The contribution of action research to the active participation of pupils

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Abstract
This article aims to explore the contribution of action research to the development of active participation of pupils in the context of the sustainable school. Action research is looked at not simply as a methodological tool for the exploration of participation, but as a key element of the educational actions that promote the active participation of pupils. Educational research was conducted during a school year to a primary school in Lavrio (Greece), with the participation of two teachers and the pupils of two classes (the upper grades-fifth and sixth). Action research methodology facilitated the critical, reflective and, at the same time, organised and systematic exploration of the active participation of pupils. Its contribution to the objective of the research, i.e. enhancing active participation of pupils, was also fundamental. As it is clearly reflected in the research data, action research helped pupils participate actively and improve their participation, addressing the difficulties they identified.

Keywords: action research, participation, sustainable school, primary school
1. Introduction

Action Research (AR) constitutes an interesting methodological approach, applied in the field of educational research. It is characterised mainly by the following: the participation of the members of the school community in the research process, the collaboration among all the persons involved in the school environment, the continuous reflection on and review of the educational process, the connection of scientific theory to the daily teaching practice and the flexibility of the research framework that is adapted to the conditions of each school organisation (Elliot, 1991; Kemmis and McTaggart, 1988; Posch, 2003; Altrichter, Posch and Somekh, 2001; Katsarou and Tsafos, 2003). These innovative characteristics of AR encourage the dynamic involvement of the members of a school community in the research and, what is more, with the conditions of the immediate school reality (Carr and Kemmis, 1997).

A key and fundamental characteristic of AR is its participatory and critical-reflective nature. According to Kemmis and McTaggart (1988), a research approach tends to be characterised as AR only when it is participatory and collaborative. In this framework, all the actors of the teaching process (teachers, pupils and others) participate in every phase of the research, not only as the objects concerned by a research conducted by some external researchers, but as equitable co-researchers (Somekh, 1994). Teachers and pupils reflect together on the educational practices followed and attempt to interpret everything that happens in their classroom. They correlate actions and their impact, proceed to critical analysis of situations they come across and discuss with the resistances they encounter (Posch, 2003; Dadds, 1998; McNiff, 1988). This participatory planning is beneficial to all those involved in the research. It facilitates mutual learning from each other, reinforces mutual understanding, and strengthens collaboration between them (Könings, Seidel and van Merriënboer, 2013). AR in essence establishes a self-reflective learning community, meaning a community where common rules and values, reflective dialogue and collaboration prevail in a wider framework of common objectives and interests (Giles and Hargreaves, 2006; Flogaitis, Nomikou, Naoum and Katsenou, 2012). Participation and collaboration in that respect are not simply something offered, but something that becomes established and develops through a two-way form of communication (Perez, Blanco, Ogalla and Rossi, 1998).
AR was selected under this logic as the research method of the present research. This AR attempted to study the participation of pupils in actions and explore the factors having an effect on enhanced active pupil participation in the school environment (Katsenou, 2012; Katsenou, Flogaitis and Liarakou, 2013). The value of participation is connected to significant benefits for the pupils in the school environment: development of self-confidence, familiarisation with democratic procedures, exercising their abilities to negotiate and compromise (Hart, 1992; Rudduck and Flutter, 2000; Mogensen and Mayer, 2005). Through their participation, pupils become responsible for the curricula followed and also develop feelings of collective responsibility both for the school and the community (Mogensen and Mayer, 2005). Active participation of pupils was placed at the heart of the research, meaning the pupils’ tendency to operate autonomously, take initiatives and assume responsibilities and focus on their personal strengths and competences without the guidance of teachers (Hart, 2000; Shallcross and Robinson, 2008). Passive participation is the exact opposite of active participation, meaning the pupils’ tendency to participate under the guidance of teachers and become part of activities planned and organised by the teachers without any direct involvement and contribution by them. Between the two, only active participation refers to genuine participation in the sense that it activates basic values, such as autonomy, critical thinking, equality and contributes to meaningful learning (Simovska, 2000; 2005).

