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To cite this article: Gabriel Prosser Bravo, Rodrigo Rojas-Andrade, Camilo Caro Zúñiga, Ema Schröder Navarro & Iván Romo-Medina (2023): Determinants of the implementation of participatory actions in the environmental education with children and adolescents in Chile, Environmental Education Research, DOI: [10.1080/13504622.2023.2240042](https://doi.org/10.1080/13504622.2023.2240042)

To link to this article: <https://doi.org/10.1080/13504622.2023.2240042>



Published online: 25 Jul 2023.



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Determinants of the implementation of participatory actions in the environmental education with children and adolescents in Chile

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ABSTRACT

Internationally, academics and social organizations have emphasized the incorporation of the perspective of children and adolescents in the design, evaluation, and execution of environmental education activities. This study sought to identify those contextual factors that influence the implementation of participatory actions in environmental education. An online survey was applied to 78 teachers, non-formal educators, administrators, researchers and journalists involved in environmental education. Through thematic content analysis, 17 determinants of implementation were identified, highlighting the traditional education model, cultural patterns, willing and social support, time, resources, and organizational drivers. It is argued that beyond macro and meso structural conditions, the implementation of these actions falls on a greater measure in the self-efficacy of the people involved in education, as well as in their possibility to manage the implementation conditions and obstacles.

ARTICLE HISTORY

Received 13 October 2021

Accepted 18 July 2023

KEYWORDS

Environmental education; determinants of implementation; children and adolescents' participation; participatory education

Introduction

Environmental education (EE) has a political character expressed, both, in its objective and in its processes. In the first, EE seeks the effective transformation of environmental rationalities to impact climate change and enable sustainable human development (González-Gaudio and Meira-Carrea 2020). Second, the practices EE is based on a rights-based approach and incorporates as a core component the participation of learners in the design, evaluation, and implementation of formal and informal projects (Jensen and Schnack 2006; Payne 2017; Pozo-Llorente, Gutiérrez-Pérez, and Poza-Vilches 2019). Participation is the basis for building the society of the present and the political decision-making of tomorrow (Hart 2013).

Without citizen participation, EE projects cannot impact pro-environmental behaviors in the long term. Compared to people with low-intensity involvement, people who actively participate in environmental projects enhance a pro-environmental identity (Bellino and Adams 2017), advocacy in socio-environmental organizations (Poma and Gravante 2018); do more

pro-environmental activities (Mager and Nowak 2012) and move from a position of consumers of knowledge to builders of knowledge (Jensen and Schnack 2006; Payne 2017).

At community level, territories with EE projects have more dynamism in political and social demands than those without (Liebel and Gaitán 2019). They also have more space for inter-generational knowledge (Lawson et al. 2018) and carry out democratic actions that give greater sustainability to environmental projects (Malone 2013; Tseveni 2011).

Although participation is a central component in EE, practice and research often show that participation is utilized like synonymous with asking participants for opinions, far from participation as a shared decision-making process (Duvall and Zint 2007; Prosser, Romo-Medina, and Rojas-Andrade 2020b). As Bravo-Delgado, Ramírez-Ramírez, and Escobar-Pérez (2020) conclude, the participation represents a theoretical and evaluative commitment that is not specified in practice.

In pursuit of this precision, the present study adheres to the definition of participation provided by Susinos et al. (2019): 'an orderly process that takes place in institutions (schools) in the form of diverse practices that make it possible to deploy people's capacity (agency) to influence or intervene in the real world. Participation [...] is aimed at bringing about material and/or symbolic changes aimed at improving the commons (that is why it cannot be reduced to mere consultation or a rhetorical debate of schoolchildren)' (p. 60).

In this context, many authors point out the adoption of a participatory EE model with children and youth requires the society to move from an adult-centric paradigm to one based on horizontal relationships and the use of didactic methods that enable effective dialogue between adults, children, and adolescents (Aguilar 2018; Barratt-Hacking, Barratt, and Scott 2007; Mordock and Krasny 2001; Silo 2013). According to the recent systematic review by Bascopé, Perasso, and Reiss (2019) most of the studies reflecting EE practices show a rather adult-centric tendency, with children's participation not being considered essential.

