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Digital Literacy and Administrative Autonomy in Adolescents in the Welfare System: Impact of a Socio-Educational Intervention

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Abstract: In general, young people, and adolescents under protective measures, do not have the digital competence and autonomy necessary to successfully interact with public administrations. Children have the right to quality education that promotes listening, participation, equal access and opportunities, especially in the digital age. However, this remains a global challenge that cannot be waived. For this reason, the main objective of this study is to know the impact of the implementation of a Participatory Action Research (PAR) project carried out with young people living in four sheltered housing facilities in four cities in northwestern Spain. The aim of this project is to improve the digital literacy and autonomy of young people in carrying out procedures and formalities with public administrations and bodies, making them participants in their own learning process. The research was carried out using a qualitative methodology. In total, 44 subjects from different groups (30 adolescents and 14 social educators) participated. As results and conclusions, it is worth highlighting that the experience has improved the digital literacy and autonomy of the young people, observing their progress throughout the sessions. Likewise, the teenagers have actively participated in all the sessions, getting involved and learning through content of interest to them. The level of satisfaction has been very high.

Keywords: digital literacy; administrative autonomy; adolescents in protective measures; socio-educational intervention; education for global citizenship

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1. Introduction

Today, we are facing urgent global challenges that affect all citizens, and children and adolescents in particular. Some of the global challenges refer to climate and health crises, poverty, exclusion, etc. In a fully globalised and digitalised world, part of the population may be excluded because they lack digital literacy skills, especially in administrative procedures. For this reason, the main objective of this study is to know the impact of the implementation of a Participatory Action Research project carried out with young people living in four sheltered homes in four cities in northwest Spain. The aim of this project is to improve the digital literacy and autonomy of young people by making them participants in their own learning process in carrying out procedures and formalities with public administrations and bodies.

1.1. Global Citizenship Education and Quality Education

Global Citizenship Education (GCED) is intrinsically linked to the concept of quality education, as both share objectives aimed at the holistic development of individuals and the strengthening of inclusive, just and sustainable societies. Quality education, according to Sustainable Development Goal (SDG) 4 of the 2030 Agenda, seeks to ensure inclusive, equitable and quality education and promote lifelong learning opportunities for all (United Nations 2015). In this framework, Global Citizenship Education emerges as a key component to achieve this goal, as it fosters essential competencies to face the challenges of the 21st century.

UNESCO (2015) points out that quality education focuses not only on academic results but also on the formation of citizens committed to global well-being. Global Citizenship Education contributes to this approach by promoting critical thinking, conflict resolution and respect for diversity, which are key elements for social inclusion and educational equity. Global Citizenship Education broadens the concept of educational quality by incorporating global dimensions, enabling students to understand the interconnections between the local and the global (Ferguson and Brett 2023).

In addition, Global Citizenship Education reinforces the ethical dimension of quality education by fostering values such as solidarity, empathy and respect for human rights. An education that includes a global citizenship perspective not only enriches learning but also ensures that students are prepared to actively participate in building a more just world (Sanz-Prieto et al. 2024). In this sense, quality education becomes a means to ensure that all individuals, regardless of their background, have access to knowledge and skills that enable them to contribute to collective well-being. The implementation of Global Citizenship Education within quality education also addresses the educational inequality gap. In contexts of vulnerability, Global Citizenship Education can be a tool to empower learners by providing them with resources to overcome structural barriers (Çolak et al. 2019).

Likewise, digital literacy, an essential component of Global Citizenship Education, contributes directly to quality education by ensuring that students acquire technological and media skills needed in the digital age. Incorporating these skills into educational programmes promotes equity by preparing all students to participate fully in the digital society, closing access and opportunity gaps (González-Valencia et al. 2022). Global Citizenship Education and quality education are not separate goals, but complementary and mutually reinforcing approaches. By integrating Global Citizenship Education into education systems, it ensures not only the acquisition of fundamental knowledge but also the formation of active and responsible citizens, capable of contributing to sustainable development and global well-being.