At theoretical level, this research follows the principles of Environmental and Sustainability Education (Sauvé, 1999; Flogaitis, 2006; Liarakou and Flogaitis, 2007) and derives data from the innovative content of the Sustainable School (Gough, 2005; Breiting, Mayer and Mogensen, 2005) and the Action Competence (Breiting and Mogensen, 1999; Jensen and Schnack, 1997). According to its key theoretical assumptions, sustainable school evokes a dynamic learning organisation, working as a whole in order to improve its culture and process changes at all its levels of operation, at educational, social/organisational and technical/economic level (Ali Khan, 1996; Posch, 1999). Nevertheless, in order for the school to become an important driver of change, its pupils should develop the action competence, that is to say, to participate knowingly in actions concerning their school and community, forming their own criteria and behaviours (Breiting and Mogensen, 1999). In this context, the participation of pupils in the decision-making process for major decisions regarding the school, learning and the conditions of their actions is considered to be not only essential but necessary (Jensen, 2000; Barrett, 2008; Hart, 1992; Rudduck and Flutter, 2000). Of course the active
participation of pupils in issues concerning their school cannot be a vague concept to be taught or imposed. It is to be perceived as a competence, which pupils gradually develop through their familiarisation with authentic participatory processes (Schnack, 2008; Hart 1992).

Enhancing the active participation of pupils in the framework of sustainability, which is the main objective of this research, is perfectly in line with the culture of change entailed in the AR methodology. AR, as mentioned before, requires the involvement of pupils in a dynamic and interactive process, where pupils, along with teachers, jointly process their action (Posch, 2003). Pupils are therefore given the opportunity to participate in authentic participatory processes and get to know their benefits. At the same time, AR obtains the methodological framework in order for pupils to critically review the actions they undertake and thus observe and reflect on their participation. What is more, AR proposes a flexible application framework focusing on the particular conditions of the school where it is applied, without proposing pre-determined actions and steps (Posch, 2003; Altrichter et al, 2001). Pupils can therefore develop and improve their participation, using the particular opportunities provided by their school environment. Finally, AR provides all the methodological tools enabling the systematic study of school reality, deriving data from all the actors involved in the school environment (Shallcross and Robinson, 2008).

In total, the present research incorporates the characteristics of participatory research, meaning a research in the context of which, all individuals become involved in the study of the situation that concerns them and the development, by them, of the right action plans (Sauvé, 2012). Through its participatory nature, it aims at bringing about broader educational changes, which is one of the key elements of AR. These changes are linked to the change of culture inside the educational framework as to the role of the pupils and of course the overall reform of the school to the direction of sustainability. Furthermore, the present research assumes the characteristics of intervention research, as it aims at the on-site production of knowledge in collaboration with the individuals concerned by this knowledge (Rauch, 2012). Nevertheless, it links the results of the action, i.e. the intervention under the particular school conditions, to reflection, one of the main characteristics of AR, in order to maintain the necessary critical distance from our particular choices. Of course all these concepts of collaboration and interaction are related to each other, putting the emphasis on a particular aspect of the research (Eikeland, 2012). Action research, as praxis-oriented research, includes each and every
one of these concepts, draws on their content and goes beyond the limits of these concepts (Eikeland, 2012).

In general, we think that the choice of AR as research method is fundamental in order to enhance the active participation of pupils in this research. We believe that AR can provide the methodological tools to systematically observe, reflect on and evaluate the participation of pupils. It is estimated that AR, through its functions, facilitates and assists the active participation of pupils. The research data presented below describe the key role of AR in pupils' participation.

2. Description of the research

This research was conducted during the school year 2008 - 2009 (early October 2008 until mid-June 2009) to a primary school with long-standing experience in environmental programmes. The school is situated in Lavrio, an industrial town with 9,000 inhabitants, 60 km, southeast of Athens. It is a six-year, state primary school, which, in that particular year, had 15 teachers and 165 pupils shared across 8 school classes. Two school teachers and the pupils of the two respective classes, fifth (23 pupils) and sixth grades (19 pupils), participated in the research. The research was conducted in the framework of an environmental education programme on sustainable waste management. The programme was carried out on a weekly basis and had a two-hour duration. Teachers chose it over other interdisciplinary programmes e.g. health education, cultural issues and integrated it in the context of Flexible Zone.

