



## **New Perspectives For Environmental Education In Adults**

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### **Abstract**

A systematic review was conducted on the production and publication of research papers concerning the study of environmental education in adults and its new perspectives during the period from 2018 to 2021 under the PRISMA approach (Preferred Reporting Items for Systematic reviews and Meta-Analyses). The purpose of the analysis proposed in this paper was to know the main characteristics of the publications registered in the Scopus and WoS database and their scope in the study of the proposed variables, achieving the identification of 99 publications. Thanks to this first identification, it was possible to refine the results through the variables in the search button of both platforms, which were environmental education, and adult education, reaching a total of 14 documents, already excluding duplicates and those that did not meet the analysis criteria. The identified scientific publications were analyzed in the hope of finding out the main characteristics within the execution of research projects referring to the study of new perspectives of environmental education within the methodologies aimed at the education of older adults as a fundamental strategy in the search for environmental conservation through the socialization of plans and academic proposals for raising awareness among this population that traditionally have not been trained in this subject since, as mentioned by some authors, there is a marked tendency to include academic content that deals with environmental care, relatively recently, thus excluding the traditional methodologies in which the elderly and senior citizens were trained.

**Keywords:** Environmental Education, Adult Education, Scopus, WoS.

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### **1. Introduction**

The identification of importance of Environmental Education can be evidenced since the First World Conference on the environment held in Stockholm, Sweden (1972), until the conjunctural events that indicate a change in environmental conditions worldwide indicate this area of knowledge as a necessary instrument in favor of propitiating changes in lifestyles, ways of acting and behaviors that have accelerated environmental degradation (Márquez et al., 2021) from where the change of development models was proposed and was determinant in the idealization of “ecodevelopment” as a strategy directed to emerging economic systems that through their efforts to strengthen themselves, do not neglect the social-environmental component, generating economic development taking into account the guidelines proposed for the care of the environment.

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In this way, Environmental Education is proposed from two perspectives, school-based and non-school-based, which should focus on young people, adults and the media, central actors of the environmental problem. (Salgado, 2007) (Pabón Galán, 2021). This implies a clear objective on the part of the educational management to form integral people concerned about the conservation of ecosystems following the Sustainable Development Goals of the United Nations. Hence, Environmental Education is considered to be:

“...a training process that allows awareness of the importance of the environment promotes the development of values and new attitudes that contribute to the rational use of natural resources and the solution of environmental problems faced in today's 21st century. Furthermore, it is a philosophy of life that leads to respect for other forms of life and human rights and the formation of a sustainable, participatory and equitable society “ (Peña, 2018).

For its part, education for the elderly arises thanks to the recognition of the complications in the health of this population and the creation of alternatives to improve their quality of life; among these, continuous training gives in them a feeling of fullness that represents an extra motivation within their identity as a major player in society. Therefore, the educational plans for older adults are to provide them with the necessary resources for their intellectual and emotional development so that they can know themselves better and relate positively with the world in which they live since this is another stage of life in which they continue to develop their personality and learning abilities (González, 2018). These resources allow articulating educational strategies for older adults, with programs for the conservation of the environment, training this population in activities that pursue the care of ecosystems in order to provide quality of life for each member of society, generating interest and awareness of the real situation that the planet earth is going through. In this sense, it is of great importance to identify the main characteristics of the production and publication of research works related to the same topic in order to know the contribution and impact that has been generated through educational strategies related to environmental education in older adults and opportunities for improvement in order to give continuity to these programs.

## **2. General Objective**

To analyze from a bibliometric and bibliographic perspective, the production of research papers on the variable Environmental Education in Adult Education published in high-impact journals indexed in Scopus and WoS database during the period 2018-2021.

