

## **Investigating the possibilities of creating a Community of Practice. Action Research in three educational institutions**

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### **Abstract**

*The educational approach views the community of practice as a community of teachers and students who share common rules and values, information and experiences through dialogue and collaboration.*

*Three doctoral theses are in progress at the University of Athens which study the possibilities of creating a community of practice in three different educational institutions: a Centre of Environmental Education (KPE), a primary school and a nursery school. The prospect of developing a community of practice in the institutions was considered in the context of the vision and the principles of sustainability and the Education for the Environment and the Sustainability.*

*We have chosen action research as the most appropriate methodology for our studies as we believe that its characteristics cohere with the philosophy of the community of practice.*

*The first study focuses on the possibilities of creating a community of practice in a KPE. Teachers from different classes and subjects interact with each other, exchange views, facilitate relationships and build trust by participating in common activities.*

*The second study focuses on the possibilities of creating a community of practice in a primary school. Students interact and collaborate with their colleagues, teachers and the other members of the school's staff by actively participating.*

*The last study focuses on the possibilities of creating a community of practice in a nursery school. Students, teachers and parents collaborate and interact with each other, share values, beliefs and ways of doing things by engaging in real actions and creating powerful learning environments.*

*All the people who got involved in the studies (teachers, students, parents and we as facilitators) were not accustomed to the idea that learning involves a process of participation in a community of practice. Although those difficulties emerged during the studies, we all agree on the crucial role of values such as collaboration, communication, relationship building and identity in the educational institutions.*

**Key words:** educational learning organization, community of practice, action research, sustainability.

## **Introduction**

In the context of the principles and philosophy of Environmental Education and Sustainability (EES) (Flogaitis 2006), three doctoral theses have been planned and are currently in progress. These theses form part of the Centre of Research, Study & Implementation of Environmental Education's (KEMEPE) research activity, which operates in the Faculty of Early Childhood Education (TEAPI) of the University of Athens under the direction of Professor Evgenia Flogaitis.

All three theses seek to investigate how an educational institution draws inspiration from the vision of sustainability and attempts to incorporate the values of sustainability in its daily structures and functions. These theses focus on three different educational institutions: a Centre of Environmental Education (KPE), a primary school and a nursery school.

Considering the concept and prospect of a sustainable school, we believe that in order for the schools to become significant factors for broader changes in the society in the spirit of sustainability, at first it is essential that they themselves become the object of that change (Orr 1992, Sterling 1996, 2002, Uzell 1999). Our approach views each educational institution as a dynamic system that seeks to incorporate the principles of sustainable development on the basis of the overall culture that it expresses (Jensen 2005). The main goal is the overall reconstruction of the educational institution where the school, through an investigative, contemplative, self-reflective and critical process, works as a whole in order to reprocess and change its culture (Gough 2005). The application of this holistic approach ("whole school approach") (Jensen 2005) is based on the assumption that sustainability can penetrate all levels of the school's function, namely at educational, social/ organizational and technical/ economic level (Ali Khan 1996, Posch 1998, Flogaiti & Daskolia 2004).

Thus the sustainable school refers to a school that lays the foundations for broader educational changes within the spirit of sustainability, while at the same time it functions as a learning organization that learns and develops through time and space, encouraging the involvement of all participants in the educational process and their activity in learning communities as well as communities of practice. The prospect of creating learning communities and communities of practice and studying the factors which influence their function was the main cause for thought in the three doctoral theses.

Catalytic role for the development and prospect of our research effort plays the selection of the Action Research (AR) as a research method which should allow open, interactive and equal communication with the involvement of all participants in the educational process.

## **The concept of educational learning organization and community of practice**

The concept of a learning organization emerged at the end of the 20<sup>th</sup> century, as the contemporary needs of enterprises, initially, demanded that the employees develop skills such as communication, collaboration, swift response to challenges and undertaking of initiatives in order to be able to incorporate change, both at individual and at organizational level. The term "Learning organizations" became known by

Senge in 1990 and since then one can find various related definitions in the bibliography.

According to Senge (1990) learning organization means an organization where people continuously develop their ability to produce the results they truly wish, where new models of thought are cultivated, the collective ambition is set free and people continuously learn to jointly cope with the situations.