A basic working group was formed in the context of AR, called the “research team”, which comprised the following: a) the researcher as “facilitator” of the entire process, b) the two teachers as “teachers-researchers” and c) the pupils of the upper two primary school grades. More specifically, the researcher and the teachers made up the so-called “pedagogical team”. There was also a major role held by the “critical friend”, being both a teacher and the researcher’s associate, who participated in the pedagogical team’s discussions having a critical and supportive role.

In further detail, the researcher facilitated teachers in familiarising with the AR concept. She helped them observe their daily practice, collect data and critically monitor their pupils’ participation. As to her communication with the teachers, she attempted to participate as an associate or consultant and not as an "expert" with pre-determined
research questions and tools. In her role as facilitator she was assisted and supported by the critical friend.

The two teachers focused on the reality of their classroom and tried to elaborate on what was taking place therein. At the meetings of the pedagogical team, they communicated and shared their thoughts and concerns with the researcher. Through descriptions of incidents from the communication with the pupils, they identified the vulnerable parts of their intervention that inhibited their pupils’ active participation and attempted to interpret and understand them.

Through the development of an open communication culture with their teachers and, to some extent, the researcher, pupils expressed their ideas about the environmental programme, took initiatives and assessed their participation in environmental actions. The pupils’ role as co-researchers not only helped them express their thoughts openly but it also helped teachers look at their work through their pupils’ thinking and comments. The two school teachers and the researchers were given perspectives and data that they might have been unable to obtain otherwise (Atweh and Burton 1995).

By establishing a trust relationship with the teachers and, above all, the researcher, the critical friend tried to enhance the function of the pedagogical team. An associate of the researcher, member of the Environmental Education Research Centre at the University of Athens with long-standing experience both in Environmental Education and the methodology of action research was chosen as the critical friend of the research. What is more, the researcher profoundly trusted this person. In particular, the critical friend attended many of the pedagogical team’s meetings and participated in the teaching’s reflection and review process. She stated her personal point of view, made useful comments on the actions performed and also gave ideas for future interventions. Her professional experience in education and AR methodology had a particularly constructive contribution, as she had numerous examples of personal experiences to share.

The interconnection between the research actors is presented in Fig. 1.
The pedagogical team meetings took place at the school, on a standard weekly basis and their duration was one school hour (50 minutes). The critical friend participated in some of these meetings. The discussions of the pedagogical team focused on the observation of the pupils' active participation. The pedagogical team assessments were made on the basis of previous teaching interventions, the way in which pupils participated in the decision-making process, whether they collaborated with each other, whether they took initiatives and assumed responsibilities, whether they relied on their own forces or on their teachers’ strict guidance. The interaction between teachers and pupils took place either through the daily communication in the classroom or during organised discussions held regularly and attended by the researcher.

