça (2019) demonstrated that prospective teachers have stronger beliefs about education for sustainable development than graduates enrolled in the Pedagogical Formation Certificate Program. The influence of the higher education studies on sustainability attitudes has also been stated by Biasutti and Frate (2017), who indicated that agriculture students performed better on the environment factor than psychology students, while psychology students performed better on the society factor.

The results of our students were much higher in all dimensions than the ones obtained by Jamal Abu-Alruz et al. (2018) with undergraduate students at the Faculty of Education at a public university in Jordan (ENV = 2.66, ECO = 3.15, SOC = 3.10, EDU = 3.17). The key can be the socioeconomic differences between the two countries, because it has been demonstrated that environmental awareness is strongly determined by the students' socioeconomic background even in the same country (Mónus, 2019).

In most of the published studies related to environmental or sustainability attitudes there are differences between genders. Brittany Bloodhart and Janet Swim (2020) explain these differences according to socialisation and gender roles. Although normally women have a higher environmental consciousness (Fremerey y Bogner, 2015; Sutton & Gyuris, 2015; Bergman, 2016;

Martín Ezpeleta & Echegoyen Sanz, 2020), there are also studies that did not find any significant differences between the genders on these issues (Larson, Castleberry, & Green (2010); Levine & Strube (2012); Lieflander & Bogner (2014).

The differences between genders on all dimensions of the questionnaire were checked using the Mann Whitney U test (as the results of the normality test indicated that all of the dimensions followed a non-normal distribution). The results are shown in table 2. There seems to be, in general, a higher consciousness of all dimensions of sustainability for male than female students. However, the statistical analysis shows no significant differences between genders, so we can conclude that in our case all students have a similar sustainability awareness.

Table 2  
*Mann-Whitney U test according to gender*

Dimension	Gender	Mean	SD	s
ENV	Male	4.27	.503	.951
	Female	4.14	.760	
ECON	Male	4.87	.115	.088
	Female	4.32	.747	
SOC	Male	4.80	.200	.665
	Female	4.53	.840	
EDU	Male	4.87	.115	1.000
	Female	4.59	.845	

Source: own elaboration.

## CONCLUSIONS

The educational proposal here described shows how ecofeminism can be used to develop different values related with sustainability at the same time, such as the appreciation of the role of women and environmental protection. After the analysis of the movies proposed by the students and their responses to the questionnaires, it is evident that this approach has been able to potentiate the creativity of the students, while helping them to assimilate sustainability related concepts and enrich their critical thinking.

The results of the questionnaire about sustainability attitudes show the high level of awareness of preservice teachers in all dimensions of sustainability, with values above 4 out of 5, in all the cases. The higher score was obtained for the educational dimension and the lower one for the environmental one. The statistical analysis demonstrated no significant differences between genders in any of the dimensions of sustainability.

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