1.2. Adolescents and the Child Welfare System

The protection of adolescents in vulnerable situations in Spain is based on a solid legal framework that seeks to guarantee their rights and well-being. Organic Law 1/1996 (1996), of 15 January, on the Legal Protection of Minors, as well as The Royal Decree of 24 July 1889 (1889) publishing the Civil Code, and Organic Law 8/2021 (2021), of 4 June, on the Comprehensive Protection of Children and Adolescents against Violence, establish the necessary measures to address situations of lack of protection, with a focus on prevention, early detection and intervention. This regulatory framework is aligned with the international standards established in the United Nations Convention on the Rights of the Child (UNICEF 1989), which Spain ratified and which highlights the best interests of the child as a guiding principle. Each autonomous community in Spain legislates its own child protection regulations. These communities hold the necessary powers regarding child protection.

Internationally, authors such as Barth et al. (2020) stress the importance of stability in protection measures, as experiences of constant disruption in the care system can have negative effects on the psychological and emotional development of adolescents. Child welfare systems should focus on multi-sectoral approaches that integrate health, education and justice. This holistic approach is essential to address the complex needs of vulnerable adolescents.

Despite policy progress, challenges remain. Overburdening of the protection system and shortage of resources are common constraints. These problems are not unique to Spain, as many countries face similar difficulties due to the growing demand for child protection services. Improving adolescent protection requires a comprehensive approach that combines a solid legal framework, continuous training and active participation of minors. Stability, quality of care and inter-institutional coordination is key to improving the effectiveness of these systems (Vis et al. 2022).

Sheltered housing is an alternative to traditional residential care and is designed for adolescents with greater degrees of autonomy. According to The Ministry of Social Rights and Agenda 2030 (2023), this resource provides a space where young people can develop independent living skills, such as economic management, living together and personal planning. These homes are usually supervised by social educators who guide adolescents in their process towards emancipation. From an international perspective, authors such as Stein and Munro (2008) emphasize that sheltered housing programs are especially important in preparing young people in the protection system for the transition to adulthood. However, they caution that the quality of these interventions depends on a balance between supervision and freedom, to avoid young people feeling neglected or overprotected.

1.3. Digital Literacy and Competence

Digital literacy is a fundamental concept in contemporary society, given the growing role of technology in all areas of human life. It implies not only the ability to use digital devices but also the competence to interpret, evaluate and create information effectively in the digital environment. In the current context, digital literacy is a prerequisite for social, occupational and educational inclusion (Hobbs 2020; Pathak-Shelat and Bhatia 2024).

Digital literacy includes various competencies related to the ability to search for information, evaluate its relevance and reliability, and use it to solve problems or make decisions. According to Ng (2012), digital literacy can be broken down into technical, cognitive and socioemotional skills, all of which are necessary for the effective use of technology (Campodónico and Aucapiña 2024). In an educational context, these skills enable students and teachers to access educational materials and take advantage of resources that would otherwise be inaccessible. Individuals need more than technical skills; that is, they must be able to discern between useful information and misinformation, an increasingly relevant problem in the current context (Achuthan et al. 2024; Gil-Quintana et al. 2022; Guillén-Gámez et al. 2023).

Digital literacy is a fundamental skill that transcends the simple handling of technological tools. It is a set of competencies that enable people to be an active and critical part of an increasingly digitized society. However, there are still significant challenges to ensure that these skills are accessible to all, which requires educational and social policies that promote digital inclusion and reduce inequalities in access to technology. As indicated by UNESCO (2022), digital literacy is not only a right in itself but also a tool for the exercise of other fundamental rights.

The development of autonomy is another of the essential pillars within the educational system, especially within the framework of the competencies defined by the LOMLOE (Organic Law 3/2020 (2020), of 29 December, which amends Organic Law 2/2006, of

3 May, on education). Autonomy is a competence that is developed in the educational process through the student's ability to learn to learn, make informed decisions and manage their own learning process.

UNESCO's (2022) Digital Literacy Report also highlights that digital literacy is crucial for achieving informed and participatory citizenship. The ability of individuals to understand and use digital information is directly linked to participation in democratic processes and access to fundamental rights. In addition, UNESCO emphasizes the importance of these competencies in reducing the digital divide, which refers to the disparity in access to and use of technologies among different sectors of society.