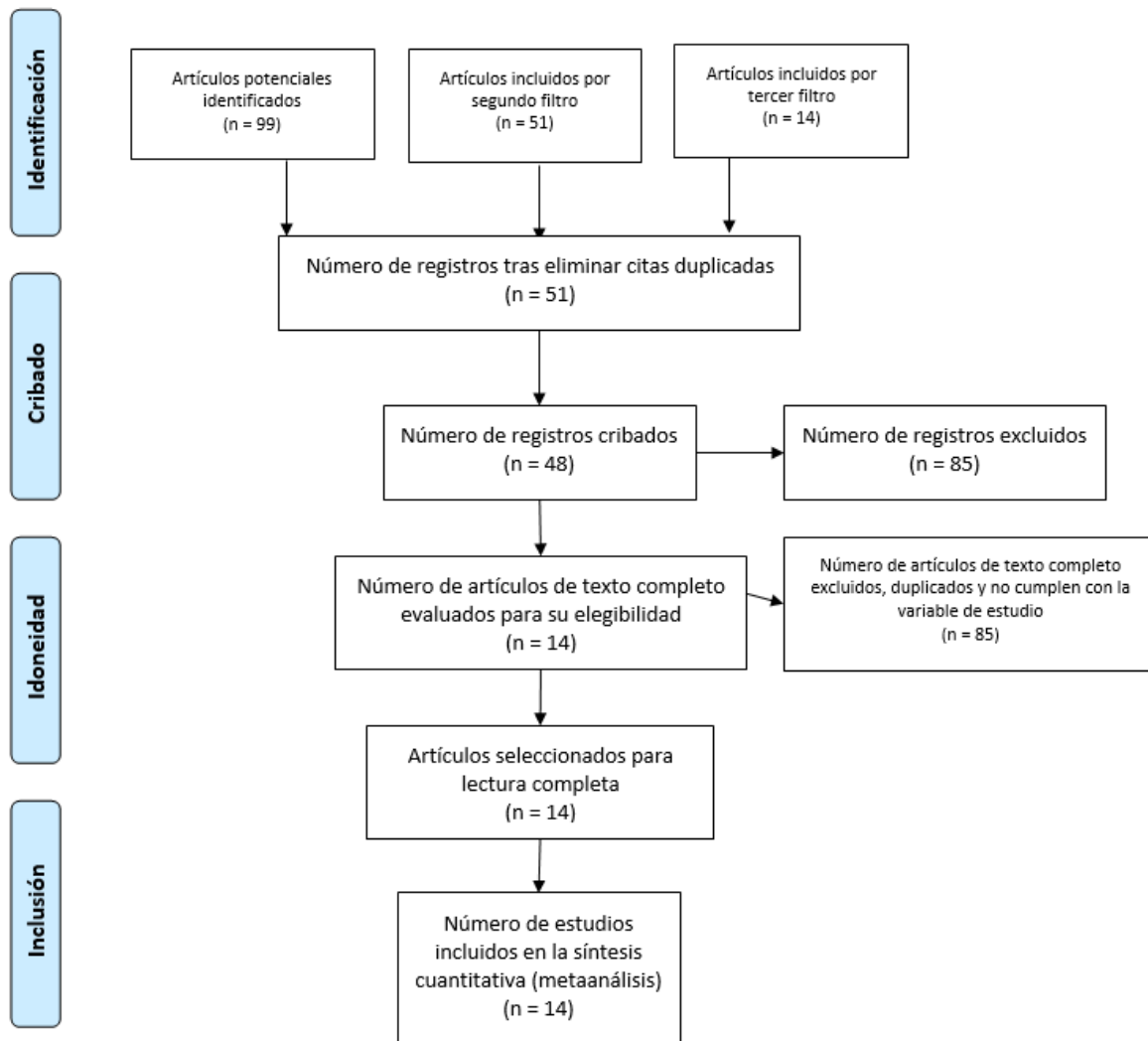
## **3. Methodology**

The research is of qualitative type; according to Hernández et al. (2015), qualitative approaches correspond to research that obtains information to review and interpret the results obtained in such studies. For this purpose, the search for information was carried out in the Scopus and WoS databases using the words environmental education and adult education.

### **3.1 Research design**

The research design proposed for this research was the Systematic Review, involving a set of guidelines to carry out the analysis of the data collected, framed in a process that began with the coding to the visualization of theories (Strauss & Corbin, 2016). On the other hand, it is stated that the text corresponds to a descriptive narrative because it is intended to find out how the levels of the variable effect, and systematic because after reviewing the academic material obtained from scientific journals, the theories on knowledge management were analyzed and interpreted (Hernández et al., 2015).