Leaving an adult-centric paradigm and adopting a participatory EE requires governments to promote intentional and active strategies that impact all dimensions of the behavior of program implementers. In other words, change motivation (want to do), capabilities (know how to do), and opportunities (being able to do) of stakeholders and decision-makers involved in educational-environmental initiatives (Michie, Van Stralen, and West 2011). These strategies can be social supports and create collaborative networks, delivery training, or technical supervisions, as well as provide budget resources that allow sufficient time and materials to start and sustain social changes (Evans, Whitehouse, and Gooch 2012; Ham and Sewing 1988; Prosser et al. 2020a; Saidón & Claverie, 2016; Samuel 1993).

In countries organized as Chile politically with an exacerbated neoliberal model, governments privatize the educational system, encourage decentralization, decrease state investment, increase school competitiveness, and make each educational community responsible for its achievements and projects (Aguilera 2015; Assaél et al. 2011; Inzunza et al. 2019).

In Chile, the implementation of EE varies among schools, with some institutions choosing not to incorporate this type of educational action. Consequently, schools rely on self-financing or funding from public and private organizations. The Ministry of the Environment has been actively involved in enhancing this model since the 1990s through initiatives that aim to certify, support, and acknowledge self-managed environmental education programs (see Table 1).

As a result, the majority of EE experiences in Chile are primarily led by environmental non-governmental organizations (NGOs) and community organizations, focusing on non-formal environmental education. On the other hand, schools are in a conflictive position. The Education Policy does not consider EE as an essential function, so the few environmental projects are in constant time and resources competition with the regular projects of traditional education focused on the national curriculum and evaluating standards about the content acquisition, mainly in math and language (Berrios and González 2020). Thus, the design, implementation, and sustainability of participatory EE depend mainly on the will of teachers and school managers. Without this educative leadership, environmental programs or projects will not exist (Salinas-Cabrera 2016).

Table 1. Public environmental education programs in Chile.

Program	Year	Objective	Population target
Environmental Protection Fund (FPA)	1997	This initiative financially supports school and citizen projects, one of its lines being to strengthen EE, particularly for educational institutions and civil society actors.	Citizens Educational communities NGOs
Clubs of Environmental Builders	1999	This program seeks to validate and distinguish a group of children, young people, and elderly people interested in the conservation of the environment.	Citizens Students
National System of Environmental Certification of Educational Establishments (SNCAE)	2003	The system classifies schools into three levels (basic, medium, excellence) according to the development of EE in their educational communities. The levels are obtained from three areas: environmental management, curricular management, and relationship with the environment (local territory).	Educational communities
Adriana Hoffmann Environmental Training Academy	2015	This institution conducts courses and seminars on environmental issues for public officials, teachers, and the general public.	Citizens Municipalities Teachers NGOs
Network of Environmental Education Centers	2017	It brings together public and private organizations that offer their educational services to schools and the general public. It is made up of 42 centers: 22 managed by private parties, 16 by the National Forestry Corporation (CONAF), 3 by Municipalities, and 1 dependent on public service.	Citizens Municipalities
Eco Library	2018	Learning material with guides related to water, biodiversity, air, climate change, waste, and others.	Teachers

Source: Original elaboration.

Despite the political and social importance of climate change and the environment, this has not materialized in a constant and sufficient delivery of resources to sustain educational interventions. Therefore, knowing the various determinants of the implementation of these actions allows us to provide feedback on professional practice and offer implementation strategies in line with the contextual challenges (Foss and Ko 2019; Monroe et al. 2019).

In a recent systematic review conducted by Georgiou, Hadjichambis, and Hadjichambi (2021), several factors related to environmental educators were identified, which influence their effectiveness in promoting participatory citizenship through education. The study highlighted certain key factors, including a limited comprehension of environmental citizenship, a tendency to focus on participation at the local level and within the individual's private sphere. Additionally, it was observed that these conceptions vary based on the teachers' cultural background and personal identity. The review also emphasized the potential for enhancing this educational approach through initial teacher training and ongoing professional development initiatives.

Propose of study

This study aimed to identify determinants of the implementation of participatory activities in EE carried out with children and adolescents from the perspective of adults involve in environmental education in Chile. We distinguished determinants that facilitate and barrier the participative EE implementation. In addition, we identified whether the environmental educators perceived the determinants as hard or impossible to change or, on the contrary, soft conditions or malleable through pre-implementation interventions.