Digital competence, one of the key competencies according to the LOMLOE, plays a fundamental role in the development of the aforementioned autonomy. Digital competence implies not only the ability to use digital tools but also the critical capacity to understand the information available in digital media and to use it effectively and ethically. According to the European Digital Competence Framework (DigComp), digital competence encompasses five main areas: information and information literacy, communication and collaboration, digital content creation, security, and problem solving (Redecker and Punie 2020). However, digital literacy is not evenly distributed. Significant inequalities exist in both access to technology and the skills to use it. The second-generation digital divide, which refers to disparity in the quality of use and not just access, is increasingly present. Differences in digital literacy often depend on factors such as educational level, age and geographic location (Bozkurt et al. 2020; Rapanta et al. 2020).

2. Context, Design and Implementation of the Intervention

The intervention was aimed at adolescents in four sheltered housing centres located in four cities in the northwest of Spain. The choice of the centres for this study was motivated by the accessibility provided by their management. Initially, in these centres, a diagnostic assessment was carried out to detect the needs of the adolescents in terms of their level of digital literacy and autonomy to successfully interact with public administrations and organisations. From the information gathered for the needs study, it was evident that adolescents do not acquire adequate autonomy to carry out digital procedures and formalities with different Public Administrations and Public Bodies. Their digital literacy is generally low. For adolescents who have an unstable and deficient family situation, generally, their digital literacy is low, and therefore, learning can be quite challenging for them.

Based on the exploratory study carried out, it has designed an educational project. The aim of the project is to improve the digital literacy and autonomy of young people in procedures and dealings with public administrations and organisations, making them participants in their own learning process. The project is based on the methodology of Participatory Action Research (PAR). PAR is an educational approach to socio-cultural intervention based on the collaboration and active participation of the people involved, thus identifying problems, seeking solutions and generating changes in their communities or contexts, a dynamic and cyclical process (Cornish et al. 2023). The project was designed and implemented by the social educators of the centres for one month, with the participation of 30 adolescents. A total of four sessions were held, one per week.

- First session: Search for information about the problem. Documentary analysis.

Debate on different research and studies related to citizenship and Public Administrations and Bodies, as well as on the autonomy and digital literacy necessary to carry out administrative procedures. Analysis of diagnostic reports published by *Prodigioso Volcán*.

- Second session: Search for solutions.

Search for solutions to the lack of digital literacy and autonomy to carry out administrative procedures on the part of adolescents. SWOT analysis to identify weaknesses, threats, strengths and opportunities. Drawing up a strategic script on how to tackle the problem jointly and respond to the learning needs.

- Third session: Design proposal. Access to housing.

The teenagers select housing as the theme for the design proposal. For them, it is particularly relevant and they have shown great interest.

- A content script is drawn up.
- A Google Classroom account is created.
- The content script is transferred to a Canva presentation. Interesting information is introduced (basic concepts, requirements for renting, applications to look for housing, grants and subsidies…) and links to official websites on housing. The activity is designed to work on digital literacy and autonomy regarding administrative procedures.
- Using Google Earth, teenagers will have to recreate a search for housing in the cities where they live. They will also walk around and identify the buildings of the Autonomous Administration where the procedure would be carried out in person. They will have to simulate carrying out the procedure to access housing digitally. To carry this out, they will have to learn about the regulations, see models of rental contracts, the procedures for applying for housing subsidies online, etc.
- Tests are carried out before implementation, with good results.

- Fourth session: Implementation.

Implementation of the proposal. The adolescents are shown the Google Classroom code that gives access to the material created on the chosen topic: 'Access to housing'. The presentation indicates the steps to carry out the implementation of the proposal designed (explained in the previous section).

The evaluation of the impact of the project on the adolescents was carried out taking into account the sequencing of the intervention. In the first and second sessions, a structured non-standardised questionnaire was used as an evaluation instrument, developed ad hoc for both adolescents and educators; in the third session, an interview with open-ended questions was conducted with both groups. Finally, in the fourth session, the evaluation took place through a questionnaire elaborated ad hoc with closed questions with answers on a Likert scale and open questions for both professionals and adolescents.

3. Materials and Methods

This research has been carried out under a qualitative methodology based on a narrative approach and developed under a multiple case study. Qualitative methodology allows for the description and understanding of the analysed reality, taking into account the peculiarities of the context of the study (Flick 2014). Multiple case studies contribute to theory development by providing a comprehensive understanding of a specific phenomenon (Yin 2018). This theory building enhances the overall scientific knowledge base.

