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ARTICLE / ARTÍCULO

Global citizenship and youth. Research inspired by the citizen science perspective Ciudadanía global y juventud. Una investigación inspirada en la ciencia ciudadana

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Abstract: Citizen science enables the democratisation of knowledge and citizen collaboration in solving the global challenges we face as humanity. The participation of young people in this type of project strengthens their civic engagement and critical thinking, offering them the opportunity to become active agents of social change. In this article we present the theoretical framework and research methodology of a coordinated project of the National Research Plan that aims to promote the approach of education for global citizenship (GCE) through the involvement of young people in processes of enquiry that allow them to connect the local with the global. We aim to create scenarios where knowledge is generated from more horizontal, dialogical and shared logics, where young people can share their concerns, but also propose real actions and solutions. To this end, the YARGI (Young People as Researchers of Global Issues) methodological process has been designed based on a ten-stage method inspired by the movement of students as researchers. This research is particularly relevant in a field which has been criticised for a lack of research on how young people deal with global issues and what concerns them and moves them to action.

Keywords: Participatory Research, Citizenship Education, Qualitative Research, Global Education, Youth.

Resumen: La ciencia ciudadana permite la democratización del conocimiento y la colaboración de la ciudadanía en la resolución de los retos globales a los que nos enfrentamos como humanidad. La participación de jóvenes en este tipo de proyectos fortalece su compromiso cívico, así como su pensamiento crítico, ofreciéndoles la oportunidad de convertirse en agentes activos del cambio social. En este artículo presentamos los pilares teóricos y la metodología de investigación de un proyecto coordinado del Plan Nacional de Investigación que tiene por objetivo promover el enfoque de la educación para la ciudadanía global (ECG) a través de la implicación de personas jóvenes en procesos de indagación que les permita conectar lo local con lo global. Nos planteamos crear escenarios donde el conocimiento se genere desde lógicas más horizontales, dialógicas y compartidas, donde la juventud pueda compartir sus inquietudes, pero también proponer acciones y soluciones reales. Para ello, se ha diseñado el proceso metodológico JIRG (Personas Jóvenes como Investigadoras de Retos Globales) basado en un método de diez etapas que se inspira en el movimiento del alumnado como investigador. Esta investigación es especialmente pertinente en un campo de trabajo en el que se ha señalado que existe poca investigación empírica que permita conocer cómo se vincula la juventud a temáticas globales, qué les preocupa y les mueve a la acción.

Palabras clave: Investigación Participativa, Educación Cívica, Investigación Cualitativa, Educación Global, Juventud.

1. Introduction

Today's globalised and highly technological societies require thinking about what kind of education we need as an ethical, social and political process that enables future generations to understand the world in which they live and their role in it. International organisations such as the United Nations already contemplated in 2015 (in line with the previous Millennium Development Goals Agenda) the importance of education as one of the fundamental strategies for achieving sustainable development, intercultural understanding and the construction of peaceful societies.

As is well known, SDG4 (Quality Education) states in its target 4.7 the importance of disseminating and consolidating this educational approach which, based on theoretical and practical knowledge, enables students to understand and promote global citizenship, human rights, gender equality, cultural diversity and sustainable development. The OECD, through the PISA programme, launched in 2018 the assessment of global competence, understood as a combination of values, attitudes, skills and knowledge about global issues. Its dimensions cover issues such as an interest in intercultural communication, taking action for the common good and sustainable development, examining local, global and intercultural issues, and understanding and appreciating other people's perspectives and worldviews (MEFP, 2020).

Education systems around the world are not oblivious to the global challenges currently facing humanity, which is why there are many legal initiatives that introduce this approach at compulsory and post-compulsory education levels (Scheunpflug and Wegimont, 2024). In our country, the global citizenship approach is adopted by the current organic law regulating compulsory levels (LOMLOE, 2020) and the sustainability approach is adopted at the higher education level (Decree 822/2021 establishing the organisation of university education and the procedure for quality assurance), both initiatives aligned with the 2030 Agenda.

Despite the relevance of this educational approach in the current historical moment and the efforts of national and international organisations, the academic community has pointed out that, although there is a consolidated body of theory on what global citizenship education is (with no single meaning, but rather very diverse traditions and approaches), there is less empirical research explaining how children and young people are connected to the global issues that affect their lives and that are related to what is happening in their immediate or local environments.

