The Sustainable Development Goals as a base for the action and social and environmental intervention

Los Objetivos de Desarrollo Sostenible como marco para la acción y la intervención social y ambiental

Dr. Daniel Rodrigo-Cano is a researcher at Universidad de Sevilla (Spain) (daniel.rodrigo@alu.uhu.es) (https://orcid.org/0000-0003-2753-5470)

Dra. Maria Josep Picó is a profesor and researcher at Universitat Jaume I (Spain) (mpico@uji.es) (https://orcid.org/0000-0002-7086-2269)

Dra. Glenda Dimuro is a researcher at Universidad de Sevilla (Brazil) (glenda.dimuro@gmail.com) (https://orcid.org/0000-0001-8655-7069)

Abstract

Climate change has emerged as one of the most important risks for citizenships and especially for the human being, who is known as the main cause of this change. The aim of this research is to analyze the role of sustainable development objectives for the action and social and environmental intervention and the role that environmental educommunication has with the challenge of climate change, as one of the phenomena that, by its urgency, is on the environmental, social, economic and political agenda of organizations. Thus, a bibliographical review of the main investigations in the area was carried out in which it was observed that climate change and the objectives of sustainable development, defined by supranational entities, are not present in environmental education, and only special interest is paid to the catastrophes and extreme situations in environmental communication. In times of social networking and false information, the recovery of critical and ideological approaches to media education is necessary for the development of media education and digital competence to be able to create new narratives through digital media for new forms of ecocitizenship capable of causing a necessary change and transforming the system.

Resumen

El cambio climático se ha erigido como uno de los mayores riesgos para la vida de todas las especies en la tierra, especialmente para el ser humano quien, a su vez, es su principal causante. La presente investigación busca analizar el papel de los Objetivos de Desarrollo Sostenible (ODS) de las Naciones Unidas para la acción y la intervención social y ambiental y el papel que la educomunicación ambiental tiene ante el reto del cambio climático, como uno de los fenómenos que, por su urgencia, está en la agenda ambiental, social, económica y política. Para ello se ha realizado una revisión bibliográfica actual de las principales investigaciones en el área. A lo largo de este trabajo se ha observado que el cambio climático y los ODS, definidos por entidades supranacionales, no están presentes en la educación ambiental y que el ámbito de la comunicación ambiental se centra, especialmente, en las catástrofes y situaciones extremas. En el actual entorno digital, donde la inmediatez de las redes sociales ha favorecido la difusión de informaciones falsas, es necesario la recuperación de enfoques críticos e ideológicos de la educación para los medios, para el desarrollo de la educación mediática y de la competencia digital con el fin de promover una ciudadanía con capacidad para construir nuevas narrativas a través de los medios digitales, para con ello facilitar nuevas formas de «ecociudadanías» capaces de provocar un cambio necesario y transformador en el sistema.

Keywords | palabras clave

Climate change, sustainable development goals, digital ecosystem, social networks, educommunication, ecocitizenship.
Cambio climático, objetivos de desarrollo sostenible, redes sociales, educomunicación, ecociudadanía.

1. Sustainable Development Goals (SDG)

The United Nations approved the Sustainable Development Goals (SDG) in 2015, following the decade of Unesco-led Sustainable Development Education (2004-2015) and the Millennium Development Goals (2005-2015). These are the 17 Goals of Sustainable Development: 1 Poverty, 2) Zero Hunger; Health Welfare; 4) Education; 5) Gender equality; 6) Water; 7) Affordable and pollution-friendly energy; 8) Decent work; 9) Industry, innovation and infrastructure; 10) Reduction of inequalities; 11) Sustainable cities and communities; 12) Responsible consumption; 13) Climate Action (climate change); Marine life; 15) Terrestrial ecosystems; 16. Solid peace, justice and institutions; 17. Alliances (United Nations Development Programme, 2016). These objectives of Sustainable Development allow having a reference foundation for the action and social and environmental intervention, despite an evident lack of integration of social variables (Allen, Metternicht & Wiedmann, 2016).

Figure 1. Sustainable Development Goals

Source: United Nations (2017)

There are certain goals for the 2030 from SDG, such as ending poverty and improving access to education, employment and information, improving health and housing and reducing inequalities as moving towards consumption and production of a food Sustainable Nation. In the same way, it considers it necessary to ensure water safety, a universal clean energy, healthy and productive ecosystems and governance for sustainable society (Griggs, 2013).

"Sustainable development" consists of a practice that includes the impulse of social movements, the organization of institutions, the elaboration of science and technology, and the negotiation of commitments between those who care about the environment, economy and social aspects (Robert, Parris & Leiserowitz, 2005).