Given this distinction, the study seeks to be a contribution to the literature and practice to the extent that it offers greater clarity regarding the value and hardness of the factors that determine the EE, being able from the results to identify those in which professional teams can

intervene with greater force. Based on this purpose, a central research question is posed, from which complementary questions are derived:

What factors determine the implementation of participatory EE actions with children and adolescents in Chile?

Which factors are recurrently mentioned?

Which ones act negatively and which ones positively?

Which ones are perceived as the hardest and most immovable?

Materials and methods

The present study followed the tradition of mixed research methodology (Green 2015).

Participants

By snowball sampling (Pérez-Luco et al. 2017), we accessed 78 Chilean environmental educators (see Table 2). In the first stage, an email was sent to teachers registered in the environmental education database government. The next was to ask them to send a copy of the email to other educators involved in EE. We applied the sampling from September to November 2020.

Data-collection procedures

We applied an online questionnaire by the Survey Monkey platform. This instrument has 25 items, but we only focused on the six open-ended questions (see Table 3) about the implementation determinants of participation for this study's aim. All definitions of conditions, facilitators and hindrances were present in the respective questions of the questionnaire, which takes, on average, 20 to 30 min to be answered.

International ethical standards were followed (Israel 2015). Participants signed a consent form informing them of their rights and obligations to participate in the research (Winkler et al. 2014).

Table 2. Participant's features ($n=78$).

Characteristic	<i>k</i>	Characteristic	<i>k</i>
Laboral setting		Experience in EE	
Schools	26.9%	Less than 1 year	5.1%
Higher education institutions	17.9%	Between 1 and 4 years	29.5%
Municipalities	16.7%	Between 5 and 10 years	34.6%
NGO's	16.7%	Between 10 and 20 years	17.9%
Statal programs and systems	10.3%	More than 20 years	12.9%
Business	6.4%		
Self-employed	5.1%		
Gender		Laboral identity	
Woman	70.5%	Environmental pedagogy	59.3%
Man	29.5%	Environmental management	42.9%
Other	0%	Environmental communication	37.4%
Years old		Environmental activism	29.5%
18 to 25 years	5.1%	Environmental research	16.7%
26 to 45 years	57.7%		
46 to 65 years	32.1%		
More than 65 years	5.1%		

Source: Original elaboration.

Table 3. Questionnaire questions utilized in this study.

Item	Implementation
What conditions do you face in your professional work that affect your ability to promote the participation of children and adolescents?	A condition is a strong external factor that a team or professional cannot modify, forcing them to adjust their planning or their designed actions.
How do you or your team face those conditions?	
What do you feel has hindered your chances of facilitating the participation of children and adolescents in environmental education experiences?	An obstacle is a factor that negatively affects the intervention and that a team can modify to a certain degree. Both, the design and implementation phase, involves carrying out additional or complementary interventions.
What do you think hinders the participation of children and adolescents in Chilean environmental education at the national level?	
What has facilitated the development of children's participation in environmental education experiences?	A facilitator is a factor that positively affects the intervention and that comes from the intervention team, the intervention itself, or the context in which it takes place. This contributes to achieving the proposed objectives in a better way.
What do you think facilitates the participation of children and adolescents in Chilean environmental education at the national level?	

Source: Original elaboration.

Analysis technique

Thematic content analysis (Braun and Clarke 2006; Vaismoradi, Turunen, and Bondas 2013) was employed in this study. The quotes were categorized into thematic axes relating to facilitators, barriers, and conditions of participatory activities in EE involving children and adolescents. Through repeated and thorough readings, initial codes were proposed based on the identified themes. The codes were further assessed for their valence and intensity, resulting in their classification into the three aforementioned categories.

Three coders had a percentage of agreement of 89.04% (203/228). For resolved the disagreements, we had consensus sessions. Consolidated criteria for reporting qualitative research (COREQ, Buus and Perron 2020; Tong, Sainsbury, and Craig 2007) was utilized, and the results were analyzed using Atlas. Ti program in its version 7.5.18.

Results

We identified a total of 19 subcategories. Six being conditions, six being barriers and others seven facilitators. In Tables 4–6, we distinguished the percentage of mentions concerning each quote in the codes and axes thematic and used some quotations to exemplify what was pointed out by the participants in each case. The following are the results for each category and their respective subcategories

Which determinant factors are perceived as the hardest and most immovable?

Conditions are the non-manipulable and hard determinants. Therefore, environmental educators must adapt their actions to these conditions, which may be favorable, such as access to natural wealth, or unfavorable, such as facing a pandemic. Based on this conception, we distinguish six conditions (see Table 4).

