Shared knowledge construction in Participatory Action Research: perceptions of researchers and educational community

This study explores Participatory Action Research (PAR) as a practice that promotes collaborative knowledge construction between researchers and participants. Within this framework, a PAR experience carried out for the transformation of a school in the province of Valencia (Spain) is explored. The aim is to analyse the shared construction of knowledge during the process and the changes produced through the perceptions of the educational community and the research group. From a qualitative methodology, a case study is elaborated through the analysis of documents produced during the research and ad hoc focus groups, and the data obtained are analysed following a mixed categorization. The results show that the shared construction of knowledge during PAR has led to the development of more horizontal roles and strategies between researchers and participants, and changes towards a new school model, for which the improvement of the participation of the agents involved has been key. Elements that invite reflection on the shared construction of knowledge through PAR are discussed, among which stand out the complexity of the researchers' task, the timing, the articulation of the students' voice and the relationship between the type of research carried out and the changes produced.

Keywords: Participatory action research; shared knowledge construction; educational community; school transformation

Introduction

The challenges that must be addressed on the way to progress and social justice require questioning hierarchies of power that are a source of inequality and marginalisation. This power is manifested in the control exercised over knowledge when it comes to establishing which epistemologies are legitimised to articulate social structures and dynamics. In relation to this, from the study of the democratisation of knowledge, Hall and Tandon (2017) state that university institutions hold only a small part of knowledge at the global level.

This is why research practices that contribute to the decolonization of knowledge are required through a deeper analysis of knowledge and how it is constructed, transmitted and

becomes an agent of transformation. In this sense, it is appropriate to study the potential of Participatory Action Research to address this issue, since it is a methodology that democratises the process by actively involving stakeholders as research partners and empowering them to reflect and transform their reality (Stern 2019).

Thus, this research aims to investigate the shared construction of knowledge in a Participatory Action Research experience carried out in a rural school (province of Valencia, Spain), where the educational community and the researchers of the MEICRI (Educational Improvement and Critical Citizenship) research group have collaboratively investigated to improve and transform this school.

Participatory Action Research

Participatory Action Research ('PAR' hereafter), as a collaborative and cooperative research process that seeks to empower stakeholders and achieve social change (Baldwin 2012), can be described through four fundamental features: collaborative culture, democratic participation, sense of belonging and social transformation.

Collaborative culture and democratic participation. PAR involves researching with participants so that "the subject-object relationship is transformed into a subject-subject relationship through dialogue" (Anderson 2017, 437). It takes the form of a democratic and transparent research method in which the design, implementation, analysis and dissemination are carried out collaboratively and from a horizontal and equal relationship between researchers and groups of people involved in the reality being studied (Guishard 2009).

Sense of belonging. PAR takes into account the cultural, social, political and economic realities of the context in which it is carried out and the personal experiences of the individuals involved (Brydon-Miller and Maguire 2009). In this sense, participants jointly

interpret the elements that are key in their community (Arcidiacono et al. 2017) and

recognize matters that need to be addressed and how to act upon them (Dudgeon et al. 2017).

Social transformation. The *action* component emerges as a key element since PAR

focuses on a given context in which research is integrated with practice to produce substantial

changes within the framework of social justice (Mackenzie et al. 2012; Guy et al. 2020).

Participants bring into consideration shared values, beliefs, experiences, etc. to produce

changes in the environment that contribute to the common good (Blackstock et al. 2007).

Shared knowledge construction

The elements described above suggest the capacity of PAR to open up and democratise the

research process, giving greater prominence to the context and participants in the production

of knowledge. Thus, PAR requires thinking about the practices in which researchers and

participants construct knowledge in a shared manner. Several authors have documented these

processes under different terms, such as co-creation (Skipper and Pepler 2020), co-production

(Campbell and Vanderhoven 2016) or cogeneration (Donato et al. 2021) of knowledge, but

with the same underlying idea.

Pavvola and Hakkarainen's (2005) metaphor of knowledge creation states that knowledge

creation is not just a dialogic process in which only direct communication between

individuals is taken into account, but it should also be understood from a trialogical approach,

which implies developing a set of shared practices and tools through which this dialogue

takes place, and which are continuously evolving. Moreover, the shared construction of

knowledge requires multidirectional interaction strategies (Landry et al. 2008) and

developing interdependent relationships (Skipper and Pepler 2020) between researchers and

agents, as well as the negotiation and redistribution of power that calls into question the

position of researchers in terms of the control they exercise over the research process (Darby

2017). This way of producing knowledge incorporates new narratives from voices that have hitherto been silenced (Cook et al. 2019). Participants are not only bearers of information, but they become aware of and take responsibility for the knowledge they possess and use it to generate new knowledge with other subjects (Damsa et al. 2010). Shared knowledge is configured according to the culture, dynamics and identity held in common by individuals in the context in question. Thus, the tacit and local knowledge owned by each individual is interpreted, reconfigured and adapted through social interaction until it becomes institutionalised public knowledge (Chang 2018), and personal identities are linked to that institutional identity (Glaés-Coutts and Nilsson 2021). In this way, the knowledge generated is applicable and relevant to the environment and, therefore, likely to contribute to the solution of societal problems and challenges (Campbell and Vanderhoven 2016), as well as promote equality and emancipation (Wynne-Jones et al. 2015).