3.1. Participants, Instruments and Data Collection

The study took place in 4 sheltered housing units located in the northwest of Spain. A total of 44 people participated (14 social educators and 30 adolescents) (Table 1). The age of the educators ranged between 25 and 60 years, with a predominance of professionals aged between 25 and 30 and 36 and 40 years. In terms of professional experience, 5 of

the 14 educators have little experience (1–5 years). The rest have between 6 and 30 years of experience. However, half of the educators have been with their current centre for between 6 and 10 years. As for the adolescents, half of them are between 14 and 15 years old, with a predominance of boys. Almost all of them have Primary Education studies and only 5 have obtained the Secondary Education qualification. More than half of them have been at the centre for between 1 and 5 years.

Table 1. Profile data.

Educators							
Age	**f**	**Gender**	**f**	**Professional Experience**	**f**	**Years at Current Centre**	**f**
25–30	4	Boys	8	1–5	5	Less than one year	3
31–35	1	Girls	6	6–10	2	1–5	3
36–40	4			11–15	2	6–10	7
41–45	2			16–20	2	11–15	1
46–50	2			21–25	2		
51–60	1			26–30	1		
Adolescents							
Age	**f**	**Gender**	**f**	**Current studies**	**f**	**Years at Current Centre**	**f**
12	3	Boys	17	Primary Education	27	Less than one year	7
13	2	Girls	13	Secondary Education	5	1–5	17
14	7			Baccalaureate	0	6–10	6
15	8			Professional Education	0		
16	4						
17	3						
18	3						

For the collection of information on the impact of project implementation, several instruments have been used. The instruments are the same for both educators and adolescents, with their corresponding adaptation. After the first and second sessions, a structured non-standardised questionnaire developed ad hoc with a Likert-type scale (where the levels were very low, low, neither high nor low, high and very high) was used. An example of an item from the first session is as follows: "Indicates the level of interest in the content covered in session 1". On the other hand, an example of an item from the second session would be as follows: "Indicates the level of collaboration in session 2". After the third session, an open-ended interview was carried out. It included in addition to the profile data open-ended questions on each of the steps developed in that session. For example, "What is your opinion about the Google Classroom tool used in session 3?" Finally, after the fourth session, data were collected through an ad hoc questionnaire containing, in addition to the profile data, a part with a Likert-type scale (where the levels were as follows: very low, low, neither high nor low, high and very high; an example of an item is as follows: "Indicates the level of learning after the implementation carried out in the 4th session", as well as open questions. An example of an open-ended question would be as follows: "What do you think were the most interesting contents covered in the implementation of session 4?" All the instruments have been validated by 5 experts in the subject matter and type of research from 3 Spanish universities. Likewise, the participants are made aware in advance of the voluntary nature of their participation in the research, as well as the purpose and use of the data collected, giving their consent to participate. In the case of adolescents, the mother/father/legal guardian did so. Logically, the data are anonymised and confidential, stored securely by the researchers. Participants have the right to withdraw at any time from the process.

3.2. Data Analysis

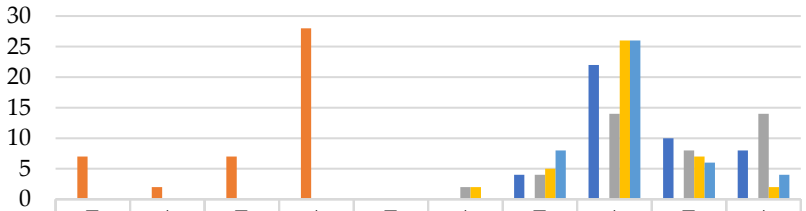
A content analysis was applied to the information collected. Initially, it was necessary to organise all the information beforehand. In fact, an individualised treatment of the information obtained with each instrument was carried out. On the one hand, the frequencies obtained in the Likert-type scales were counted, thus obtaining the absolute and relative frequencies. On the other hand, for the open-ended questions, expert advice was received to define the main units of analysis (categories and subcategories), and the absolute and relative frequency was also counted. On the basis of their advice, the construction of an unpublished categorisation system was established, based on the main objective of the study, by means of an inductive process from the raw information collected. The delimitation of the different subcategories is derived from the substantive ideas of the interviews. The Analysis of Qualitative Data (AQUAD 7, Tübingen, Baden-Wurtemberg, Germany) software was used for the content analysis. The information from the questionnaires and the interview was transferred using this programme. The content analysis was carried out by pairs of researchers (with experience in this type of analysis) and according to the indications of the experts. The transfer of the results from AQUAD to the Excel (2016, Microsoft, Redmond, Washington) software was carried out in a systematised way. This has facilitated the presentation in the Results section of the frequency count (absolute and relative) by means of tables and figures. The iconic representation is essential to provide an effective interpretation and understanding of the results.