Leithwood and his associates (1995) state that a learning organization consists of a group of people who share common, individual and collective goals and commit collectively to revise and modify them when appropriate, while at the same time developing efficient and satisfactory methods for accomplishing these goals. Pelling et al. (2008), define the learning organization as a collectivity that maintains, but at the same time negotiates the institutions' rules, which are dictated by the prevailing social conditions (Boyd et al 2010). In other works he clarifies that, to a certain extent, it is the organization that determines the framework in which it will act. Besides, its readiness and success depends on its ability to design itself as a learning system within a broader context, even in conditions of crisis (Wenger 2000, Wang 2008). Wang (2008) stresses that the organization's culture is a decisive factor to how the organization will react and respond to the crisis. However, Natercio (2001) argues that all this effort is extremely difficult, since people within an organization have different schedules and strong, distinct individual strategies, which means that organizations do not always have people who are ready for dialogue and cooperation.

School is a special case of a learning organization and a considerable number of scientists have argued that educational institutions must become learning organizations (Fullan 1993, Leithwood and Louis, 1998, Mitchell and Sackney, 2000). For an educational institution to transform into a learning organization it must be open to innovation and organize activities that promote the professional development of educators, in order to be able to respond flexibly to the changes that occur in the society (Lipton and Melamede, 1997). The term "learning organization" is therefore used to describe the school's function as a community that, as a dynamic system, is able to organize itself, to transform and develop through an internal process (Senge 1990, Dalin 1993, Dufour 1997, 2004, Scribner et al 1999, Coppieters 2005, Pedler et al 1991). The school's function as a learning organization can be accomplished when it relies on cooperation, interaction and reflective dialogue that is developed by the members of the educational institution through the learning communities they form. Therefore, through institutional and structural changes and improvements, a different organizational structure is suggested, allowing its members to cooperate, process common visions and plans, learn in practice while continuously cultivating and developing their ability to learn together (Senge 1990, Leithwood et al 1998, Scribner et al 1999). In this context, school, from a bureaucratic institution responsible for the transmission of knowledge, redevelops into a lifelong social and learning organization that is capable and responsible for its own development, both internally and in relation to the community where it belongs and with which it interacts (Coppieters 2005, Dufour 1997). Therefore, the challenge that the schools face is to adopt strategies towards change that can provide inner stability while the schools are moving forward. In other words, schools have to become the vehicles of change, while at the same time their teachers will stop being cut off from the wider group and isolated in their class

(Smylie, Lazarus & Brownlee-Conyers, 1996). Besides, as Fullan (1991) notes, change in education depends on what teachers do and think.

The concept of educational learning organization entails and encourages the formation of learning communities and communities of practice with the participation of all parties concerned. Communities of practice are defined as groups of individuals that share an interest, a bundle of problems or a passion for a certain topic and that expand their knowledge and expertise in that subject by interacting on a continuous basis (Wenger 1998). According to Lave & Wenger (1991) these are groups that develop the sense of belonging to a community thanks to a common goal. The members are likely to have common background or experiences, share the same language and function as “social learning systems” where professionals cooperate in order to resolve the problems they face, share ideas, create appropriate normative tools for their work and form relationships with each other as well as with the parties concerned (Snyder et al 2004). In other words, what dominates in a community of practice is common rules and values, the reflective dialogue, the deprivatization of the instructional practice and the collaboration in a broader context of common goals and interests (Giles and Hargreaves 2006, Dufour 2004).

What characterizes a community is the series of interactions through which the common goal will be achieved, as well as the series of relationships that will be formed (Preece 2000). Learning cannot be dissociated from the sociological practice of the community and consequently the commitment in such a common practice also includes learning (Lea and Blake 2002). In this case, situated learning is not dissociated from the community's practice but rather emanates and is fueled by the current circumstances of the community in which it is integrated (Lave and Wenger 1991, Shallcross 2006). The communities of practice are therefore considered the basic idea of a learning organization. The group of educators that will constitute a community of practice can form the basis and, gradually the culture that will be cultivated can be bequeathed to the rest of the school community.

There are similarities between learning communities and communities of practice. In the groups of both communities that are formed there is strong reciprocity amongst the members and, through the collaboration and the exchange of experiences and ideas, new knowledge is created which is communicated throughout the group (Brown & Duguid 2000).