There is still little research that makes the voices of young people visible and, consequently, there is little knowledge of their motivations for learning about global issues and engaging in social improvement, as well as the places and spaces in which they can develop these skills and knowledge. The literature in this field has pointed to the need to know more about where and how young people engage with global issues, how they learn about them, how they sustain their engagement over time, and how they perceive their agency in processes of social transformation (Bourn and Brown, 2011; Dolan, 2015; UNESCO, 2022; Allen, 2023; Mitsuko, 2023).

Studies that address how to address global citizenship education in formal and non-formal educational settings raise the question of which methodologies would be

most effective (Calvo-Salvador and Fueyo Gutiérrez, 2025), raising the question of the search for greater coherence between what we research and how we research it (Calvo-Salvador, 2024). At this point, research aimed at promoting global citizenship among young people should reflect on what role these young people can play in the research process itself, creating scenarios where knowledge is generated from more horizontal, dialogical and shared logics. As proposed by citizen science, it is necessary to rethink the role of citizenship in scientific activity, enabling research processes where there is room for greater participation of different sectors and social groups in scientific activity. At the same time, there are very different approaches to the scope and levels of this participation.

1.1. Our global citizenship education (GCE) and citizen science approach

In this research¹, we adopt the definition proposed by the recent European Declaration on Global Citizenship Education to 2050 (known as the Dublin Declaration) which states that GCE is education aimed at enabling young people to understand, imagine, hope and act for a world with social and climate justice, peace, solidarity, equity and equality, planetary sustainability and international understanding (GENE, 2022). This approach is known in other European contexts as global education or global learning and in Ibero-American contexts as education for planetary citizenship.

In a participatory process, the participating delegations responsible for drafting the Dublin Declaration recognise and welcome a number of developments in this field over the last twenty years, including the engagement of young people and critical reflection on colonial histories and their persistent legacy of global power imbalances. Looking ahead to 2050, they set out a series of commitments, both nationally and internationally. Of particular relevance to our research project is the commitment to strengthen the participation of diverse sectors, including youth organisations and research specialists.

This emphasis on the importance of valuing young people's experience and enhancing their participation and collaboration in research processes is in line with the philosophy behind our research design, which aims to involve young people directly in the research process. Our project seeks to promote GCE by accompanying experiences in which young people take on the role of co-researchers of global challenges, in line with the parameters of citizen science and the right to research (Appadurai, 2006).

Our project recognises the more traditional definition of citizen science as a scientific activity that seeks to generate knowledge with the voluntary participation of citizens, who decide to become involved at different levels or stages of a scientific process. The knowledge generated can be applied to solve certain social, local, environmental, etc. problems, these applications being produced outside of science itself. However, our proposal goes beyond this definition to reach a much broader vision of citizen science. Thus, as opposed to initiatives that are closer to popularisation, our concept of citizen science is concerned with generating new knowledge in a collaborative way, within the framework of a research project where decisions are made in a shared manner. The ultimate goal is to serve as a useful means to promote scientific culture (CSIC, 2022), especially among young people.

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In the same vein, this project recognises that young people have a right to research, i.e. to engage in a process of enquiry that allows them to go beyond the limits of what they already know and understand in order to make more informed decisions about issues that affect their lives, locally and globally (Appadurai, 2006). The aim is to broaden young people's horizons of knowledge and understanding by broadening their horizons of meaning in relation to the major global challenges facing humanity.

1.2. Recognising research trajectories that extend citizen science: Action Research, Citizen Labs and Critical Literacy.

Our project is inspired by previous research that has used qualitative participatory methodologies so that the people involved, whether in schools, NGOs or communities, take a leading role in the research process, participating in decision-making about objectives, methods, interpretation of results and applications of the study.

Under the umbrella of Participatory Action Research (PAR), those who investigate their own practice in order to improve it have a leading role in the whole process of enquiry. In the field of education, this tradition is exemplified by the collaboration between research specialists and teachers from educational centres to carry out an initial diagnosis to detect needs, design and implement pedagogical actions, collect and analyse data on their implementation, and finally, design improvements for future practices (DePalma, 2019).