Table 1 relates the above to the features of PAR in order to try to understand it as a type of research that promotes the shared construction of knowledge.

<Please insert 'Table 1: Relation between PAR and shared knowledge construction' near here.>

In the context of school application, Anderson (2017) points out PAR as an epistemology of transformation in which the knowledge of students, teachers and the community is legitimised, and alliances are created among these agents to build alternative power structures to achieve the desired changes. In relation to this issue, Diez (2013) describes an experience of PAR in which innovation and change are sought in an educational cent with the involvement of all the voices of the organisation in a shared process of reflection and debate that results in a consensual definition of its school culture as well as the strategies and actions needed to achieve it.

On the other hand, PAR guarantees children's right to participate while contributing to challenge adult-centrism (Shamrova and Cummings 2017) and implies giving voice to the students' vision of their environment and experiences as well as defining what they are interested in learning (Shabel 2014). Thus, learning that occurs dialogically and collaboratively entails a process in which students contrast their personal views and participate democratically in the construction of knowledge (Omodan 2019). Furthermore, according to Weinberg et al. (2018), PAR serves to educate in social justice and empower students in the transformation of their school, their community and themselves.

Based on the above, the central question posed by this study is how the PAR cycles developed in a rural centre have promoted the construction of knowledge in a shared manner by the agents of the educational community and the researchers, and what perception they have of the transformations produced in the school as a result of the process.

Method

Research context

This research has been carried out in a 'Colegio Rural Agrupado' (CRA), which is an educational centre made up of several small rural schools located in different municipalities but functioning as a single administrative structure and sharing resources and subject teachers. The CRA Benavites-Quart de les Valls, where this study is framed, was constituted as a rural grouped school in the 2005/2006 school year and it has two buildings located in two villages in the province of Valencia: one with 638 inhabitants and the other with 1024 inhabitants (INE, n.d.).

During five school years, between 2013 and 2020, the CRA has developed a process of change towards a more inclusive and intercultural educational model, more linked to its territory. For this, they requested the accompaniment of the MEICRI research group of the

Universitat Jaume I (Castelló de la Plana) , so we suggested a PAR process as advisors and critical friends (Sales et al. 2021).

In the first cycle of PAR (2013-2014), the classroom and management practices of the centre were revised to analyse its democratisation through the improvement of community participation (Lozano et al. 2014); in the second cycle (2014-2016), the emphasis was placed on the key elements that favour citizen participation to produce not only school change, but also to link to the territory and make the school an agent of social change (Moliner, Sales, and Sanahuja 2017); in the third cycle (2016-2018), the communicative practices of the centre are investigated, and a greater reciprocity and horizontality is sought in communications between members of the educational community (Lozano et al. 2018); finally, in the fourth cycle (2018-2020), the problematization and reformulation of curricular practices are deepened to link them to the territory and turn students into co-researchers of their own reality (Sales, Traver, and Moliner 2019).

Following this process of transformation, there is an interest in questioning the way in which the agents involved in these PAR cycles have constructed knowledge, as well as the changes that have taken place. In this direction, the following research questions are posed: (1) How has the process of knowledge construction taken place?; (2) What changes have occurred in the school through the shared construction of knowledge?

Thus, the main objective of the research is to analyse the shared construction of knowledge in the PAR cycles and the changes introduced from the point of view and discourses of the participants, both the agents of the educational community (students, families and teachers) and the researchers of the MEICRI research group. From this general purpose, the following specific objectives are derived: (a) To delimit the key elements that have guided the knowledge building process in PAR, based on the participants' perceptions

of the process; (b) To describe the changes perceived by the participants in the school as a result of building knowledge in a shared manner through PAR.

Methodology

The research consists of an intrinsic case study (Stake 1995) since it focuses on the singularization of a specific PAR experience in order to understand the dynamics of shared knowledge construction that have occurred in that particular context. In addition, a qualitative methodology is used based on the narratives offered by the research participants (Arnold 2011).

Data production

In order to obtain the information that answers the research questions, we have resorted to the analysis of information from documents generated on the PAR process over the last 8 years, and the focus group as an *ad hoc* instrument for this study.

What was initially a demand for training by teachers was renegotiated in a communitarian assembly as a PAR process between the trainers (researchers) and the school community. The following documents generated during the research process have been used:

a) Researchers' team diary: a document written by the researchers throughout the PAR process and shared on a collaborative platform with the participants, to contrast views on the joint working sessions.

b) Minutes of Participatory Social Diagnosis (PSD) dynamics: techniques to facilitate opportunities for collective reflection that include collaborative detection of problems and planning of solutions in feedback sessions (Aguirre Garcia-Carpintero et al. 2018). The PSD techniques were designed together with the Coordinating Commission and were developed and evaluated in Open Days with the whole educational community.

c) Interviews with teachers and focus groups with members of the educational community: At the end of each cycle, interviews and focus groups were added to the dialogical diary and the DSP techniques, which were conducted by the researchers, in their role as facilitators of the PAR process, with the aim of drawing conclusions about the process from different points of view. The script of questions was previously proposed and supported with infographics on the activities carried out in the PAR cycles to make it more accessible to the participants. These instruments addressed the ideals or beliefs about the school model being pursued, the principles and values that guide the process towards this model, as well as the practices implemented to achieve it. The aim is to gather the perceptions of the participants that allow us to assess the impact of the knowledge generated on the PAR process and the school model.

d) Transcripts of the School Council or Coordinating Commission: this is the school governing structure composed by members of the whole educational community

e) Scientific articles on PAR cycles published by researchers.