4. Results

The results of this study are presented below, accompanied by some iconic and textual components. To optimise their organisation, they have been grouped into four sub-sections, which correspond to the different sessions of the project and respond to the research objective.

4.1. Session 1: Documentary Analysis

The impact of the first session of the project, in which a search for information and documentary analysis on digital literacy and autonomy in administrative procedures is carried out, the following results emerge from this study. Most of the adolescents consider the interest in the content addressed in this session to be high (22/30; 73.33%). The educators maintain that the degree of interest is very high (10/14; 71.43%) (Figure 1).



	Very low		Low		Neither high nor low		High		Very high	
	E	A	E	A	E	A	E	A	E	A
Content interest							4	22	10	8
Level of autonomy	7	2	7	28						
Learning						2	4	14	8	14
Session satisfaction						2	5	26	7	2
Session participation							8	26	6	4

Figure 1. Impact of the first session: Information search and documentary analysis. Note: E = educators; A: adolescents.

In terms of the level of autonomy, adolescents consider that they have a low level of autonomy (28/30; 93.33%) when it comes to carrying out digital administrative procedures. Some of them state that they have a very low level (2/30; 6.67%). Half of the educators (7/14; 50%) indicate that adolescents have a low level of autonomy, while the other half (7/14; 50%) consider it to be very low. Referring to the adolescents' learning after this first session, the educators indicate that it is very high (8/14; 57.14%) while the adolescents themselves believe it is high (14/30; 46.67%) and very high (14/30; 46.67%). Overall satisfaction with the session has also acquired positive results. Half of the educators (7/14; 50%) consider that the adolescents were very satisfied. The adolescents themselves indicate that their level of satisfaction with the session is high (26/30; 86.67%). Finally, regarding the level of participation in the session, both the educators (8/14; 57.14%) and the adolescents themselves (26/30; 86.67%) consider it to be high.

4.2. Session 2: Finding Solutions

In reference to the second session of the project, based on the search for solutions, it is worth highlighting that the impact has been very positive. The educators consider that the level of contribution of the adolescents to the session has been very high (11/14; 78.57%). The adolescents themselves recognise that their contribution has been high (26/30; 86.67%) (Figure 2).

	E	A	E	A	E	A	E	A	E	A
	Very low		Low		Neither high nor low		High		Very high	
Contribution							3	26	11	4
Collaboration							1	2	13	28
Active listening							2	6	12	24
Session participation							4	14	10	16

Figure 2. Impact of the second session: Finding Solutions. Note: E = educators; A: adolescents.

Educators consider that adolescents have had a very high level of collaboration (13/14; 92.86%), coinciding with the opinion of adolescents (28/30; 93.33%). Both educators (12/14; 85.71%) and adolescents (24/30; 80%) maintain that in this session, the level of active listening on the part of adolescents was very high. The level of participation by the adolescents was very high according to the educators (10/14; 71.43%) and very high (16/30; 53.33%) and high (14/30; 46.67%) from the point of view of the adolescents themselves.

4.3. Session 3: Design Proposal

This study shows that, in terms of the impact of the third session in which the design proposal is carried out, both the educators (14/14; 100%) and most of the adolescents (28/30; 93.33%) consider that drawing up the content script has been interesting. Both groups state that they have had no difficulty in this activity (educators: 10/14; 71.43%; adolescents: 27/30; 90%) (Table 2).

Referring to the tools used in the design proposal, educators consider that Google Classroom facilitates collaboration (14/14; 100%), is easy to install and its interface is attractive (13/14; 92.86% in both). On the other hand, all teenagers (30/30; 100%) indicated that it facilitates collaboration, has good compatibility and is easy to install.