In this sense, it is necessary that the "environmental educommunication" goes towards sustainable development to reach SDG. Environmental education and envi-

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ronmental communication must be aligned with the aim of pointing out the relevance of the quality of awareness campaigns or environmental education in communication developed by associations and institutions. It must be avoided to fall into topics and improvisations and to base the messages and the methodological design in the scientific information (Picó, 2017a).

This review carried out a selection of papers published in the Web of Science® and Scopus® databases of recent years, based on the search criteria on "Sustainable Development Goals" and taking into account that they are the main and most prestigious scientific databases at international level, ensuring the quality of the indexed works.

In order to carry out the analysis of the content proposed in this study, and taking into account the logical phases in this type of approximations, a procedure is established based on the objectives stated. In the first phase of literature search and review, the term "Sustainable Development Goals" and "Objectives of Sustainability" (with Boolean algorithms in quotation marks and with asterisks) were selected in the period 2011-2018, in order to narrow down those emerging works that only made reference to the Objectives of Sustainable Development. Subsequently, the data obtained according to the type of document were refined, selecting only the articles and excluding chapters of books, reviews or reviews, the conference proceedings and the articles in press, in order to reduce the number of documents (Table 1).

Table 1. Emerging Documents per year by search criteria in WoS® and

Year	SDG*	ODS**
2011	31	
2012	27	
2013	44	
2014	47	
2015	88	
2016	154	2
2017	258	3
2018	359	8
TOTAL	1008	13

*SDG = Sustainable Development Goals; ** ODS= Objetivos de Desarrollo Sostenible*

2. Environmental Educommunication

Tools are needed to allow "environmental literacy", as well as an educommunication capable of developing critical capacity and the empowerment of eco-citizenship, understood as the one that serves to "reinforce freedom, autonomy and participation of citizens on political, social, economic, ecological and intercultural issues based on the good use of media and communicative technology" (Gozálvez and Contreras-Pulido, 2014:130). There is a need for collaboration in the search for responses to

mitigation and adaptation to climate change, so it is necessary the involvement in the participation of different actors in the transformation (Sarmiento, 2013).

Environmental Educommunication should be understood as a training for action and characterized by its intentionality, by the involvement of society, explaining the reasons as well as the mechanisms and causes from science. This requires the search for solutions, the democratic participation and the vision of a utopian future in which human health, social conflicts or equity must be very prominent and for that reason it has made emphasis on action (Rodrigo-Cano & Machuca-De-La-Rosa, 2018).

Beyond the Educommunication as dialogic and emancipatory reflection proposed by Paulo Freire for the collaborative construction of knowledge, aimed at the empowerment and exercise of citizenship, and by extension of the ecocitizenship, it is necessary a process that favors the development of competencies in the perception and interpretation of the messages, favored by emerging digital technologies (smartphones, tablets and phablets) (Nagamini & Aguaded, 2018), and in which educommunication is characterized by a relational factor in the digital ecosystem through digital communication, interactions, psychosocial skills of citizenship in social, leisure and recreational environments and critical awareness (Marta-Lazo & Gabelles, 2016) which are normally developed through digital tools and the media (Villalonga & Marta-Lazo, 2015).

Due to the ongoing climate change in which the only variable that can explain it is human interference in the atmosphere (IPCC, 2013), experts claim that "limiting warming to 1.5 °C requires a systemic transforming change" (IPCC, 2018). Therefore, it is urgent to seek viable, realistic solutions from all disciplines, that would become a political commitment to the people.

The impacts already identified by the experts go through the decrease of the glaciers altering the hydrologic cycle, increasing the temperatures, altering the terrestrial and aquatic ecosystems (extinction), increasing the droughts and the risk of fire, increasing the sea level, heat stress, extreme rainfall, flooding, drought, increasing aridity and water shortage, negative evolution of the yields of certain crops, among many other effects that require the attention.

But, the greatest effects of global warming will occur over the human species. Its consequences will change the patterns of diseases transmitted by mosquitoes and ticks or increase diseases caused by water due to warmer conditions and changes in rainfall and runoff. Moreover, from impacts on social systems, it will also affect aspects such as food security, work capacity, mental health, population displacement and other effects on the health care systems (Ministry of Agriculture, Food and Environment [Spain], 2014). In Short, if humanity continues the current rate of greenhouse emissions, the consequences of climate change can be catastrophic for humanity and especially for the most vulnerable societies and groups (Vervoort & Gupta, 2018).

To address climate change, government organizations and social and civic organizations state adaptive strategies to reduce risks to climate change through improved access to education and information, nutrition, health services, energy, safe housing and settlement and social support structures, as well as improved access and control of local resources. Access to technology and decision-making forums is also essential, leading to more capacity for consensus and social agreements. In the

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same way, it is necessary to assist to technological, ecosystem, economic and service options through laws and regulations with national and governmental policies and programs, evidently from a lower gender inequality to other forms of marginalization (Ministry of Agriculture, Food and Environment [Spain], 2014).