Consequently, in all the PAR process, the objectives of the research were negotiated with the participants and their consent to be recorded was obtained and for the information to be used for the agreed dissemination purposes. Table 2 summarises the data production instruments and shows the triangulation of participants and techniques that have been carried out.

<Please insert 'Table 2: Data production instruments and participants' near here>

Data Analysis

A mixed content analysis was carried out based on the theoretical categories of PAR and shared knowledge construction; this was initially deductive and subsequently inductive, with

new empirical categories emerging from the data (Thomas 2006). These categories were validated by saturation and triangulation of participants and instruments (See Table 3).

<Please insert 'Table 3: Emerging categories' near here>

Findings

Figure 1 associates each of the research questions with the emerging categories that arise from the inductive analysis, which organise the results.

<Please insert 'Figure 1: Relation between research questions and emerging categories' near here>.

How has the knowledge construction process occurred?

Figures 2 and 3 provide a conceptual map summarising the results for each of the two categories of analysis corresponding to the first research question.

Negotiation and evolution of roles

<Please insert 'Figure 2: Results about 'Negotiation and evolution of roles' near here>

The relationship between researchers and agents of the educational community during the PAR cycles has required reflection, clarification and transformation of the role played by each party in terms of leadership and decision making.

From the beginning, as teachers trainers, we have tried to avoid the role of experts, seeking to place ourselves on a more horizontal position in order to become facilitators and companions. However, we state that we have had to learn not to take the role we play for granted, since sometimes it has been the members of the educational community themselves who have placed us in this expert position during the first counselling and training sessions:

We wanted to be one more voice, and that they let us be one more voice, and it was not always easy because sometimes they did not want us to be one more voice, but the expert voice. (FG_R)

Although this has not always been achieved, during the second and third year, the educational community and researchers have been encouraged to place ourselves on the same level of interdependence and shared decision-making, collaboratively organising Open Days to explain the school project classroom observations to analyse didactic methodologies or community assemblies to make decisions together:

These activities are important for you and us because this way we all learn. (FG_S)

We evolve all parts. (FG_F)

The sense it has for us is that we could not investigate in any other way if we do not do it from the school itself. (FG_R)

Thus, we have been developing and legitimising an accompaniment model in which we have dynamized PSD activities, as well as sessions for the return and shared analysis of the information collected in them, through "mirror" dynamics (timelines, social maps or photovoices were analised together) and participatory evaluation (through dynamics as "I congratulate-I criticise- I propose"), with the aim of recognizing and mobilising the discourses of students, families and teachers:

We agreed to take advantage of the meeting to explain once again the role and place of the [research group] in the process of school transformation and to specify among the participants the way in which the data will be analysed in greater depth. [...] We talked about the need to organise a conference to analyse the data and also to listen to the different groups' narratives about the day (including the children). (TD)

It is even stated that, during the second and third cycle, we have managed to move from the role of companion or facilitator to that of co-investigator. Some concrete examples

of shared construction in which there has been a peer-to-peer relationship are the joint writing of articles by teachers and researchers, as well as the common work of both parties in communicating the results of the school's PAR projects at international congresses and experience-sharing sessions with other schools:

> I remember the moment when for the first time we talked about the project, and it was outside the school, specifically in Switzerland [...] with the teachers in a congress, in another language, and agreeing on how we were going to tell it, what we were going to share, ... (FG_R)

With all this, reflection and feedback among the various agents has been achieved on an egalitarian level through the dynamics and participatory sessions. From the democratisation of the discourses, a complex and diverse story has been built from different points of view that dialogue and interact. In the fourth PAR cycle students undertook a service-learning project as a research project to renovate their school building, taking the lead in action and change:

> When you come, I feel at ease because you ask us questions, we talk to you, and that way you see what we do, and it is easier to investigate. (FG_S)

On the one hand, the agents of the educational community have been appropriating the knowledge generated, empowering themselves and articulating those voices that tend to be more invisible:

> For me as a mother, it has brought me satisfaction to see how the children, at this age, have been very capable, but very capable. […] How they develop it and how they research ... to see that there are ways to set a goal and that they are capable of doing things as adults. (FG)

On the other hand, this has allowed us, the researchers, to find a humbler position from which carry out our work, being accepted as another voice, and we have had the

opportunity to question our position of power, legitimising other knowledge and configuring

our own learning process from the shared construction of knowledge:

> The role of expert researcher is transformed into a person who, in addition to what he/she
> does, is learning, and I think that is the height. (FG_R)

Interaction elements

<Please insert 'Figure 3: Results about 'Interaction elements' near here>

The strategies used by the agents of the educational community and the researchers to carry

out the PAR process cannot be understood separately from the roles we have assumed, but

rather as a bidirectional relationship. In this sense, in a manner consistent with the roles, the

need has arisen to seek forms of interaction also understood from a horizontal and egalitarian

relationship. At the same time, these strategies have created bonds based on commitment and

mutual trust between the different parties, and these bonds of union have driven the roles to

evolve during the process towards co-research. From the second PAR cycle onwards, the

school community took ownership of the project: families claimed their place in the working

commissions, the teaching staff began to feel that they were leaders in the process and the

training sessions with researchers became collaborative work on their project:

> We have also been evolving in the roles and in the relationship between us because they
> have totally trusted that we were going to be with them and that we were going to
> commit ourselves to the project, and that they were making it their own. (FG_R)

Participants highlight the use of dialogic interaction strategies as a good tool for

managing differences of opinion and conflicts and understanding differences in a positive

way. For example, in the School Council, they point out that it is not always necessary to seek

consensus but that, through dialogue and respect for the beliefs of others, they have

legitimised disagreement, understanding it as a richness and an opportunity to articulate their common project around the diverse views of the entire educational community:

> It is important to know how to discuss, because many times ideas and beliefs are polarised. So, it is necessary to go beyond, to overcome that obstacle and not to reach a consensus, but to work on the basis of dissent. (FG_F)

On the other side, we point out as a facilitating aspect the use of accessible languages and communicative formats (infographics, panels, audio-visual clips) in such a way that we could bring the discourses closer to the agents of the educational community, so that they could also express themselves, and generate from there a more participatory space for dialogue, for example in the sessions for the detection of needs or proposals for action, where children, old people, councillors or neighbours participated. In addition, we also consider a challenge to return the information collected with the precaution of giving the school agents themselves the opportunity to be the ones to analyse it.

Finally, both teachers and researchers agree in considering time as an issue to be reviewed. Between the second and third PAR cycle, from the photovoice at the beginning of the course to the "Socratic wheel" dynamic to collectively evaluate different proposals for action, almost at the end of the semester, so much time passed that some of them became unfeasible or outdated. The different work tempos between the university research group and the school have conditioned and limited the proposals for action in the PAR process:

> We may consider that we are far behind what we are really experiencing. [...] when they start the PAR process and do the feedback, when they give us back that data, we see that we don't need that concrete thing now. (FG_T)

What changes have occurred in the school as a result of the shared construction of knowledge?

Figures 4 and 5 provide a conceptual map summarising the results for each of the two

categories corresponding to the second research question.

Shared construction of the school model

<Please insert 'Figure 4: Results about 'Shared construction of the school model' near here>

The transformation of the school through the PAR cycles has generated a school model that has been worked on, discussed and reflected upon by the educational community as a whole. This school model has been configured as more participatory and democratic throughout the process, as the agents have been modelling and building their identity as a group:

> I believe it is a model that has been seeking and finding new spaces and new times to participate, and that has rethought a lot its idea of what the educational community was and who they were. (FG_R)

As a result, teachers find the need to document and support in a new Educational Project of the Centre (official document that defines the school's identity and educational model) all those aspects that have transformed the school. This is a document that, in their opinion, should provide clear, precise and unequivocal information so that there is no room for doubt as to which model is being defended:

> As this school had already gained a certain reputation, many people came with a preconceived idea that was not the reality. The 'word of mouth' was reaching the families and each one was getting what was convenient for them, and that when they arrived at the centre creates a conflict, because everyone has an idea. [...] Therefore, the solution has been to sit down and write it down. (FG_T)

Participants identify elements that illustrate this new model and promote a sense of belonging to the school. This linkage is reflected mainly through the signs of identity and symbols that have been created in the transformation process.

Among the various signs of identity pointed out at a particular level, one is identified whose importance is shared by all the voices consulted: the link between the school and its territory. This connection to the environment emerges as a key element for understanding the democratic, intercultural and inclusive school model towards which they are moving, through the community detection of needs at Open Days, the service-learning projects (the Village Book, the school building refurbishment), the communication campaigns via social networks for the experience-sharing days between schools:

> Without this relationship [school-territory] there are things that could not be done or would be done much worse. (FG_S)

In addition, the educational community has developed its own symbols, among which the school's logo and slogan stand out: "Som més que un CRA" ("We are more than a CRA", as an administrative unit). These symbols are part of the idea of the school as a dynamic entity, with its own identity and essence, and in which cohabit a group of people who share the same project and the same values:

> The logo and slogan mean that we are not only a school, but a very very big family (FG_S).

> It suggests to me that we can be much more than we are now (FG_F).

Finally, it is worth mentioning the Welcome Open Days held in the school itself and also outside the school in emblematic locations in the villages. In these, the entire educational community and the social agents of the municipalities are invited to attend, and PSD dynamics are organised to jointly decide on the school model to be pursued, what is to be changed and what the guiding principles should be. Both the educational community and the researchers agree in positively valuing the joint Open Days, since they have been a powerful cohesive element for the two educational communities of the two villages that make up the

grouped school, as opposed to other activities that were previously carried out separately and generated fracture and competitiveness between municipalities.

Participation improvement

<Please insert 'Figure 5. Results about 'Participation improvement' near here>

A central factor from which the participants articulate their perceptions of the changes produced in the school is participation. It is clear that the PAR cycles have triggered a set of dynamics, strategies and spaces that have led to an improvement in the participation of the educational community.