From the community level, work inspired by the work of Colombian sociologist Orlando Fals Borda seeks to collaborate with the people directly affected by the social phenomena under investigation, as was the case of the agrarian sector in a situation of oppression within the Peasant Reserve Zones (ZRC) in Colombia in the 1990s (Gutiérrez, 2016). These are two examples (educational and community) that break with the division between scientific knowledge produced at the level of academic elites and its application to target groups or sectors. In this process, the aim is to break down the gap between the productive contexts of science and its praxis, returning the power to name, understand and respond to social problems to the people who are involved in and affected by them.

A second antecedent of our project are the citizen innovation laboratories that aim to offer spaces where citizens can come together to experiment and carry out their own projects. In this type of laboratory everything is open, as they constitute spaces that enable citizens to play a more active role in processes of knowledge production where everything is co-produced collaboratively through the interaction of people from different positions with respect to knowledge and experiential knowledge. In our view, these participatory laboratories can combine experimentation with ideas, the generation of situated knowledge and the promotion of new research practices aimed at linking young people with global challenges.

These spaces enable young people to acquire competencies for citizen participation and to develop a critical understanding of major global challenges. Youth have the capacity to not only question their environment, but also to transform it, which suggests the need for and importance of creating scenarios of participation where their voice is heard and a commitment to change is built. The youth laboratories aspire to become these spaces where young people are the ones who produce knowledge and manage to connect with the world around them. This will require a

process of deconstruction of the idea of traditional participation and the creation of spaces that involve a change of perspective and that attend to their ways of "being and participating" (Alzas, 2024).

On the other hand, it is evident that the new digital scenarios have created other forms of participation and, therefore, it is necessary to know what vision of the world young people have and how they interact with and in these new scenarios, which is why critical media and information literacy is the third pillar that has influenced the construction of our perspective of citizen science.

The rapid expansion of digital tools and the internet has led young people to make intensive use of these devices, making them the central means of accessing information on a wide range of topics (from news or purely entertainment data to other more political or social issues).

However, as some studies have suggested, young people have obvious difficulties in critically evaluating the data and information they obtain via the Internet (Valverde-Crespo, Pro-Bueno and González-Sánchez, 2022). Research aimed at identifying young people's levels of information literacy shows that the processes they use to identify and evaluate information are asystematic, selecting the first results of the searches they perform on the Internet and paying very limited attention to the reliability of the content they access (Aesaert and Van Braak, 2015; Fraga-Varela, Vila-Couñago and Martínez-Piñeiro, 2020).

Among the explanatory hypotheses for this phenomenon, one suggests that this situation occurs because, although educational legislation identifies the need to address these competences, in practice they are not developed, as there is no equivalence with the different areas of knowledge (Fraga-Varela and Rodríguez-Groba, 2019).

The development of media and information literacy processes has been a constant concern for the academic community in recent decades (Buckingham, 2015; Hoechsmann, 2019) and even for supranational bodies such as UNESCO, which has even designed a curriculum aimed at guiding teachers in the development of these processes (Wilson et al., 2011).

The aim is to enable citizens to develop the skills necessary to understand the main functions of the media, in contexts of profound media convergence, with the ultimate goal of being able to critically analyse them and use them as a means of communication (Fueyo Gutiérrez, Rodríguez-Hoyos and Hoechsmann, 2018). These strategies become even more necessary in order to try to understand and respond to the complex global problems we face today as humanity and which are the essential concern of our project.

The main objective of our research is to promote the ECG approach among young people (14-17 years old) working within the framework of the formal (secondary schools) and non-formal (organisations working with children and youth) education system. Taking into account this general objective, the specific objectives are:

- OE1. To collaboratively design research processes with young people, starting from their personal concerns and connecting the local and the global.
- OE1. To democratise research by empowering different groups (education professionals, young people) in research processes.
- OE2. To promote scientific literacy and information literacy (media and digital).
- OE3. To document the research process with young people investigating global challenges, deploying a diversity of languages such as still and moving image and dramatic expression.

2. Methodology

Our research methodology has been built on the influence of these three main traditions (PAR, citizen laboratories and critical media / digital literacy) and, as we have pointed out, it goes beyond the traditional limits of what is known as citizen science by asking how we can increase the agency of young people throughout the research process, from the initial decisions about the issues to be investigated to the decision on how to disseminate the results. It is a qualitative methodology that draws on narrative and participatory (Mannay, 2017) and inclusive (Nind, 2014) approaches to research, adopting a gender perspective (Korsvik and Rustad, 2021).