An illustrative extract is given below:

> I consider the proposed tools to be very interesting. In particular, Google Classroom is easy to install and its interface is very attractive for teenagers. In addition, a very important positive aspect is that it greatly facilitates collaboration (social educator 7, 31 years old, Supervised Housing 2)

> I found Google Classroom a very interesting tool. It is easy to install, compatible with our devices and allows us to collaborate with each other (adolescent 27, 17 years old, sheltered housing 4.,Lines of analysis 34–37)

Table 2. Impact of the third session: Design proposal.

Category		Educators (f = 14)		Adolescents (f = 30)	
1st Level	**2nd Level**	**fi**	**ni**	**fi**	**ni**
Content scripting	No difficulty	10	71.43%	27	90.00%
	Interesting content	14	100.00%	28	93.33%
Google classroom	Easy installation	13	92.86%	30	100.00%
	Good compatibility	12	85.71%	30	100.00%
	Multiple functionalities	12	85.71%	28	93.33%
	Attractive interface	13	92.86%	27	90.00%
	Integrates multimedia resources	10	71.43%	26	86.67%
	Facilitates collaboration	14	100.00%	30	100.00%
Canva	Easy installation	14	100.00%	30	100.00%
	Good compatibility	14	100.00%	30	100.00%
	Multiple functionalities	14	100.00%	30	100.00%
	Attractive interface	13	92.86%	30	100.00%
	Integrates multimedia resources	12	85.71%	29	96.67%
	Facilitates collaboration	12	85.71%	29	96.67%
Google Earth	Easy installation	14	100.00%	30	100.00%
	Good compatibility	12	85.71%	27	90.00%
	Multiple functionalities	11	78.57%	22	73.33%
	Attractive interface	11	78.57%	21	70.00%
	Integrates multimedia resources	12	85.71%	21	70.00%
	No Facilitates collaboration	14	100.00%	30	100.00%
Implementation test	Easy installation tools	14	100.00%	30	100.00%
	Attractive tools	14	100.00%	30	100.00%
Session participation	Very high	12	85.71%	30	100.00%
	High	2	14.29%	0	0.00%

Note: f = frequency; fi = absolute frequency; ni = relative frequency.

Regarding the Canva tool, all of the educators (14/14; 100%) highlight positive aspects: they maintain that it is easy to install, that it is compatible with their devices and that it has multiple functionalities. All teenagers (30/30; 100%) added the value of its attractive interface.

With regard to Google Earth, all the educators (14/14; 100%) and all the teenagers (30/30; 100%) highlight the easy installation of the application after the session. They also highlight that it does not facilitate collaboration.

After the implementation test carried out in this third session, all the educators (14/14; 100%) and adolescents (30/30; 100%) underline the easy installation of the proposed tools as well as their attractiveness.

Participation in this session was very high, as indicated by all the adolescents (30/30; 100%) as well as the majority of the educators (12/14; 85.71%).

4.4. Session 4: Implementation

In this study, the positive impact of the fourth session of the project, in which the implementation takes place, is evident. In this line, most of the educators (12/14; 85.71%), as well as the adolescents (23/30; 76.67%), highlight their interest in its content (Figure 3). After the implementation with the thematic focus on 'access to housing', more than half of the educators (8/14; 57.14%) maintain that the level of autonomy of adolescents regarding access to housing is high. The adolescents themselves consider their level to be very high (27/14; 90%). More than half of the educators (9/14; 64.29%) believe that the level of adolescents' learning after implementation is very high. Half of the adolescents consider their level of learning to be high (15/30; 50%) and the other half very high (15/30; 50%). Most of the educators (12/14; 85.71%), as well as the adolescents (28/30; 93.33%), consider their level of satisfaction with this last session to be very high, as well as their level of participation (educators: 12/14; 85.71%; adolescents: 25/30; 83.33%).

	E	A	E	A	E	A	E	A	E	A
	Very low		Low		Neither high nor low		High		Very high	
Content interest							2	7	12	23
Level of autonomy access to housing							8	3	6	27
Learning							5	15	9	15
Session satisfaction							2	2	12	28
Session participation							2	5	12	25

Figure 3. Impact of session four: Implementation. Note: E = educators; A: adolescents.