At the same time, this improvement has guided and strengthened the shared construction of the desired school model. To this purpose, the space for reflection generated through the PSD dynamics has been key. Some of the techniques used that are most significant for these purposes are (Aguirre Garcia-Carpintero et al. 2018): the 'timeline' in which the educational community builds on a mural a collective reading of the school's history; the 'Socratic wheel' used to prioritise the most appropriate actions from among a set of previously decided action alternatives; and the 'I congratulate, I criticise, I propose' dynamic through which participants assess the school transformation process by formulating positive aspects, issues to improve and proposals for further progress considering the contribution of all the voices of the educational community.

Among these participatory dynamics, the intention to make visible and articulate the voice of the students and their families, who are usually the most silenced, is especially noteworthy. The consensual organisation of the Welcome Open Days is an example of this:

We begin by dividing families, students and teachers into three different classrooms for the first part of the session. [...] Explain the reason why the different groups are separated: all voices must be heard. [...] 19.20h. The heterogeneous groups begin to form. To do so, we randomly hand out numbers to family members so that when students and teachers enter the classroom, they are placed in the group that corresponds to them. They are given post-it notes and a sheet of paper with the topics to be discussed. [...] 19.50h We go outside. They begin to place the post-it notes on the mural. One researcher explains that everything that appears on the mural is important because: [...] It has been elaborated by all of us. (PSD)

In the community assemblies, agents have worked on the idea that it is not enough for families to be present, but that they must also assume a commitment to the improvement of the centre, a responsibility, and feel challenged. In this way, their involvement has been increased and they have found ways to contribute their knowledge to the school, making classroom observations, participating in service- learning projects or being part of mixed work commissions, those in which the proposals for action are implemented by families, teachers and students together:

To make the speech, all the mothers got together and wrote it in a cooperative way. In their speech they showed the enthusiasm of a shared project. They were happy to count on them to carry out this project and thanked all the people and institutions for their work in making the project of "our school" possible. (TD)

However, during this transformation process, it became evident that the voice of the students was still in the background and that it was difficult to articulate it:

In certain groups, the voice of the student was still silenced, and the voice of the leader was still that of the teacher, with the exception of a couple of them [...] By silenced, I mean that they did not speak unless they were asked their opinion [...] One student told me "What they want is very different from what I want. I want grass on the soccer field, and they want to talk more" (PSD).

Thus, from the awareness of this weakness, the improvement of student participation has become the fundamental axis from which participatory proposals are formulated and evolve:

> Before, the only voice was that of the teachers. Then they tried to incorporate parents and people from the town, but they forgot that the most important voice was that of the students, and they were the ones who had the least voice. But then that has been changing, and now the voice of the students is the most important and the strongest, fortunately (FG_F).

> It has been the students' participation that has made the difference in the evolution, realising that they did not have the adequate spaces or moments, that they were still too much tutored or invisible, and I believe that the participatory proposals have been evolving precisely thanks to the fact that we looked at how the students participated. (FG_R)

In order to establish this improvement in the involvement of the various stakeholders, during the fourth PAR cycle, new spaces for participation have emerged in the school, well delimited and structured according to common limits and rules that are assumed by all the members of the educational community. This is the case of the work commissions of which the different agents are part to address specific issues, (IT, communication infrastructures, library, etc). In addition, student assemblies have been created in which the students of the different classrooms discuss what happens in the daily life of the centre and resolve conflicts (homework, playground spaces, classroom rules).

However, not only have new spaces been created, but other existing ones have been updated. The most significant case is the transformation of the School Council (the legal representatives of the school community for democratic governance) into the so-called Coordinating Commission. The law regulates the number of representatives of the educational community that make up this body. However, in this school it has been expanded to also incorporate the members of the aforementioned commissions, thus exceeding the

number established in the legislation, and in addition, any person from the educational community is allowed to attend.

Nevertheless, some limitations are identified in this committee. Families are satisfied with the openness of this council and the degree to which they are allowed to get involved. However, the teachers themselves recognize that sometimes their voice emerges more forcefully, a circumstance they attribute to a more holistic view of the reality of the school:

> It seems that our voice has more weight, and it is because the teacher's view is much more global than that of a family. A family will always have a more biased view because it is based on the experience they are having with their son or daughter in the centre, [...] But that is not because we are above them, but because when we tell and explain things, they realise that we know things that families do not know. (FG_T)

But, undoubtedly, the most striking case is that of the students, in accordance with what was mentioned above, since they are not present in this commission. Families and researchers recognize that it is not a space adapted to favour their participation, while teachers explain that they are the ones who bring to the Coordinating Committee the concerns and needs expressed by the students in the classroom and in the school assemblies.