The objective of this research was the collection of data from all the members of the research team (Altrichter et al, 2001). More specifically, the following data collection techniques were used: a) Open observation of teaching, allowing to systematically record all points that required attention. Teaching was monitored by both the researcher and the teachers. The researcher made direct observations and wrote down all interesting points in a personal file. The role of the two teachers was twofold: active teachers with direct interaction with their pupils and participant-observers, who, at the same time, observed the teaching process and took notes at the end of the teaching; b) Recording of the teaching, which completed the notes made during observation and allowed a more comprehensive view to teaching. In many cases, parts of the recorded teachings enriched the discussions of the pedagogical team, offering food for thought; c) The discussion
between the researcher and the teachers (participating in the pedagogical team) on a regular weekly basis. Discussions were usually unstructured in order to encourage open communication between teachers. Sometimes however, discussions were focused or received the form of focused interviews, in order to clearly reflect the opinion of the teachers on specific topics. Discussions were recorded to facilitate the collection, processing and assessment of research data; d) Questionnaires and semi-structured interviews with the pupils that took place at the end of each cycle of teaching interventions (upon the completion of the first, second and third cycles). Their objective was to look into the pupils’ opinion, thoughts and judgments about the actions where they had participated during the previous time period. For this reason, the questions were mainly open-ended in order to allow pupils express their opinions and concerns openly. Questionnaires and interview questions were built by the members of the pedagogical team, distributed by the teachers to the pupils of the two classes and collected back from all pupils. The members of the pedagogical team processed and codified the pupils’ answers. The findings formed the basis for the assessment of each cycle of teaching interventions and enriched the relevant discussions of the pedagogical team; e) The personal file (log) held by the facilitator and the teachers. It encouraged careful consideration and provided stimuli and concerns during the weekly pedagogical team meetings; f) The discussion between the facilitator and the “critical friend”, enabling intersubjective control and allowing to interpret any emerging difficulties and g) The creations of pupils at school (e.g. worksheets, posters, drawings), which, given their spontaneous nature, gave an authentic view to the pupils’ thoughts and concerns.

**Triangulation** was the method used to guarantee the validity of the present research, i.e. the cross-checking of information using different sources and perspectives (Altrichter et al, 2001). In particular, validity was achieved both with the extraction of data from all the persons involved in the research (researcher, teachers, pupils) and the use of many and different data collection techniques (observation, recording, interview, logs etc.). Furthermore, the presence of the critical friend and her involvement in the research reaffirmed its authenticity, something also confirmed by the relevant literature (Lomax, 1996; Katsarou and Tsafos, 2003).

The present research adopted the AR model proposed by Stephen Kemmis (1980), which facilitated interaction inside the research team through the organisation of four cyclically repeated steps: planning, action, observation and reflection. The spiral AR process was approached in the following way: starting from the small scale of the
classroom, participatory processes were applied in order to be subsequently tested at the larger scale of school and reach the even larger scale of local community. The classroom constituted the most immediate focus of the pupils' action, where the key determinants were the relationships between teachers-pupils and among the pupils, the teacher with their role and personality and the general psychological environment. The school was a more complex level, where the key determinant was the totality of the persons involved in the school community (teachers, pupils, headmaster/headmistress, administrative staff) in combination with the school's culture. The local community constituted an equally complex and unexplored field, where the key role was held by persons and social bodies through their attitude and culture. Actions and interventions inside the classroom, the school and the local community constituted the three respective cycles of a spiral, where the passage from the first (classroom), to the second (school) and afterwards to the third cycle (local community) was accompanied by gradual expansion of the objectives and the challenges brought forward. The cyclical and spiral process of the present research is depicted in Fig. 2.

**Fig. 2: The cyclical and spiral process of this action research**
The First cycle: Action for the classroom had a duration of three months (early November 2008 until late January 2009). The participatory actions undertaken focused on the classroom. In particular, pupils conducted an environmental research in their class. They recorded the types and the amount of their waste and explored their origin. They made a literature research on the life cycle of various materials, explored ideas about how their classroom could become more ecological, organised a waste management system for waste produced in their classroom (reduction, reuse, recycling, constructions from useless material). The analysis of the research material showed that, at first, pupils were reluctant to participate in actions towards the direction of the sustainable school, as they believed that their participation could not bring about substantial changes in their school environment. Nevertheless, as pupils became involved in experiential actions of the immediate environment, they gradually participated but in a passive way, meaning that their participation was only guaranteed under the guidance and constant reminder of the teachers. Through the AR reflection, teachers realised the protection or guiding role they adopted as to their pupils and that it inhibited the participation of pupils. This realisation helped them move away from their centralising roles and trust more the initiative of their pupils. As the first cycle progressed, pupils started gradually focusing on their strengths and organising their action, without any direct involvement or influence of the teachers.