En este proceso de transformación encontramos a los medios de comunicación que, como indica Meira (2017, p. 98), aún son:

In this transformation process, according to Meira (2017, p. 98), it is observed that the media is still:

> [The] main source of information on climate change that citizens have, reason for which there is a considerable social responsibility, although it is also necessary to note in its disposition its structural difficulties, in an irreversible process of change towards digital formats and the information that users generate and distribute in social networks, in addition to the limitations resulting from the political and media swings of each moment.

However, experts warn that the media focus on the importance of the consequences of climate change in:

> [...] habitat, fauna, flora and living beings, where the news is circumscribed in the change of the natural cycles of the animals and the vegetation, the rise of the temperatures and its consequences for the natural cycles and the health, the waves of adverse climatological actions and lack of rainfall and its effects, but always from a pessimistic point of view, given that only the negative and devastating consequences that this produces are reported (Zaragoza, 2018, p. 42).

These communication formulas on climate change have direct effects on the action, reaction and formation of the social reality, since the way in which these topics are managed in the media can have implications of scope in the research climate science, as well as perceptions, the comprehension of the problem and potential involvement of political and citizen leaders (Boykoff & Smith, 2010). Given the situation in which communication professionals, whose unemployment rate in Spain recorded among journalists in 2016 is 74% higher than 2008 (Asociación de la Prensa de Madrid, 2016), the post-truth is strongly positioned from the social networks towards the pseudoscience and hides the scientific contents, like the denial of the climatic change, being the technology in the nature-society axis as the solution.

This fragility in the environmental information in general, and on the climate change in particular, is observed in the relations of political-economic power with the media (Reig & Labio, 2017; Caves & Mora, 2016). On the other hand, "The good news is not news" (Picó, 2017b), while the media focus on risks and environmental disasters (Jiménez & Martín-Sosa, 2018; Fernandez-Reyes, 2018).

However, there is a proliferation of falsified news (fake news), greenwashing and communication full of algorithms and bigdata, supported by mass media and its advertisers, who intend to sell "green" products as a means to solve the situation, when its real purpose is not to engage with the environment (neither environmental, social nor cultural) (Delmas & Burbano, 2011), it is about making consumers perceive that the products are ecologically friendly (Megías-Delgado, Baldallo-González & Maraver-López, 2018).

3. New narratives for environmental educommunication

In this context, new narratives appear to promote a social change towards a new paradigm (Teso, 2016). According to Naomi Klein (2015) climate change is the most powerful narrative against the current economic and political system. Although climate change has been displaced from the social debate precisely by economic and political considerations (quoted by Leon & Bourk, 2018).

The new forms of communication have erupted with the use of the Internet, and these are currently characterized by decentralization in the issuance of messages, the relationship between peers that maintain the interlocutors and, at the same time, by bein subject to the communication they emit (Emirecs) (Aparici & García-Marín, 2018). This occurs in a digital ecosystem, characterized by the relationship between communication activity, content and the subjects of communications (Alonso, 2005) that establish logics, processes and communicative dynamics that allow a communicative flow of digital media through a transmedia narrative (Carrera *et al.*, 2013).

This digital ecosystem and, more generically, scientific dissemination, require the creation of new content related to climate change for the issuance of periodic form and the development of new formats of informative content, supported by fictional contents with the intention of influencing changes in attitudes, lifestyles and behaviors (Teso Alonso *et al.*, 2018).

In addition, transmedia narratives have appeared through social networks (Ojeda-Barceló, Gutiérrez-Pérez, & Perales-Palacios, 2011), a good example is the Educomunicator movement that emerged in the year 2014 with the idea of launching Environmental Education in social networks, and it consists primarily of a monthly meeting through Twitter, following the hashtag #EA26, which discusses relevant issues to the EE. It Is an open meeting point for exchange, collaboration and enrichment (empowerment) referring to the sector in the network (Gutiérrez Bastida, 2018; Toboso, De-Casas-Moreno & Rodrigo-Cano, 2018; Benayas *et al.*, 2017).

Digital video, with Youtube as a model, has become an essential tool for scientific communication and climate change (León & Bourk, 2018). Video games are also a new form of social action that allows young people to learn to protect the planet, learning topics and motivating action in the face of climate change (Ouariachi, Olvera & Gutiérrez, 2017).

In the face of the media silence on climate change (Mancinas, 2012), environmental and sustainable journalism is necessary, capable of providing truthful journalistic coverage on this subject (Fernández-Reyes, 2004; Fernández-Reyes, Piñuel-Raigada, & Vicente-Mariño, 2015) where the media play an important role in the interpretation of events, exercising both as witnesses and as actors. From this function of creating the social reality, the "theory of the amplification of risk" was used, which links the social experience of risk to the volume of coverage in the press (Fernández-Reyes, 2018).