As conditions, the characteristics of the formal education system (28.85%), cultural issues (26.92%), COVID-19 crisis (15.38%), and specific geographic conditions (11.54%) stand out mainly. Other less mentioned conditions were the socio-individual characteristics of the participants (9.62%) and the political-institutional conditions of the schools (7.69%).

Which determinant factors act negatively and which ones positively?

Barriers are the manipulable determinants that hinder the implementation of the environmental education initiative. After analyzing the participants' responses, we found six barriers (see Table 5).

Table 4. Conditions linked to the implementation of participative initiatives.

Subcategory	Operationalization	N	A	Example citations
Traditional educative system	Structural qualities of the traditional education system that define and configure the teaching-learning processes.	15	28.85%	<p>'Congested classrooms, far from nature' (Woman #1, X Region)</p> <p>'In considering knowledge standards for practical learning, for example, schools prefer to promote SIMCE than to transform their students with environmental values' (Woman #1, IV Region).</p> <p>'As EE does not exist within regular academic training, those of us who develop this discipline are from different areas of knowledge and many times we ignore pedagogical techniques [...], also that it does not exist as a professional career' (Woman #2, XIII Region).</p>
Cultural patterns	Ingrained understandings are based on common beliefs and values of a population group.	14	26.92%	<p>'In addition, social responsibility in environmental matters. [...] I think that at the community level, there is still a lot to do since our culture needs to think about the community' (Woman #19, VIII Region).</p> <p>'At the national level, there is a very controlling vision towards childhood and adolescence and a denialist vision regarding environmental problems and the urgent need to change paradigms. There is an erroneous belief that children and young people cannot transform their environment' (Woman #18, VIII Region).</p>
COVID-19 Pandemic	Health and educational conditions generated from SARS-CoV-2 and the Coronavirus disease	8	15.38%	<p>'The first thing is that due to a pandemic one cannot reach 100% of the students due to various factors [...] At this time, they are not in face-to-face classes or have the tools that are available in face-to-face classes' (Woman #5, VIII Region).</p> <p>'We do not face many problems, actually. Now we only have the pandemic factor that does not allow us to carry out our environmental education programs' (Man #4, XIV Region).</p>
Geographic conditions	Dispositions and unforeseen events of a geological, climatic, demographic, and epidemiological nature in Chile and planet Earth.	6	11.54%	<p>'The incredible nature that surrounds us, we live in a wonderful territory where we can go from the mountains to the sea in a few hours, as well as we can travel a geography full of different biomes.' (Man #3, XIII Region).</p> <p>'There are [...] natural and climatic factors, such as earthquakes or drought (lack of water)' (Man #6, XIII Region).</p> <p>'Rural schools that naturally live respect for the land, the characteristics of each territory also favor or limit' (Woman #1, VIII Region)</p>
Socio-individual factors	Specific qualities of a person or population group.	5	9.62%	<p>'Sedentary culture of high school students' (Man #1, I Region).</p> <p>'When the family of the children or young people we work with has a history of drug addiction, or excessive bullying among students' (Woman #5, XIII Region).</p> <p>'I work in a special school where not all children and young people are autonomous, which is why they require a lot of assistance' (Woman #14, VIII Region).</p> <p>'I think it hinders language limitations when faced with different age ranges, the understanding of words is different and more complex in childhood' (Woman #2, XIII Region).</p>
Politic-institutional conditions	A series of norms that configure the State and the institutions, the socio-political and financing contexts, which together influence educational environmental actions.	4	7.69%	<p>'If the Ministry of Education and the Citizen Participation Law strongly promoted the participation of children and young people, this lack would be much more covered [...] Since the public sector only operates within the framework of what is legislatively allowed, there is no instance of proposal and innovation if it is not a ministerial or municipal line itself, then there is a political-legislative variable that limits this type of actions, especially in public education' (Woman #3, XIV Region).</p> <p>'The centralization of our country' (Woman 1, XIII Region).</p>

Source: Original elaboration.

Table 5. Obstacles linked to the implementation of participative initiatives.