The Second cycle: Action for school had a duration of two and a half months (early February 2009 until mid-April 2009). This cycle was an extension of the first cycle, promoting at the same time the exploration of active participation at the even larger scale of school. The participatory processes undertaken focused on the school environment. More specifically, pupils communicated with the other participating grade and shared their ideas, explored ways in which their school could become more environment-friendly, conducted a questionnaire-based survey on waste produced in the other grades of the school, informed and raised awareness among the youngest grades, the administrative staff and the school’s head, organised a school waste management system, planned an action for the reuse of old school books that was not completed, volunteered to clean the outdoor spaces of the school. Throughout the duration of this cycle, pupils participated actively in actions they felt familiar with. However, they were reluctant to participate and suspicious when they decided to become involved in actions concerning the broader school community, given that their school had not developed communication and collaboration culture among the grades. With the encouragement of
their teachers, they decided to participate in the new actions. Pupils were excited with the communication actions they performed in the other school grades (information and awareness-raising of younger grades, questionnaire-based survey on waste, organisation of recyclable materials collection system). On the contrary, their school environment did not equally accept or encourage some other actions. Various organisational problems and practical difficulties emerged in the context of school resulting in many delays and inconsistencies in the promotion of the actions. In that way, the initiative of the children to organise an old books' reuse system did not obtain the consent of the school's head and did not go on, the cleaning ladies were reluctant to respond to the changes proposed by the pupils, the cleaning of the school was made after numerous arrangements and with major delay. Children experienced feelings of disappointment and their disposition to participate in more actions faded out. Through the AR reflection, teachers encouraged pupils to understand the attitude of the members of their school community and pupils realised that their personal participation is important, however it might not be enough to bring about a change in the culture of the entire school community.

The Third cycle: Action for the local community had a duration of one and a half month (early May 2009 until mid-June 2009). This cycle was an extension of both the second and the first cycles, given that some of the objectives of the two previous cycles continued to develop. At the same time, this cycle attempted to explore the active participation of pupils at the broader level of the local community. The participatory actions undertaken focused on the local community of Lavrio. More specifically, pupils explored ideas to open up their action to the local community, contacted the Environmental Education Centre (EEC) of Lavrio and attended an educational programme and shared the experience of their research, conducted an environmental research (using questionnaires) that was addressed to the local citizens and professionals, edited an ecology newspaper, created a video with ecological content, prepared the final presentation of the programme that was addressed to the community. Pupils participated actively in the actions with which they felt comfortable and familiar from the two previous cycles, e.g. research planning, video creation. Nevertheless, when they decided to become involved in local community actions, they worried about the impact they could create, given that they were not familiar with actions outside school. Teachers encouraged them and they performed the actions planned. Some of the actions, such as the activities performed in collaboration with the EEC, boosted the children's confidence on their ability to participate. On the contrary, other actions disappointed them. During
the survey they conducted in their city's market and stores, pupils came across negative attitudes and behaviours on behalf of the citizens. The children were strongly disappointed by the refusal of some citizens to stay and listen to them and participate in their research or by how rude, brutal, indifferent or suspicious some other citizens were. The AR reflection stressed the need for the children to assess their experience not as an intervention that failed but as an authentic example of the way in which various persons and bodies act and interact with each other. Children tried to justify the attitude of the local community members and realised that the changes they sought required time in order to become accepted and applicable.

Research results showed that the active participation of pupils was mainly determined by three factors in direct relation to the teaching practice: the perceptions formed by pupils and teachers as to their roles and relationships, the culture adopted by each school environment and the learning procedures selected in the context of the school programme (Katsenou, 2012; Katsenou et al., 2013). A fourth factor emerged from the research and it was none other than the action research itself. In particular, the choice of AR as research method contributed not only to highlight the factors in direct relation to the teaching practice, but also familiarised the pupils with authentic participatory processes and honed their skills for active participation and action in line with the perspective of a sustainable school.