Referring to the impact of the project in general, it is worth noting that most of the educators (12/14; 85.71%) consider that the adolescents are very satisfied. The adolescents themselves corroborate this (27/30; 90%) (Table 3). Both groups consider that the contents have been very relevant (educators: 11/14; 78.57%; adolescents: 24/30; 80%). As for the most interesting contents, most of the educators (12/14; 85.71%) as well as the adolescents (28/30; 93.33%) highlight the design of the proposal as well as its implementation (educators: 12/14; 85.71%; adolescents: 30/30; 100%). Once again, both groups agree that the resources used are very interesting (educators: 12/14; 85.71%; adolescents: 27/30; 90%). As for the improvements in the project, the adolescents themselves (14/30; 46.67%) point out the technical problems. Both groups agree that the project has been very effective (educators: 12/14; 85.71%; adolescents: 26/30; 86.67%). All the educators (14/14; 100%) and adolescents (30/30; 100%) agree that the latter wish to continue learning.

Table 3. Overall impact of the project.

Category		Educators (f = 14)		Adolescents (f = 30)	
1st Level	**2nd Level**	**fi**	**ni**	**fi**	**ni**
Overall project satisfaction	Satisfied	2	14.29%	3	10.00%
	Very satisfied	12	85.71%	27	90.00%
Contents	Relevant	3	21.43%	6	20.00%
	Very relevant	11	78.57%	24	80.00%
Most interesting contents	Documentary analysis	2	14.29%	9	30.00%
	Search for solutions	5	35.71%	11	36.67%
	Design of the proposal	12	85.71%	28	93.33%
	Implementation of the proposal	12	85.71%	30	100.00%
Resources used	Interesting	2	14.29%	3	10.00%
	Very interesting	12	85.71%	27	90.00%
Project improvements	More technical problems	3	21.43%	14	46.67%
	More information on rental subsidies	0	0.00%	4	13.33%
Project effectiveness	Effective	2	14.29%	4	13.33%
	Very effective	12	85.71%	26	86.67%
Continue learning	Yes	14	100.00%	30	100.00%
	No	0	0.00%	0	0.00%

Note: f = frequency; fi = absolute frequency; ni = relative frequency.

Below is an illustrative extract:

> I think that the project has had a great impact on teenagers. I think they are very satisfied with its implementation, the contents have seemed relevant to them, especially the design of the proposal and the implementation itself, the resources have been interesting… In short, I think the project has been very interesting and the kids want to continue learning (social educator 10, 37 years old, sheltered housing 3)

> The truth is that I really liked the project. I found all the contents of the four sessions very interesting, and participating in them; I especially liked the implementation of the proposal we designed. I think we have learned a lot and I would definitely like to continue learning (adolescent 4, 15 years old, sheltered housing 1, Lines of analysis 44–46)

5. Discussion

In most circumstances, many global issues or challenges can be avoided or ameliorated through interventions carried out from an early stage such as childhood or adolescence. Some groups such as adolescents in protective measures may be susceptible to certain issues or challenges, such as digital literacy and administrative autonomy (Henze-Pedersen and Kirkegaard 2024; Larsson 2021). Through the implementation of projects, it is possible to improve digital literacy and administrative autonomy in groups such as adolescents under protection measures.

According to the findings of this study, the impact of the implementation of the Participatory Action Research project carried out with young people living in four sheltered housing projects in northwest Spain has been very positive. The main objective of the project has been achieved: to improve the digital literacy and autonomy of young people in procedures and dealings with public administrations and bodies, making them participants in their own learning process. In this sense, other studies (Rodelo et al. 2021; Schiller et al. 2021; Suleiman et al. 2019) show successful PAR projects. For example, the study by

Spencer et al. (2024) highlights the positive impact of using PAR as a mechanism for changing school culture to improve adolescent mental health.

Referring to the impact of the first session, in which a search for information on the problem and a documentary analysis were carried out, it is worth noting the high level of interest in the content addressed. It is also recognised that the level of autonomy of adolescents with regard to carrying out digital administrative procedures is low, presenting difficulties, as highlighted by different studies (Gutiérrez-Provecho et al. (2021), Krasnow (2021), Miao et al. (2024), and Ochoa (2019)). Learning after this first session is high, as well as satisfaction with the session and the level of participation.