Subcategory	Operationalization	N	A	Example citations
Willingness to EE (low)	Attitudinal disinclination or negative disposition towards an environmental educational action or a set of these.	43	47.78%	'On some occasions, generating interventions requires the acceptance of supporters and teachers, the latter sometimes consider that extra-curricular activities are more work for them' (Woman #9, XIII Region). 'The worst factor is facing teachers who do not want to go out on the field because it takes them much longer to organize the activity and they prefer to be in the classroom' (Woman #1, II Region).
Resources and time (lack)	Material or immaterial sources not available to achieve the proposed objectives or satisfy any need.	31	34.44%	'And a large part of my performance has been from volunteering, greatly limiting (personal) resources and teams to work adequately with children' (Woman #3, XIII Region). 'Financing: almost zero hirings of environmental educators in formal educational establishments' (Woman #4, Region XIV). 'I think that one of the conditions that slow us down the most to promote child participation has to do with time and resources. Time is mainly linked to the possibilities we must generate a project in which children and young people participate in the design of the workshop, project, or research. In general, time is lacking. There is no time to generate a narrower process, which allows us to generate bonds and trust with the children and young participants because in general, the type of approach that we have as environmental educators is to generate single instances (workshop or talk) or a few sessions' (Woman #8, XIII Region).
Competence (low)	The lack of ability of a person or group of people to identify, interpret, argue or solve problems in a comprehensive, ethical and suitable way, making use of knowing how to be, know how to do, and know-how to know.	13	14.44%	'At the national level, the EE training needs to be further developed, especially in schools, motivating teachers to use this tool as a pedagogical way of teaching' (Man #6, XIII Region). 'The biggest obstacle is [...] the lack of tools to stimulate and develop more democratic and horizontal spaces for child participation. It would be very useful to be trained in this type of tools' (Man #2, XIV Region). 'We need to democratize the spaces for participation at all levels and also educate ourselves on how to participate, which is something we do not have in our formal education' (Woman #8, XIII Region).
Curricular greening (low)	It alludes to those occasions in which environmental education is not part of the curriculum, neither in a situated nor transversal way.	10	11.11%	'The little knowledge of the possibility of incorporating environmental education in the formal curriculum. Normally teachers concentrate on passing the curriculum as it is and have no knowledge or desire to incorporate environmental education into their practices' (Man #1, XIII Region). 'Environmental education [...] is still considered unnecessary from a curricular point of view, despite the tremendous relevance it has at the environmental level and the benefits it brings to those who receive it' (Man #3, XIII Region). 'Do not consider it a transversal subject in the school curriculum and consider that it only touches natural sciences' (Woman #2, XIV Region).
Banking Educative practices	It refers to a set of educational actions, or characteristics of these, that come from a hegemonic position of the educator and passivity of the learner.	9	10.00%	'A punishing educational model that wants a quick response to every child [...] at the end of shouting does not get anything, you have to follow him so that he/she knows how to [interact] in nature with respect' (Man #1, VI Region). 'The installed idea on formal education where boys and girls only receive information and knowledge that an adult who knows gives to them and therefore lack of recognition and confidence on the abilities of boys and girls' (Woman #2, V Region).
Implementation supports (lack)	Lack of institutions and/or people to support the quality and implementation of the interventions.	8	8.89%	'All activities outside the Educational Establishment must generate permissions for school insurance that are exaggeratedly bureaucratic that end up discouraging the teachers, in addition, that all the time "lost" in the activity must be recovered' (Woman #3, V Region). 'The SNCAE does not provide resources to facilitate an educational program that is sustainable over time (management scoping)' (Woman #1, V Region). 'You can only work with projects with competitive funds that involve schools' (Woman #3, V Region).

Source: Original elaboration.

Table 6. Facilitators for the implementation of participative initiatives.