The results of this search are processed as shown in Figure 1, which expresses the PRISMA technique for identifying documentary analysis material. It was taken into account that the publication was published between 2018 and 2022 without distinction of the country of origin of the publication or area of knowledge, as well as to any publication, namely: Journal Articles, Reviews, Book Chapters, Books, among others.



**Figure 1.** Flow diagram of systematic review performed under PRISMA technique. (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

**Source:** Own elaboration; Based on the proposal of the Prisma Group. (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

#### 4. Results

Table 1 shows the results after applying the search filters related to the methodology proposed for this research, after recognizing the relevance of each of the referenced works.

No.	TITLE OF THE RESEARCH	AUTHOR/ YEAR	COUNTRY	TYPE OF STUDY	INDICATION
1	Improving well-being of farmers using ecological awareness around protected areas: Evidence from Qinling region, China	Ma, L., Qin, Y., Zhang, H., Zheng, J., Hou, Y., & Wen, Y. (2021).	CHINA	QUALITATIVE	SCOPUS

2	Environmental aesthetic value influences the intention for moral behavior: Changes in behavioral moral judgment	Wu, C., & He, X. (2021).	CHINA	QUALITATIVE	SCOPUS
3	Indoor environmental quality in dwellings and lifestyle behaviors during the covid-19 pandemic: Russian perspective	Reshetnikov, V., Mitrokhin, O., Belova, E., Mikhailovsky, V., Mikerova, M., Alsaegh, A., ... & Royuk, V. (2021)	RUSSIA	QUALITATIVE	SCOPUS
4	Opportunities for further qualification in environmental communication in protected areas	Bancheva-Preslavska, H. (2019).	BULGARIA	QUALITATIVE	SCOPUS
5	Evaluation of adult environmental awareness behaviors in terms of social learning theory according to perceptions of primary and secondary school students,	Ata, E. (2018)	CANADA	QUANTITATIVE	SCOPUS
6	Expert clinician's perspectives on environmental medicine and toxicant assessment in clinical practice,	Bijlsma, N., & Cohen, M. M. (2018).	AUSTRALIA	QUALITATIVE	SCOPUS
7	“During pregnancy would have been a good time to get that information”: mothers’ concerns and information needs regarding environmental health risks to their children	Laferriere, K., & Crighton, E. J. (2017).	CANADA	QUALITATIVE	SCOPUS
8	A Green City: Impossible Dream or Necessity?	Agnoletti, M., Baptista, R., Henriques, R., Nogueira, P., Costa Pinto, L. M., Ramísio, P. J., ... & Vaz, E. (2017)	ITALY, PORTUGAL	QUANTITATIVE/ QUALITATIVE	SCOPUS
9	Cookstove implementation and Education for Sustainable Development: A review of the field and proposed research agenda	Lindgren, S. (2021).	UNITED STATES	QUALITATIVE	WOS