Another evidence of the improvement in participation is the review of classroom practices. During the third PAR cycle, teachers opened the classrooms to families and researchers to observe and analyse the methodologies used (cooperative learning, project-based learning, learning corners, workshops). Observation templates were prepared, and shared analysis sessions were held. After the observations in the classroom, in a "mirror" dynamic, students and families contribute their opinion on teaching methodologies and make the proposal to develop a Service Learning project, in order to situate learning through linking curricular content with the needs of the immediate environment (a new school building for future). In the moments of reflection inherent to the PAR process, it was noted that "participation still occurs on the 'periphery' of the learning process (extracurricular

activities) and the need to focus it more on curricular practices has begun to become evident"
(Sales, Traver, and Moliner 2019, 180) (SA). For this reason, spaces for curriculum
negotiation have been generated in which teaching practices are questioned from a
socio-communitarian perspective. The goals of the Service Learning project were discussed
and agreed in the classrooms with students and families. Its development involved local
councils, professionals from the region and the neighbourhood. On this issue, the participants
maintain that the school participation model also implies democratising the school
curriculum, i.e., understanding that it should be constructed by all the members of the
educational community. In this regard, they consider that it entails an enrichment of learning
and an increase in the commitment and motivation of students with respect to school
dynamics:

> If we wanted to do research on something we did a project on it, and it made you want to
> learn more because it was what you wanted. (FG_S)

> Quality relies on diversity and on the different models that our students can learn, not
> only the teacher. (FG_T)

In addition, the opportunity given to families to become involved in what happens in
the classroom has also been beneficial in the sense of gaining confidence and, in some cases,
overcoming initial doubts about the new educational practices:

> There were people who didn't quite agree that they were learning without books, in
> corners, etc. That is why openness has been important. (FG_F)

After four PAR cycles, we have finished our accompaniment and the school continues
to hold its Open Days, community assemblies and meetings with other schools in the region
to continue generating collective knowledge and updating its project.

Discussion and conclusions

The case study shows that the adoption of more horizontal roles and strategies in the Participatory Action Research process has empowered the educational community of the CRA to actively participate in the transformation of the school towards a new model shared by all the agents involved. In relation to this, the results obtained point in the direction that PAR has enabled the mobilisation of the knowledge possessed by the research participants and, in this way, that the knowledge generated in the process is built in a shared way to produce changes in the school (Dudgeon et al. 2017).

It is observed how PAR, from democratic and inclusive approaches that combine reflection and action, has triggered processes in which we exercise distributed leadership, and participants are involved and empowered in decision-making (Dudgeon et al. 2017). Collaborative work and the revision of power relations have enabled democratic participation. Decision-making spaces and the negotiation of the curriculum have been democratised. Local knowledge has been recognised and the active involvement of the community has been encouraged. Thus, co-producing knowledge has led to transcending the traditional frameworks of research from objectivity to the search for intersubjectivity between participants and researchers, in line with the relationship of interdependence pointed out by Skipper and Pepler (2020). We cease to situate ourselves in a distanced position with respect to the context of study and the people who inhabit it to enter and become part of it, trying to be one more member. As a consequence, research practice itself is a more complex process in which we must constantly reconfigure our practice (Darby 2017) to become involved in the context but, at the same time, take the appropriate precautions to avoid conditioning the participants and legitimise our position as guides, far from expert models.

Furthermore, questioning and reflection have been required during the PAR process among all parties, which calls on the search for interactive dynamics between the educational

community and the researchers in order to co-generate knowledge (Landry et al. 2008). Even within the educational community, it happens that, for example, families and teachers approach the same issue from different viewpoints. Perhaps the configuration of focus groups in which these diverse voices interact could broaden and enrich the views and generate shared times and spaces in which participants can qualify, complement or interpret their narratives.

In this sense, the results obtained point more significantly to the barrier to the process posed by the fact that the educational community of the school and the researchers follow different work rhythms. This issue opens up an interesting line of study that should seek to identify, analyse and understand the facilitating and limiting factors that affect research times in order to find mechanisms that harmonise the interaction between both parties.

The most substantial difference lies in the fact that we narrate our perceptions alluding to a greater extent to the elements that characterise the PAR process itself, while the actors of the educational community do not verbalise these aspects in such a notable way and their view is more oriented towards the changes they perceive in the school.

With all this, the knowledge generated in research has been situated and rooted to the context in which it is produced and to the values and cultural elements shared by the educational community (Chang 2018; Glaés-Coutts and Nilsson 2021). In this way, it contributes to the transformation of the participants, the school and its immediate environment (Campbell and Vanderhoven 2016; Wynne-Jones et al. 2015). This linkage of co-constructed knowledge between the school and the community, between the territory and the school, has given a new sense of belonging as a community and has connected institutional and cultural identities (Weinberg et al. 2018). The community feels part of a common project, which is reflected in classroom practices and in the official school documents.

In addition, it is worth highlighting the active and democratic participation of the agents of the educational community in the daily life of the school as a fundamental element in the construction of the school model (Damsa et al. 2010; Anderson 2017). To achieve this, researchers and participants have needed to progressively create and provide themselves with concrete structures of participation as a means to facilitate and promote this co-construction of knowledge through dialogue, in accordance with the trialogical approach proposed by Pavvola and Hakkarainen (2005). These are structures that host spaces and dynamics of participation that first emerge in the PAR process and then end up being established in the school.

In this way, the shared construction of knowledge is not only the means to achieve the desired changes, but also an end in itself. The horizontality, egalitarian dialogue, and democratisation of knowledge that characterise the PAR process are also identified in the changes, structures and dynamics that have been permeating the school culture. For this reason, the method employed is consistent with the school model being pursued: a radically participatory research to build a school that is also participatory, capable of considering the voices of all the actors in the community, with special attention to those that have traditionally been more marginalised, such as the students and their families (Cook et al. 2019; Omodan 2019).