3. Aspects of action research contributing to the active participation of pupils

The innovative features of AR - both at methodology and theoretical level - contributed to the objective of the research, i.e. the development of the active participation of pupils. As AR developed, pupils had the opportunity to actively practice in authentic participatory and democratic procedures. At the same time, AR enabled them to identify any difficulties inhibiting their participation and develop skills to address these difficulties.

As it has been noted, the present AR facilitated the establishment of an open and interactive communication between all research team members. Open communication helped develop a common language among pupils, teachers and the researcher. This language was linked to the values of sustainability and focused on the active participation of pupils. Both during the daily communication of the classroom
and the organised meetings of each cycle, pupils became familiar with interacting with teachers and their classmates in the framework of both small groups of pupils and the entire classroom. Despite the fact that this process was not an easy or self-explanatory procedure, pupils practiced in sharing their views, arguments, expressing their constraints and critically considering the action and their options. In other words, they tried to function as a learning community (Giles and Hargreaves, 2006). The learning community function of the research team helped pupils not only to express their views but also to monitor various views and perspectives and act collectively.

"...Teacher 1: the advantage of this programme is that it gives all of us the opportunity to talk, to be open, to discuss, to plan together" (pedagogical team meeting, 11/02/09)

"...Pupil: I think it is nice to discuss, to say what we are thinking, that we do not have to hide from each other.

Pupil: you can always end up somewhere with discussion, even if we disagree sometimes" (Fifth grade, teaching of 23/01/09)

The establishment of open communication relationships clearly facilitated the active participation of pupils. The communication of the team encouraged pupils to feel more and more comfortable, to rely on their strengths, to collaborate, to take initiatives regarding their immediate school environment.

"...Pupil: there were times we were distracted, bored but the discussions we had, helped us remember where we started from, where we got and never give up" (Sixth grade, teaching of 28/05/09)

"...Pupil: I think that we should do all the things we planned. What we want is for the good of the school anyway.
Pupil: I agree, we must not let go, we must not forget our goals" (Sixth grade, teaching of 3/04/09)

The regularity of the meetings was fundamental in developing such a quality communication. Kemmis and McTaggart highlight the importance of regular meetings (1988). As mentioned above, communication between the members of the research team, throughout the research, was frequent, stable and organised. This allowed to develop trust and security relationships and strengthened the function of the research team as learning community.
"...Teacher 1: ...I could not conceive that at the beginning, but I believe it was very important to have a specific day and time each week to discuss; we knew that every Wednesday we would have the opportunity to chat, address some issues and this fact made us feel safe" (pedagogical team meeting, 22/06/09)

In addition to this, the slow and gradual application of participatory activities and the gradual extension of the action scope played a key role to this end. In the context of the rationale that small steps towards the right direction can be more positive than big and aspiring plans (Breiting, 2008), the AR applied focused on promoting small changes at a time. Following the three consecutive cycles (first, second, third cycle), these changes formed the basis to promote bigger changes afterwards. In that way, by starting for example with participatory activities in the context of the classroom, pupils could participate in activities regarding their school environment and afterwards in activities at the local community level. This AR function was extremely beneficial as it facilitated the gradual familiarisation of pupils with participatory procedures. It added more safety in their movements and provided greater resistance against any emerging difficulty.

"...Teacher 2: ...it takes a long time in order for pupils not only to participate but to participate actively. One must continuously come back, start with a small action and then move to a bigger one and this must take place slowly and gradually (...) Maybe, the fact that some actions could be repeated helped some of the children to act autonomously and feel safe” (pedagogical team meeting, 22/06/09)

The self-critic and self-reflective function of AR was proven to be particularly important as research developed. Through the AR reflection, teachers had the opportunity to substantially deepen in their educational practice. They observed all the things that went on in their classroom, recognised the vulnerable points of their intervention and attempted to understand the elements that either strengthened or discouraged the active participation of pupils. This AR function is highlighted by many researchers (McNiff, 1988; Perez et al, 1998; Katsarou and Tsafos, 2003). At the beginning of the research, the finding of the non-active participation of pupils attracted the interest of the two teachers in order to self-observe their own practice. Teachers sought to understand their teaching choices that obstructed their pupils' autonomous action. Afterwards, they tried to differentiate their position, in order to enhance the participation of pupils.
"...Teacher 1: at the end, we guided children, we did not allow them to work on their own, we were constantly monitoring each group. Children waited from us to confirm everything they did, they were not autonomous (...) We would have never observed this point, had it not been for this research" (pedagogical team meeting, 3/12/08)