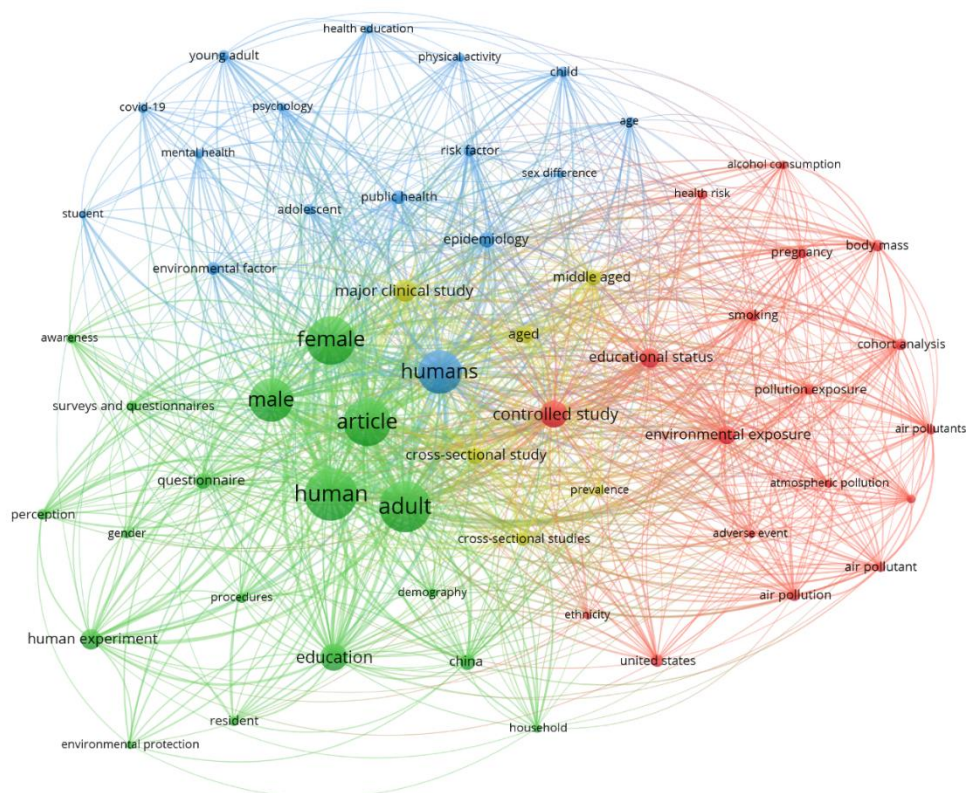
10	Biodiversity citizen science: Outcomes for the participating citizens	Peter, M., Diekötter, T., Höffler, T., & Kremer, K. (2021)	GERMANY	QUALITATIVE	WOS
11	Virtual Home Assistant Use and Perceptions of Usefulness by Older Adults and Support Person Dyads	F. Corbett, C., M. Combs, E., J. Wright, P., L. Owens, O., Stringfellow, I., Nguyen, T., & Van Son, C. R. (2021).	UNITED STATES	QUALITATIVE	WOS
12	Characteristics and Potential Inhalation Exposure Risks of Environmentally Persistent Free Radicals in Atmospheric Particulate Matter and Solid Fuel Combustion Particles in High Lung Cancer Incidence Area, China	Xiao, K., Lin, Y., Wang, Q., Lu, S., Wang, W., Chowdhury, T., ... & Rabin, M. H. (2021).	JAPAN, CHINA	QUALITATIVE	WOS
13	Approval Research for Carcinogen Humic-Like Substances (HULIS) Emitted from Residential Coal Combustion in High Lung Cancer Incidence Areas of China	Xiao, K., Wang, Q., Lin, Y., Wang, W., Lu, S., & Yonemochi, S. (2021).	JAPAN, CHINA	QUALITATIVE	WOS
14	Probabilistic human health-risk assessment and influencing factors of aromatic hydrocarbon in groundwater near urban industrial complexes in Northeast China	Wu, J., Bian, J., Wan, H., Sun, X., & Li, Y. (2021).	CHINA, MEXICO	QUALITATIVE	WOS

**Table 1.** List of articles analyzed

**Source:** Own elaboration

#### 4.1 Co-occurrence of words

Figure 2 shows the relationship between the keywords used for the search of the study material for the elaboration of the systematic analysis proposed for the present research.



**Figure 2.** Co-occurrence of keywords.

**Source:** Own elaboration

The keywords used most frequently within the research identified for analysis were, on the one hand, Adult, Human, Female, Male, understanding that within the analysis of the researchers, the identification of the sample and a demographic classification of the population were carried out, which allows to know in detail the most relevant characteristics within the group of people studied. Within this set of research, these variables were associated with research on Education, Perception, Environmental Factors, Family Environment, among others. On the other hand, Environmental Exposure, is part of the variables investigated in relation to the education of older adults, which allows inferring that it is of great interest for the scientific community, the environmental conditions in which the adult population is developing, which leads to design plans and training programs aimed at teaching this population, to conserve and become aware of the current environmental situation, thus fulfilling the objective of maintaining good mental and physical health of adults, and at the same time directing the population in general to the care of the environment.