However, the information collected shows that the students' voice has not yet been articulated in all the spaces and moments of participation in the school, different from the findings of Shamrova and Cummings (2017) on the capacity of PAR to challenge the dominant position of adults. Despite the considerable increase in their participation, leadership and decision-making on curriculum, classroom practices (Shabel 2014), as well as in other spaces of the school such as assemblies, it is still a challenge for them to be present and take action in more formal and institutionalised organs such as the Coordinating

Committee (Extended School Council). In this regard, a more in-depth study on how knowledge is constructed in each of the different participation structures of the school could shed more light on the causes that limit student empowerment in certain spaces, as well as provide possible solutions.

In short, the experience described in this study contributes to the emerging literature in the last decade that seeks and portrays meeting points between PAR and the shared construction of knowledge (Anderson 2017). In this sense, it invites reflection on issues related to the complexity of the researchers' task of moving within these paradigms, the timing of the research process, the vulnerability of the students' voice, as well as the correlation between the research practices used and the changes in the environment.

References

Aguirre Garcia-Carpintero, A., A. Benet-Gil, O. Moliner, A. Sales, A. Sanahuja, and J. Traver. 2018. *Técnicas para la participación democrática. La formación para la convivencia democrática en los procesos de mejora.* Castelló de la Plana: Publicacions de la Universitat Jaume I. http://dx.doi.org/10.6035/Sapientia132

Anderson, G. 2017. "Participatory action research (PAR) as democratic disruption: New public management and educational research in schools and universities." *International Journal of Qualitative Studies in Education* 30 (5): 432-449. https://doi.org/10.1080/09518398.2017.1303211

Arcidiacono, C., A. Natale, A. Carbone, and F. Procentese. 2017. "Participatory action research from an intercultural and critical perspective." *Journal of prevention & intervention in the community* 45 (1): 44-56. https://doi.org/10.1080/10852352.2016.1197740

Arnold, J. 2011. "The self as data: A qualitative methodology." *Journal of Educational and Developmental Psychology* 1 (1): 65-73. http://dx.doi.org/10.5539/jedp.v1n1p65

Baldwin, M. 2012. "Participatory Action Research." In *The SAGE Handbook of Social Work,* edited by M. Gray, J. Midgley and S. A. Webb, 467-481. Los Angeles: SAGE Publications. http://dx.doi.org/10.4135/9781446247648.n31

Blackstock, K. L., G. J. Kelly, and B. L. Horsey. 2007. "Developing and applying a framework to evaluate participatory research for sustainability." *Ecological economics* 60 (4): 726-742. https://doi.org/10.1016/j.ecolecon.2006.05.014

Brydon-Miller, M., and P. Maguire. 2009. "Participatory action research: Contributions to the development of practitioner inquiry in education." *Educational Action Research* 17 (1): 79-93. https://doi.org/10.1080/09650790802667469

Campbell, H., and D. Vanderhoven. 2016. *Knowledge that matters: Realising the potential of co-production.* Manchester: N8 Research Partnership. https://www.n8research.org.uk/view/5163/Final-Report-Co-Production-2016-01-20.pdf

Chang, B. 2018. "Patterns of knowledge construction." *Adult Education Quarterly* 68 (2): 108-136. https://doi.org/10.1177/0741713617751174

Cook, T., T. Brandon, M. Zonouzi, and L. Thomson. 2019. "Destabilising equilibriums: Harnessing the power of disruption in Participatory Action Research." *Educational Action Research* 27 (3): 379-395. https://doi.org/10.1080/09650792.2019.1618721

Damsa, C. I., P. A. Kirschner, J. E. Andriessen, G. Erkens, and P. H. Sins. 2010. "Shared epistemic agency: An empirical study of an emergent construct." *The Journal of the Learning Sciences* 19 (2): 143-186. https://doi.org/10.1080/10508401003708381

Darby, S. 2017. "Making space for co-produced research 'impact': learning from a participatory action research case study." *Area* 49 (2): 230-237. https://doi.org/10.1111/area.12321

Díez, E. J. 2013. "Investigación-acción participativa: el cambio cultural con la implicación de los participantes." *Revista Electrónica Interuniversitaria de Formación del Profesorado* 16 (3): 115-131. https://doi.org/10.6018/reifop.16.3.186171

Donato, D., A. San Martín, L. Prima, and E. Heredia. 2021. "Cogenerar conocimiento para transformar lo inmediato. De la investigación participativa a la coautoría en la difusión de los resultados." *Márgenes Revista de Educación de la Universidad de Málaga* 2 (1): 103-111. https://doi.org/10.24310/mgnmar.v2i1.9903

Dudgeon, P., C. Scrine, A. Cox, and R. Walker. 2017. "Facilitating empowerment and self-determination through participatory action research: Findings from the National Empowerment Project." *International Journal of Qualitative Methods* 16 (1): 1-11. https://doi.org/10.1177/1609406917699515

Glaés-Coutts, L., and H. Nilsson. 2020. "Who owns the knowledge? Knowledge construction as part of the school improvement process." *Improving Schools* 24 (1): 62-75. https://doi.org/10.1177/1365480220929767

Guishard, M. 2009. "The false paths, the endless labors, the turns now this way and now that: Participatory action research, mutual vulnerability, and the politics of inquiry." *The Urban Review* 41 (1): 85-105. https://doi.org/10.1007/s11256-008-0096-8