The self-criticism skill that teachers developed through AR contributed to their professional development (Hollingsworth and Sockett, 1994). In an attempt to perceive and improve their practice, they were able to better understand their perceptions and they developed as professionals. Furthermore, interaction with the pupils helped them look at their work through the "eyes" of the children and "filter" their choices through their pupils' reactions and criticism.

"...Teacher 1: I believe that this programme helped me come closer to the children (...) it helped me look at some things from their perspective. I would pay much more attention to their comments, I would think more of what I would do, how they would accept it(...) I think that I paid special attention to what would be better for them and I got disappointed many times, but I believe that I came closer to the children" (pedagogical team meeting, 13/05/09)

What is most important is the fact that it paved the way for pupils to observe their actions, self-reflect and interpret their personal way of intervention, something highlighted by Atweh and Burton (1995). Both in the framework of small groups of pupils and the entire classroom, pupils became familiar with analysing incidents from their daily experiences at school and the programme they performed, deepening in their concerns, identifying the faulty points of their action and trying to understand them. What is more, they became familiar with monitoring the attitude and the criticism of their classmates, improving their way of collaborating with them and being more tolerant towards different opinions. This interaction helped them look at their action under various perspectives and explore the value of alternative approaches and options. It is clear that amid such a climate, the active participation competence of pupils could be developed. Pupils practiced in taking initiatives and responsibilities, explored their participation in everyday school matters, and developed greater sense of responsibility of their school environment. They became more familiar with group collaborative procedures, felt more comfortable when negotiating their views inside the
group, sought consent and co-decision and became more familiar with democratic procedures. In fact, pupils increasingly tended to seek dialogue and collaboration inside their classroom - at the level of the pupils' group and among the groups - and outside the classroom, communication with teachers and pupils from other grades, the head and the administrative staff of the school.

"...Pupil: at first it was difficult to collaborate because we did not agree with each other; all of us wanted something different... in the discussions we had afterwards we started listening more to each other.

Pupil: I think that in the past we disagreed about everything... afterwards we realised that we can achieve a lot through collaboration" (Sixth grade, teaching of 23/01/09)

"...Teacher 2: I think that children grew accustomed to the fact that it is not up to one person to decide, that it is important to discuss, that we must accept the opinion of the many, that we do not leave the room when we do not like something (...) Well they are still arguing, but I feel that they always follow the procedures of the team. They function in a democratic way, they constantly ask to vote, to decide, to collaborate (...) they can collaborate with children that are not their friends and they are fine no matter who they will be sitting with in the group (...) they have become more flexible, more receptive" (pedagogical team meeting, 13/05/09)

The reflective and self-reflective function of AR was considered to be fundamental in order to address the practical and institutional difficulties that emerged. By monitoring the research data, pupils, encouraged by teachers, identified the difficulties in the participatory activities they performed and tried to understand, justify and address them. At first, they complained about time and red tape constraints set by the school environment. Furthermore, at the local community level, they were surprised by the established views of the adults, who were biased about their skills for active participation. Gradually, pupils became involved in a process of understanding and interpreting these things, something also observed in other researches (Cochran-Smith and Lytle, 1990; Simovska, 2000). In the organised meetings held with teachers, they critically reflected on the attitudes and the behaviours they came across and explored the origin of these resistances. They also attempted, where feasible, to readjust their actions. Both at the school and local community levels, pupils attempted to achieve the highest communication possible and promoted the actions that better corresponded to the given conditions. They realised of course that it was not possible to eradicate all obstacles and institutional constraints. Yet, they appreciated the value of their authentic
involvement in situations of their immediate environment. Through AR, children had indeed the opportunity to critically reflect on their action and develop the competences for active and authentic participation. Besides, as Bourdieu (1998) states, the value of critical reflection is included in the need to reflect on action, existing cultures and constraints, as such a procedure is the key to achieve participation that is inherent in reality. The process of exploring, justifying and interpreting current practice and its constraints is therefore promoted through the AR critical reflection (Posch, 2003; Altrichter et al, 2001).