## 4.2 Discussion

The purpose of this article was to analyze from a systematic perspective, the contribution of the authors through their publications, to the study of new perspectives for Environmental Education in Adult Education carried out in high impact journals indexed in Scopus and Wos databases during the period 2018-2021, In this way it is possible to affirm that the publications indicated in the body of this document, have carried out research at different levels whose findings contribute to the generation of new knowledge regarding the variables proposed for the present study, this is how great contributions are identified as contemplated in the article entitled “Evaluation of environmental awareness behaviors of adults in terms of social learning theory according to the perceptions of elementary and high school students” (Ata, 2018) whose purpose was to assess adults' environmental awareness behaviors in terms of Social Learning Theory according to the perceptions of elementary and high school students. For the students, the knowledge that adults have regarding environmental

care depends on factors such as age, gender, socioeconomic status, level of studies, among others, highlighting that in order to handle an appropriate language within the design of strategies for environmental conservation, it is necessary that adults have basic notions regarding the conditions of their environment, that is, to generate awareness of the impact caused by certain actions against or in favor of ecosystems and how these impacts derive in threats or benefits for the population. The latter was of great interest to the scientific community, since it has sought to assess the impact on the adult population with respect to environmental conditions, as shown in the article “During pregnancy would have been a good time to get that information: mothers' concerns and needs for information on environmental health risks for their children”, whose objective was to examine the health concerns of the adult population with respect to environmental conditions. (Laferriere & Crighton, 2017) whose objective was to examine mothers' environmental health concerns and protective behaviors, and to explore perspectives on environmental health information needs and preferences. The study was proposed once it was identified the need to know the consequences that a pregnant mother could face when exposed to toxins present in the environment and how this population group can become aware of this thanks to a timely training not only regarding the possible damage caused to their physical integrity and that of the fetus, but also about the measures that can be taken to prevent the high levels of pollution present, especially in large cities. Therefore, it has been reaffirmed the importance of training adults in waste treatment, basic principles of recycling, awareness campaigns, promotion and prevention of acts that pollute water and even the air and thus avoid negative impacts on people's health. Thus arises the need to rethink public policies regarding the production of goods and services that may be causing irreparable damage to ecosystems, and education is one of the determinants in this struggle for the construction of an environmentally responsible society, as recorded in the article entitled “A green city: Impossible dream or necessity?” (Agnoletti, et al., 2017). whose objective was to report on the perspectives of four areas, education, landscape, urban and natural environment and economy, towards the process and implications of applying to the green city award and the challenge of maintaining and developing this new management model (environmental education of young adults and children are key to the development and sustainability of a green city way of being). The researchers have determined that the construction of green cities based on good practices in production, responsible manufacturing of goods and responsible provision of services, should be one of the priorities of current governments and for them it is necessary to socialize several important points among which the main one is the awareness of the current situation of the environmental conditions in which society is currently developing, likewise it is necessary to show production alternatives that are more friendly to the planet, The generation of citizen participation is key in the design of proposals that help to achieve the proposed objectives, so training and environmental education throughout the community is vital, however in the adult population could be of great benefit because these have traditionally been formed in educational models that did not include environmental issues, so the customs are usually different from those who have knowledge regarding the care of the environment. This allows the scientific community to carry out research projects that seek to provide the adult population with plans and training programs capable of strengthening their skills in terms of environmental care and the preservation of ecosystems.

## 5. Conclusions

This review article concludes by highlighting the importance of knowing the updated state of the literature published in databases such as Scopus or Wos, regarding the study of new perspectives for environmental education in adult education, highlighting the active participation of researchers in different institutions worldwide in search of strategies for the training of this population sector regarding the generalities of the environment. This implies a great effort on the part of the scientific community and the educational management in the institutions, which with the support of governmental actors, combine efforts to improve the quality of life of citizens through proposals such as the generation of green cities, cleaner production, socialization and awareness of the effects on the environment due to practices such as contamination of water tributaries, air pollution by gas emissions, lack of knowledge of recycling and reuse practices, among others. Therefore, it is expected that, based on the identification of the educational needs of the adult population, it will be included topics and programs for the promotion and prevention of environmental pollution, hoping that the impact will be positive. This document concludes by highlighting the importance of knowing the findings of research on environmental education within adult education, since in this way it is possible to know the present of the same as well as the contributions that different authors have made to the generation of strategies to encourage the active participation of the adult population in the design of proposals aimed at the conservation of the

environment, Therefore, it would be possible to project future results, hoping that from the knowledge of the current situation, awareness will be raised and action plans will be established for the generation of new knowledge about educational proposals for the adult population in terms of environmental education.

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