Guy, B., T. Feldman, C. Cain, L. Leesman, and C. Hood. 2020. "Defining and navigating 'action' in a participatory action research project." *Educational Action Research* 28 (1): 142-153. https://doi.org/10.1080/09650792.2019.1675524

Hall, B. L., and R. Tandon. 2017. "Decolonization of knowledge, epistemicide, participatory research and higher education." *Research for all* 1 (1): 6-19. https://doi.org/10.18546/RFA.01.1.02

Instituto Nacional de Estadística (INE). *Cifras oficiales de población resultantes de la revisión del Padrón municipal a 1 de enero.* Accessed 6 July 2021. https://www.ine.es/jaxiT3/Datos.htm?t=2903#!tabs-tabla

Landry, R., N. Becheikh, N. Amara, S. Ziam, O. Idrissi, and Y. Castonguay. 2008. *La recherche, comment s'y retrouver?: Revue systématique des écrits sur le transfert de connaissances en éducation*. Québec: Gouvernement du Québec. http://eduq.info/xmlui/handle/11515/31693

Lozano, M., A. Sales, J. Traver, and O. Moliner. 2014. "La escuela incluida: del proceso de formación en centros a la formación para procesos de participación sociocomunitaria." In *Investigar para acompañar el cambio educativo y social: el papel de la Universidad*, coordinated by A. Calvo, C. Rodríguez-Hoyos and I. Haya, 88-97. Santander: Universidad de Cantabria. https://dialnet.unirioja.es/servlet/libro?codigo=704354

Lozano, M., A. Sanahuja, and A. Benet. 2018. "La competencia mediática, factor clave en la construcción de la escuela intercultural inclusiva." In *Competencias Digitales y Mediáticas para una Ciudadanía Crítica,* coordinated by M. Rodríguez and R. García, 39-54. Sevilla: Egregius. https://hdl.handle.net/11441/92654

Mackenzie, J., P. L. Tan, S. Hoverman, and C. Baldwin. 2012. "The value and limitations of participatory action research methodology." *Journal of hydrology* 474: 11-21. https://doi.org/10.1016/j.jhydrol.2012.09.008

Moliner, O., A. Sales, and A. Sanahuja. 2017. "Social mapping in the context of a community-build day: Strategy to strengthen links with community in a small rural school." *Procedia-Social and Behavioral Sciences* 237: 305-310. https://doi.org/10.1016/j.sbspro.2017.02.083

Omodan, B. 2019. "Democratic Pedagogy in South Africa: A rethinking Viewpoint for knowledge Construction." *Journal of Social Studies Education Research* 10 (2): 188-203. https://www.learntechlib.org/p/216602

Paavola, S., and K. Hakkarainen. 2005. "The knowledge creation metaphor–An emergent epistemological approach to learning." *Science & education* 14 (6): 535-557. https://doi.org/10.1007/s11191-004-5157-0

Sales, A., O. Moliner, J. Traver, and M. Lozano. 2021. "Escuela incluida: de la participación ciudadana a la transformación social." In *Docencia, ciencia y humanidades: hacia una*

enseñanza integral en la universidad del siglo XXI, coordinated by M. Pallarés, J. Gil-Quintana y A. Santisteban, 552-568. Madrid: Dykinson.

Sales, A., J. Traver, and O. Moliner. 2019. "Redefiniendo el territorio de la escuela: espacios educativos y currículum escolar para la transformación social." *Revista Fuentes* 21 (2): 177-188. http://dx.doi.org/10.12795/revistafuentes.2019.v21.i2.03

Shabel, P. 2014. "Los niños y niñas como constructores de conocimiento: un caso de investigación participativa." *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud* 12 (1): 159-170. https://doi.org/10.11600/1692715x.1218051713

Shamrova, D. P., and C. E. Cummings. 2017. "Participatory action research (PAR) with children and youth: An integrative review of methodology and PAR outcomes for participants, organizations, and communities." *Children and Youth Services Review* 81: 400-412. https://doi.org/10.1016/j.childyouth.2017.08.022

Skipper, Y., and D. J. Pepler. 2020. "Knowledge mobilization: Stepping into interdependent and relational space using co-creation." *Action Research* 0 (0): 1-18. https://doi.org/10.1177/1476750320960810

Stake, R. E. 1995. *The art of case study research*. California: SAGE.

Stern, T. 2019. "Participatory action research and the challenges of knowledge democracy." *Educational Action Research* 27 (3): 435-451. https://doi.org/10.1080/09650792.2019.1618722

Thomas, D. R. 2006. "A general inductive approach for analyzing qualitative evaluation data." *American journal of evaluation* 27 (2): 237-246. https://doi.org/10.1177/1098214005283748

Weinberg, A. E., C. D. Trott, and L. B. Sample McMeeking. 2018. "Who produces knowledge? Transforming undergraduate students' views of science through participatory action research." *Science Education* 102 (6): 1155-1175. https://doi.org/10.1002/sce.21453

Wynne-Jones, S., P. North, and P. Routledge. 2015. "Practising participatory geographies: potentials, problems and politics." *Area* 47 (3): 218-221. https://doi.org/10.1111/area.12186