Participatory and narrative methods allow us to approach the phenomenon to be researched with the intention of understanding it in depth, enabling insights into how different groups and young people, depending on their particular characteristics (gender, age, ability, territory, etc.) shape the emergence of diverse constructions of global citizenship.

Gender-sensitive and inclusive research recognises that, as a result of the very structure of the system supporting scientific-technological advances and innovation, the homogeneity (age, gender, ability, social class, etc.) of professionals involved in research and innovation has been a fundamental characteristic for decades, which has resulted in certain research biases. These biases have been widely documented in the scientific literature and permeate the entire research process. It is precisely these gender and inclusive approaches that propose the need to correct existing gender and ability biases, proposing methodologies that take into account the diversity of human experience.

Our research is divided into three main phases. The first of these (the one we are currently working on) aims to review the state of the art of experiences that allow young people to investigate global challenges. To this end, we are carrying out an exhaustive bibliographic search and data collection with key informants (young professionals and individuals) in the three territories involved in the research (Cantabria, Asturias and Galicia). This first phase is of utmost importance to identify which global issues interest young people, how they document these, how they keep informed and what leads them to participate in social action initiatives.

All this information will be useful to articulate spaces that, as laboratories, are adjusted to their way of investigating and interpreting the world. The second phase aims to accompany and enable projects where young people can play the role of co-researchers of global challenges, based on the YARGI methodology (Young People as

Researchers of Global Issues), which we will explain below. The third and final phase of our project is aimed at evaluating, systematising and disseminating the experiences in which young people have conducted their own research, seeking the maximum diversity of languages and audiences possible and enabling political advocacy in their immediate environment.

With this general framework in mind, this project is oriented towards the development of projects where young people play the role of researchers of global challenges, which we have called the YARGI methodology (Young People as Researchers of Global Issues). More concretely, this way of working proposes a ten-step method (10E Method) that must be adapted to each context and to the particularities of the participating group.

The 10E Method is inspired by the movement of students as researchers (Bucknall, 2012; Dolan, 2015) and is designed to enable young people to go through the 10 stages that correspond to the phases of an investigation:

1. Creation of the group and decisions on the topic to be investigated
2. How to know more about what worries me
3. Methodological choices and ethical issues
4. Decisions about sample/participants and realities to observe. How to collect our research data
5. Data analysis
6. Results
7. Contrast and verification
8. Dissemination of results
9. Advocacy
10. Generating networking

The first six stages are the usual steps in any research process, with the peculiarity that in this case it will be the young people who decide what topic to research and how to do it. In the following, we will briefly describe the three stages of work that we consider to be the most innovative: Contrast and verification, Advocacy and Networking.

The Contrast and Verification stage is aimed at enabling the young participants to develop competences related to information and media literacy processes, i.e. the creation of strategies that enable this group to develop criteria for selecting, organising and verifying the information they access. These strategies become even more necessary in order to try to understand and respond to the complex global problems we face as humanity and which are an essential concern of our project. As we have noted previously, research suggests that young people have demonstrated difficulties in critically evaluating the data and information they obtain through the Internet (Valverde-Crespo et al., 2022).

The purpose of this stage in the YARGI process is to work with young people on what kind of false information and messages are circulating online and in which media (e.g. climate change denial messages, false information about migration, etc.). The aim is to contrast the results of their research with this false or denialist information, making their right to information a reality and strengthening the development of their research skills in the field of global citizenship in face-to-face and virtual scenarios. We will work

with young people on the steps to carry out these verifications (the process known as fact check) and will use specialised platforms and media (e.g. INCIBE: National Institute of Cybersecurity, European strategy for the verification of fake news, Maldita, Newtral, Learning Zone, etc.).

Another aspect that we consider novel is to raise, as a further phase of the research, the question of how to influence our immediate and distant context based on the results of our research. In this phase, we propose to work with young people on whether the results of their research can or should be made known in contexts where they have greater visibility (press, radio, etc.) and which would allow them to influence decision-making at a local or autonomous community level (city council, youth associations, Regional Ministry of Education, Directorate General for Cooperation, etc.). We will also work here on the political importance of contrasting the information that is available on the network from specialised platforms and media, underlining the importance of the right to information as a human right that is key to the freedom of thought and opinion of all people.

The last stage of the research with YARGI methodology, Networking, refers to the possibility of creating synergies with other groups, processes, projects and associations that have similar objectives to their own, as well as to the possibility of creating a network between the YARGI projects that are generated at each site. To this end, a final meeting is planned, to provide visibility for all the projects that have been carried out.