Regarding the impact of the second session (solution finding), both educators and adolescents consider that the level of contribution of the latter has been very high. The same was true of the level of collaboration and active listening. With respect to addressing some of the challenges associated with adolescent listening, it should be noted that, as highlighted by Ariste (2021), being listened to is a human right. Additionally, research conducted by Avivar-Cáceres and Parra-Camacho (2020), Costa and Tavormina (2022) and Nalani et al. (2024) also outlined the importance of active listening in adolescents. The level of participation in this session was also high.

The third session, on the design proposal, has had a positive impact in all its phases. As for the development of the script, both educators and adolescents consider it to be of interest and without difficulty. The main tools used, Google Classroom, Canva and Google Earth, are considered by both groups to be easy to install, with good compatibility and an attractive interface (Bhatia et al. 2024; Góngora Morgado and Góngora Reyes 2024; Ortiz-Guerrero and Loizzo 2024; Perry et al. 2020; Zhao et al. 2021). All of them facilitate collaboration, with the exception of Google Earth, coinciding with the study of Pérez-Cutillas et al. (2023). The implementation test carried out in this third session highlights the easy installation of the tools as well as their attractive character. Participation was again very high.

Finally, in the last session, the positive impact of the implementation of the project is highlighted. Both educators and adolescents highlight their interest in the content, as well as the level of satisfaction and participation in the session. On the other hand, the level of learning has been very high, as well as the level of autonomy, in this case, regarding access to housing (Nogueira-López 2020). Several studies highlight the importance of housing in this group (Dietrich-Ragon 2020; Nie et al. 2024; Yun and Hatch 2023). It is worth highlighting the progress that took place from the first session to the last, especially in relation to the autonomy of adolescents in digital procedures as well as in participation.

6. Conclusions

The impact of this Participatory Action Research project on adolescents has been very positive. Their progress in terms of digital literacy and administrative autonomy has been observed throughout the sessions. Both educators and adolescents consider that at the beginning of the project, the level of autonomy in digital administrative procedures is, in general, low. However, after the first session of the project, both groups agreed that the level of interest in the content, learning, satisfaction with the session and participation in it was high. The second session, aimed at the search for solutions, had a positive impact, with a high level of contribution from the adolescents. In the same way, they have collaborated and showed remarkable active listening. Participation in this session was also very high. The third session, on the design proposal, has had a positive impact in all its phases, from the elaboration of the script, the tools used, as well as the implementation test carried out and the participation in the session. Finally, the last session shows the positive impact of the implementation of the project. It is important to highlight the positive evolution

from the beginning to the end of the intervention in relation to the digital literacy and administrative autonomy of adolescents.

This research underlines the need to train adolescents in digital literacy and administrative autonomy, which is so necessary in today's society. The findings of this study highlight the positive impact of a project in terms of the aforementioned problems and reinforce the need to work on training and intervention with adolescents along these lines. Likewise, carrying out a project based on Participatory Action Research has contributed to improving participation in their own learning process, their involvement and decision-making to address the problem, improving their autonomy and, in this case, their digital literacy to relate to Public Administrations and Public Bodies.

7. Limitations and Future Directions

This work has some limitations that future researchers could address. Different groups (social educators and adolescents living in sheltered housing) have participated in this research, but it could be interesting to extend the sample with the participation of families (in the case of having this support network), teachers, etc.

Another restriction of the sample refers to the context in which the project was implemented. Although it has been carried out in four different sheltered housing units, they belong to four cities in the northwest of Spain, so it would also be important to extend the intervention to other parts of the country or to other countries, even to other types of centres. On the other hand, it would be interesting to evaluate the design of the implemented project itself, in order to optimise it for future interventions; it could be especially of interest to extend the timing of its implementation.

There are likely to be several possible directions for future researchers. Purely quantitative research methods could be considered. Other instruments could also be used for data collection. In addition, it would be interesting for researchers to use longitudinal examinations, tracking the issue over time.

Despite these limitations, this research supports the enrichment of studies of adolescents in protective measures in terms of their digital literacy and autonomy in carrying out administrative procedures and provides a basis for more rigorous research designs in the future. In fact, research on the topic under study is scarce in the scientific literature, which adds further value in terms of contributing to the scientific community.

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