"...Pupil: I think that we must not waste time, we must do all the things we are planning.
Teacher 2: we started thinking what went well, what went bad, why things did not go as our school expected, what went wrong, what did not go as planned from our side.
Teacher 1: children were "forged" through this procedure. And this is what I want the children to keep so far; that they can do something, that might not be accepted but "we must say: don't give up, think about it, find another approach, what did you do wrong? Come on, fix it!" (pedagogical team meeting, 13/05/09)

It is also worth noting that the AR aspects we just described, could yield results in this specific research, simply because AR provided a flexible framework of application (Posch, 2003). AR used the conditions of the particular school environment and adapted to its special needs and priorities. In this light, the application of AR in another school framework – either to a different or the same school with different composition of people or under different conditions - would be accompanied by different changes and developments (Hopkins, 1985).

4. Summarising...

On the basis of our research results, we observe in general that the open, flexible and two-way form of communication offered by action research gives pupils the opportunity to practice in developing the competence of active participation. Through the reflective character of the actions, pupils can have a clear view of the actions they participate in, assess the true value of their participation and strengthen their stance
towards the emerging difficulties. Involvement in AR processes develops directly and in practice the pupils' competence to actively participate in actions and the school issues that concern them.

To this effect, AR offers significant advantages to those teachers wishing to promote the active participation of their pupils in the framework of the sustainable school. Teachers can use AR not only as a methodological tool that simply adds the research parameter in to their teaching work. They can also use AR as a key element of the teaching interventions they undertake along with their pupils. In this framework, the familiarisation of teachers with AR could be at the heart of teachers' training programmes both at pre- and in-service training level. The relevant literature indicates that the involvement of active teachers in AR helps them to better perceive their practice, strengthen their relations with their pupils and boost their self-confidence (Day, 1984; Katsarou and Tsafos, 2003). Teachers, with the help of AR, hone their skill to develop to autonomous professionals who understand, assess and reform their teaching practice and develop as professionals (Mc Niff, 1995; Hollingsworth and Sockett, 1994; Zeichner, 1993). The experience from the research shows that regular reflection of the AR helped teachers to listen more carefully to their pupils, communicate more openly their ideas to each other and the researcher and better understand their perceptions or their dormant theories. Therefore, research helped not only the pupils but also the teachers – and to some extent the researcher – to develop their skill for participation and action, i.e. their skill to operate autonomously, critically, responsibly, democratically and collectively. In essence, the pedagogical team tried to develop the social aspect of the learning community. By developing mutual recognition, interpersonal relationships improved, active participation of the pupils was reinforced and teachers developed as professionals.

Nevertheless, it is worth noting that the familiarisation of both the pupils and the teachers with the participatory processes of AR is not an easy process and should not be taken for granted. The educational changes that the AR seeks to achieve are pursued in the available school conditions and school hours (Lotz - Sisitka and O'Donoghue, 2008). As it was mentioned above, AR is closely related to the conditions of the particular school environment where it is being applied. Indeed, prior to the beginning of this research, it was difficult to make a clear distinction of the factors, conditions and restrictions that would play a decisive role in the active participation of pupils. Maybe, in a different school environment, some other factors or conditions would have had a significant impact. What we see in this research however is that it takes small and gradual
steps, gradual expansion of the action field, e.g. from the classroom to the school and from the school to the community, and of course much time in order to create the environment that will allow pupils to participate with ease in this restructuring effort for their school. Only through this slow and gradual approach can pupils and their teachers become familiar with the culture of participation and the social climate of the learning community offered by AR in the school environment.
References


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