Subcategory	Operationalization	N	A	Example citations
Willingness to EE (high)	Attitudinal inclination or positive disposition towards an environmental educational action or a set of these.	36	41.86%	<p>'Educational Community (managers, teachers, educational assistants, parents, and students) engaged with environmental education, working together and articulated in the various activities' (Woman #2, VIII Region).</p> <p>'The interest of my students, they are always motivated because they like practical activities, especially the little ones' (Woman #17, VIII Region).</p> <p>'From my experience, contact with nature is what most encourages the participation of children, it is here, where they develop in a transparent and relaxed way, exploring their greatest potential without the pressure of a classroom or a conduit regular if not only respect for nature'(Man #3, XIII Region).</p>
Implementation supports (availability)	Systems, institutions and/or people to support the quality and implementation of the interventions.	26	30.23%	<p>'In addition, in the establishments that participate in the Certification System (SNCAE), boys and girls must participate in the School's Environmental Committee' (Man #2, XIII Region).</p> <p>'At a national level, the creation of networks such as the Sustainable School Communities Network of my commune has generated and strengthened over time, the creation and design of various activities aimed at raising awareness and socializing environmental issues.' (Woman #19, VIII Region).</p> <p>'In my experience, they have facilitated the development of child participation: the Mayor who facilitates and manages with management teams of the establishments, directors and teachers committed, and sometimes empowered' (Woman #1, V Region).</p> <p>'Active and constantly motivated Community Coordinator, planning many and varied actions-encounters, contests, etc., that allow the participation of all students' (Woman #2, VIII Region)</p>
Student-centered learning practices	Educational practices that redefine the limits of the school and the educator/student relationship, giving a central place to children and adolescents.	22	25.58%	<p>'Relation and knowing each other's dynamics have greatly facilitated the possibility of children's participation' (Man #2, XIV Region).</p> <p>'Environmental education delivered in a friendly, entertaining, exploratory context, etc [...], children as the center of the process, not the content to be taught' (Woman #5, Region XIV).</p> <p>'Explain well the intentions of the projects, who will carry them out, why and for what' (Woman #1, VII Region).</p>
Competence (high)	The ability of a person or group of people to identify, interpret, argue or solve problems in a comprehensive, ethical and suitable way, making use of knowing how to be, know how to do, and know-how to know.	11	12.79%	<p>'It has been facilitated when there are work teams trained in this matter' (Woman #2, V Region).</p> <p>'I also believe that having digital skills and knowing how to show them videos, applications to recognize plants or calculate your carbon footprint, those things are children's interests' (Man #1, VI Region).</p> <p>'It has facilitated the development to meet many people who, like me, have learned EE in a self-taught way. And from our different study disciplines, we can share and educate each other' (Woman #2, XIII Region).</p>

(Continued)

Table 6. Continued.

Subcategory	Operationalization	N	A	Example citations
Socio-emotional learning practices	Educational processes developed through programs, actions, or attitudes of the educator, aimed at strengthening their knowledge, capacities, skills, and attitudes necessary to act appropriately in the face of socio-emotional and socio-environmental phenomena.	7	8.14%	'To develop in them the emotional mind, not only the rational one ... because without sensitivity towards the environment and towards others, but it is also impossible to develop environmental education [...] specially to put a lot of love in what is done' (Woman #1, VII Region). 'Support and closeness to girls, boys and in-charge people' (Woman #7, XIII Region).
Resources and time (availability)	Material or immaterial sources available to achieve the proposed objectives or satisfy any need.	6	6.98%	'When there are programs with associated financing with these processes' (Woman #2, V Region). 'A defined space of work and permanent in time, where children know each other and have communication' (Woman #5, XIV Region). 'It has been facilitated by the generation of a popular school, where the principles are typical of the participation of children from the base [...] it is facilitated by the possibility of self-management, an informed and compromised self-management' (Woman #4, XIII Region).
Curricular greening (high)	It alludes to those occasions in which environmental education is very important part of the curriculum, in a situated or transversal way.	6	6.98%	'It facilitates that more and more objectives that have to do with sustainability and care for the environment are being incorporated. What is promoting that there is more interest on the part of the community to create and carry out projects in this regard' (Woman #5, V Region). 'The modifications and the implementation made to the study programs in the formal curriculum.' (Woman #6, XIII Region).

Source: Original elaboration.

The barrier most mentioned by the participants is the lack of commitment of the school community actors (47.78%) and the scarce funding of environmental education projects (34.44%). Other barriers are competencies in environmental education (14.44%), a low level of environment-based curriculum (11.11%), and traditional non-participatory practices (10.00%). Finally, there is a lack of implementation supports, such as state programs, leadership, and administrative support (8.89%).

Facilitators are the manipulable determinants with a positive impact on the put in practice of the environmental education initiative. Identifying facilitators is helpful for improvement to maximize their positive impact on interventions. Based on the above idea, seven facilitators were identified (see Table 6).

The facilitators of implementation most mentioned by environmental educators are school commitment (41.86%), presence of implementation supports (30.23%), and pre-existing student-centered learning practices (25.58%). Other facilitators mentioned are the competence of environmental educators (12.79%), the development of socioemotional educational practices (8.14%), access to resources and time (6.98%), and the high level of environmentally based curriculum (6.98%).