4. Ecocitizenship

The current panorama is located in sectors of education and communication that impose hegemonic and instrumental speeches. A traditional educational system,

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structured on mercantilist and neoliberal ideologies and politicized educational institutions (Badillo & Martínez-Roa, 2014). In addition, the curricular treatment of climate change in the training plans is invisible and contaminated with prejudices and stereotypes (Serantes, 2017).

From the Environmental Education sector is being claimed a climate emergency curriculum (Meira-Cartes *et al* ., 2018; Resclima, 2018), the development of digital and technological skills capable of establishing links between society and technology that allow participation in participatory processes in which people incorporate sustainability criteria, feminisms and global justice in the decisions made (Machuca & Rodrigo-Cano, 2018), in order to achieve a culture of climate awareness (Heras, 2016) that goes through establishing lines of work with excluded population as women and girls (Lemon & Solis, 2014).

Environmental education calls for an "eco-citizenship" (Sauvé & Asselin, 2017) that is characterized by: an educational project that invites to clarify the vision of the world, to have a critical look at ecological realities, to redefine the economy and to develop a can-do to rebuild the bonds between society and nature, and that would also include social justice (Murga-Menoyo, 2018) from feminism (Herrero, 2014).

An excellent example of eco-citizenship and environmental educommunication is the so-called "Confint", a pedagogical campaign that attracts the dimension of environmental policy towards education. It is a constructive process that mobilizes and engages the young and the educational community in which people meet at different organizational levels, and deliberate on the environmental crisis widely understood (ecological, social, cultural, economic, policy...), and assume responsibility, pose and execute transforming actions towards sustainable societies and elect representatives who lead to the "Confint" of successive levels such as regional, national or international.

The "Confint" is a process: 1) pedagogical, which delves into concepts and values on eco-citizenship, environment, democracy and participation; 2) environmental education, which seeks the commitment and responsibility of girls and boys in the face of the environmental crisis that our planet suffers; 3) Interactive among young people of different ages and from different regions, countries or continents that learn and act together and have a common purpose: to take care of the planet; that approximates the dimension of the environmental policy towards the formal education (Gutiérrez Bastida, 2014).

5. Discussion and conclusions

Throughout this scientific literature review of the emerging environmental educommunication in relation to climate change, the inexorable convergence between education and communication is evident, understanding it as the learning of the resources offered by the information and communication media from the technologies. In addition, concepts of environmental education must be recovered, such as the generation of attitudes and skills to achieve balances between the human being and the environment, to participate in the integration of the educommunication and the political, social, economic, environmental and ethical solutions with the intention of preventing them, minimizing or normalizing them, and mitigation and adaptation

in relation to the climate change, and from science and research the management of problems related with the environment and human beings (Meira *et al.*, 2018).

Moreover, environmental Educommunication nowadays does not develop many of these objectives of sustainable development, leaving clear the environmental dimension on the social aspect and, of course, leaving aside the economic dimension. However, as seen in this research, the objectives of Sustainable Development constitute an ethical framework for the common good (Fernandez-Reyes & Águlla-Coghlan, 2017).

However, it is true that environmental education and environmental communication have been dealing more in an economic crisis that was practically dismantled by the sector, punished with layoffs, closures and loss of knowledge (Benayas *et al.*, 2017; Meira, Barba,& Castiñeiras, 2017).

The design of messages, awareness campaigns, environmental education and environmental communication should be based on scientific research on the basis of data, bibliographies and research repositories, as well the group of specialists, communities of practice and learning and the main scientific events (Peña-López & Padró-Solanet, 2017). It is the media that must be the adequate channels for presenting the situation, leaving aside the informative bias that only report catastrophes and bad news (Zaragoza, 2018).

In any case, environmental educommunication must assume a profile based on the acquisition of basic knowledge and the learning of relevant information. This will allow the improvement of environmental phenomena and problems for the proper decision making, the search for resolution of real problems, the development of intellectual capacities that enable the formulation and operation of solutions with the intention of promoting developments for a critical vision, able to emphasize on the perception processes and encourage the development of educational competencies of subjects for the education and formation of individuals to promote changes in attitudes, values, practices and behaviors (Rodrigo-Cano & Machuca-De-La-Rosa, 2018).

In addition, critical and ideological approaches to media education need to be recovered for the development of media education and digital competition (Aparici & Tyner, 2012). In the advancement of the digital paradigm and the use of mobile technology in exponential growth, new roles, new formats and new narratives are required and that are proposed by the new digital media of communication and environmental education in the face of this diverse communicative reality characterized by the emirecs.

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