3. Results

This article is part of a four-year research project that has recently been approved (in September 2024). The first phase of the research, in which we are currently involved, aims to gain as realistic an understanding as possible of how young people research global issues. In a first step, a systematic review was conducted of the Dialnet, WOS and Scopus databases from 2020 onward using 22 terms linked to the central concept of our research: young people researching global challenges.

The preliminary results of these searches show that there is a gap in the most current publications on the role of young people as researchers on global challenges and that the studies identified focus more on how young people participate and on explaining different experiences of participation. This first preliminary result is in line with what has been pointed out by the existing scarce research in the field of GCE that particularly addresses work with young people (Bourn and Brown, 2011; Bourn, 2022; UNESCO, 2022).

In this first phase of the research we have also planned interviews with young activists and/or those involved in social causes, as well as with professionals from different fields that allow us to identify which issues linked to global challenges concern young people, how they inform themselves about these issues and what leads them to participate in social action initiatives. Two qualitative data collection instruments have been constructed: interviews, consisting of 29 questions (in the case of those aimed at young people) and 31 questions (in the case of those aimed at professionals). The dimensions addressed in the interviews are: the role of young

people as agents of change in the face of global challenges, media and information literacy, and the role of young people as researchers and citizen science.

Both interviews incorporate the photo-elicitation technique (Bautista, 2019), and the instruments are currently in the experimental application phase, i.e. an interview with professionals and another with young people is being carried out at each site, as a test to assess the instrument. Nevertheless, our research trajectory in this field (Braga Blanco and Calvo-Salvador, 2022; Calvo-Salvador and Fueyo Gutiérrez, 2025; Calvo-Salvador and Rodríguez-Hoyos, 2025; DePalma, 2019) has allowed us to understand some issues that are central to analysing the results of this project.

Firstly, that young people have a strong presence in virtual scenarios, but their civic engagement in them is very low. It is necessary to continue working on the development of digital citizenship rights with young people who are continuously exposed to fake news and hoaxes that undermine democracy and peaceful coexistence (GENE, 2022).

Secondly, an analysis of the barriers and aids to the development of the ECG approach identified by educators reveals a need to develop more participatory and creative methodologies that put young people at the centre of the educational and research process (Braga Blanco and Calvo-Salvador, 2022; Calvo-Salvador and Fueyo Gutiérrez, 2025).

Thirdly, and as a consequence of the pandemic generated by COVID-19 as well as the rapid social changes occurring worldwide, young people have great difficulty in managing the feeling of vulnerability and the breakdown of social ties with peers (UNESCO, 2022). A higher level of isolation is perceived among young people, favoured by the abuse of social networks and the interruption of face-to-face socialisation spaces. In this sense, educators point to a need to seek strategies that allow young people to reconnect with social problems and understand how they affect them, avoiding the pathologisation or individualisation of problems that have a broader dimension. We are talking, for example, about issues such as working on universal values (human rights, the right to information, the right to education, etc.) or generating a feeling of belonging to a global community. To this end, we propose expanding the creation of participatory youth laboratories as open, collaborative and inclusive production spaces where global-local issues are addressed.

Finally, the need for our research is supported not only by the results of our previous project, but also by the realisation that young people are taking an active role in addressing these major social challenges through their participation in various social movements. At the same time, there is still very little research on how to make global citizenship a learning objective, giving young people a more active role and understanding the need for a more critical use of the virtual spaces in which they participate (Bourn, 2022).

4. Conclusiones

The participation of young people in research processes and in the solution of global challenges is essential to face the challenges of our society. To this end, it is necessary to get to know and understand the youth of today's globalised society, where virtual spaces have become parallel worlds where this participation takes place.

Our proposal is to facilitate the training of young people in research projects, based on the YARGI proposal (Young People as Researchers of Global Issues), processes that allow youth to critically understand the historical moment they are experiencing and that favour the formation of more positive relationships of each young person with themselves, with other young people from proximal and distant contexts and with the reality (natural and social) that surrounds them.

The proposal of our project is to create different spaces according to the territory and characteristics of the participating group that, like the citizen laboratories, allow young people to move from protest to proposal, where they can experience other ways of doing, naming and relating, facilitating the knowledge of what motivates and moves them and expanding their possibilities of participation in everything that affects their lives.

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