Discussions

This study aimed to identify the determinants influencing the implementation of participatory activities in EE involving children and adolescents, from the perspective of adults involved in

environmental education in Chile. Through the identification of various factors, their level of rigidity and inflexibility was distinguished, highlighting a set of challenging conditions. Additionally, factors that were deemed more adaptable were classified as either barriers or facilitators, based on their valence.

Our exploratory results suggest that it is possible to differentiate the degree of hardness of the determinants that a person faces when implementing a participatory EE. These conditions have an external locus and a high complexity, being determinants of a magnitude that is practically unapproachable for an individual or a small group of individuals. Participants even point out that these challenges go beyond schools and their networks.

To favor more participatory actions, it is necessary to work on cultural aspects of society in general (Lay-Lisboa and Montañés 2018), introduce innovations to the traditional educational system (Assaél et al. 2011; Berrios and González 2020; Duvall and Zint 2007), and consider geographic, political and demographic variables of the delivery context when designing, implementing and scaling up EE policies and programs (Lawson et al. 2018). Although in long-term processes this could fall under the responsibility of educators, it seems more accurate to attribute such objectives to the actions of decision-makers and local managers.

However, when analyzing the malleable factors, our results suggest that the actions of the people who lead the implementation determine to a large extent the degree of participation that can be achieved later in the educational praxis (Salinas-Cabrera 2016). As identified, it is essential to gain the support of other people in the organization or institution, develop the competencies required for this type of action, carry out student-centered practices, obtain resources (Saidón and Claverie 2016), promote institutional greening (González-Gaudio 2012) and the creation of supports for the implementation of these projects (Salazar et al. 2022).

That said, this study does not suggest that addressing structural conditions is impossible. Our results suggest that the greatest possibilities for action are to be found in the meso and microsystem (Aguilar 2018; Silo 2013), above all in the educator-learner relationship and in the context of the organization or institution in which this interaction takes place. In this line, the importance of promoting a student-centered EE that integrates aspects of social-emotional learning stands out, as it allows building safe and inclusive educational spaces in which students feel invited to participate (Ojala 2012, 2021).

Based on these findings, we hypothesize a potential relationship between similar structural conditions and subjective variations in the execution of these actions. Previous studies conducted in Latin American contexts have highlighted the significance of professional motivation as a crucial support factor (Prosser et al. 2020a; Saidón and Claverie 2016), while in other instances, policies and programs have played a pivotal role in effectively sustaining local actions (Blum 2008; Falconi et al. 2019). It is important to acknowledge that the latter approach involves addressing structural conditions, emphasizing the essential role of implementer self-efficacy as a foundational element for successful EE initiatives (Aguilar 2018; Georgiou, Hadjichambis, and Hadjichambi 2021).

Given the characteristics of the study sample, it is not possible to establish generalizations; however, future research could use the present results to establish comparisons with other countries and even with other populations within Chile. These studies would make it feasible to establish similarities and differences according to the income of the countries, the EE models promoted and the implementation systems that support them.

Likewise, future studies of determinants should actively involve children and adolescents, since any study focused on adults has desirability biases when identifying what limits the participation of students (Barratt-Hacking, Barratt, and Scott 2007; Bascopé, Perasso, and Reiss 2019; Georgiou, Hadjichambis, and Hadjichambi 2021). In a similar vein, further research is necessary to explore potential distinctions between the preschool and school stages, with a particular focus on identifying whether younger students face more challenging and unfavorable determinants.

Conclusions

Finally, it should be noted that the purpose of this study was to describe the determinants of the implementation of participatory EE actions, distinguishing their valence and hardness. A total of 19 factors were identified, six of them being considered as hard and immovable conditions, six as avoidable barriers and seven as factors that facilitate the development of participatory actions.

From the results and discussions, the importance of certain structural factors that are configured as conditions was shown. Without detracting from this, the factors that facilitate or hinder participatory actions are related to the subjectivity of the educator and his or her educational praxis, as well as to institutional aspects of the context in which these actions take place (schools, universities, community centers, etc.).

This sheds light on a possible way forward, despite the enormous structural conditions. Strengthening the institutions and people who deliver EE is a first step to facilitate a more participatory education, while at the same time emerging the supports that allow it to be sustained over time.

Disclosure statement

The research team declares that it had no conflicts of interest in the process carried out.

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