Therefore, in the epicenter of the function of a community of practice and learning in an educational learning organization lies the exploration and improvement of daily school practice in a social environment of collaboration, interaction, solidarity and mutual trust (Rovai 2002, Eaker et al 2002). The cooperative bonds are strengthened by the participation in thematic and interdisciplinary groups or study and working groups, by the mutual observation of teaching, the action research as a permanent process of school improvement, the communication through congresses and articles in the press with the broader educational community (Dufour 1997). Drastic changes are almost impossible in a typical school environment. At best, people will move on as units, but they will not be able to form a learning community. Communities that nourish the philosophy of learning give value to differences, support critical thinking and encourage their members to converse upon issues of learning (Johnson 1998). Moreover, Dufour & Berkley (1995) stress that it is people and not programmes that

bring the desirable change. As Elmore and other researchers (1996) have concluded, even when teachers were willing to learn new teaching methods, they often applied them superficially and without consistency, thus bringing change superficially but not substantially. Change occurs only when employees are encouraged and supported towards this direction.

Through the above described internal and interactive process, school becomes “open” to its people in order for them to acquire knowledge and experiences for the future, but also in order to shape their living and working conditions in the present and jointly plan their actions with the vision of sustainability in mind.

### **The methodology of Action Research**

In direct connection with the above reasoning, the methodology that was adopted in our three investigative efforts is the *Action Research (AR)*. According to Elliott (1991), *Action Research is the study of a social/ educational situation aiming to improve the quality of the implemented action within the framework of the situation concerned.* Its implementation in the field of educational research is considered innovative, since it takes the dynamic involvement of school community members in the research process as a given, which should be activated through their actual needs (Posch 2003, Altrichter et al 2001). Educators, either by themselves or in interaction with an external associate, explore their professional practice seeking to understand and identify problems, interpret malfunctions and intervene in order to improve the circumstances under which they operate as professionals (Katsarou & Tsafos 2003). Basic assumptions of the Action Research, such as the link between scientific theory and daily educational practice (Elliot 1991, Carr and Kemmis 1997, Rudduck and Hopkins 1985), the participative forms of collaboration (Posch 2003), its reflective-critical nature (Kemmis and McTaggart 1988, Katsarou & Tsafos 2003), the flexibility of the investigatory framework that is based on alternative circular forms of planning, observation and evaluation (Hopkins 1985, Kemmis and McTaggart 1988) correspond effectively to the methodological needs of the three doctoral theses, but also to the deeper ideological content of the notion of sustainability and community of practice.

The AR that we have chosen as the methodology for our own educational research is indeed conducted in a framework that allows adaptation to the specific needs of each research and does not follow an analytical outline that constrains the steps of educators towards predefined activities (Hopkins 1985). More specifically, we have adopted *Stephen Kemmis' model* (1980). According to this model, an AR is developed in four phases: *planning, action, observation* and *reflection* that constitutes the background for the redesigning, development and observation of a new action based on a revised plan and so on. Thus AR is not a linear methodology that starts with planning and ends with evaluation, but rather an open, circular and spiral process where each circle leads to the next and with minor changes or interventions as a starting point. Therefore, AR proceeds to more extensive changes and moves on to more generic reforms of educational practices or policies (Kemmis & McTaggart 1988).

In each of the three researches that we coordinate, our participation is manifested in two ways: as “facilitators” in the research that each one of us coordinates and as a

“critical friend” in the other two researches. As a *facilitator, external research associate*, each one of us undertakes a facilitating and consulting role and collaborates with the educators not as an “expert” with prepared research queries and tools but rather as an associate, consultant and coordinator (Katsarou & Tsafos 2003). As a *critical friend* each one of us participates in the other researches as a person whom the facilitator trusts, understands her beliefs but also exercises constructive criticism (Ovens 1991). During the process of the three educational researches each one of us is involved supportively in the phases of feedback, critical reflection or data collection so as to give her perspective, offer alternative interpretations, ideas for the next steps or personal experiences (Ovens 1991, Lomax 1996).

### **The formation of communities of practice in the three educational institutions**

The experience gained from the action research in the three educational institutions (KPE, primary school, nursery school) provides us with very interesting findings as far as the exploration of possibilities for the formation of communities of practice is concerned and highlights the determining factors that affect their function. More specifically:

At the Centre of Environmental Education (KPE) we explore the possibilities of forming a community of practice by fostering an atmosphere of cooperation, exchange of experiences, involvement in shared activities and discussions as well as by building personal and professional relations between educators of different educational levels and fields. In particular, as an educational team of diverse fields of primary and secondary education in KPE, we attempt to function as a community of practice that conducts action research. Thus the facilitator along with the teachers of the educational team constitute a self-critical group of researchers, in which the critical friend participates as well.

During the research process regular meetings are held, once or twice a week, in order to discuss and reflect on certain issues that concern the educators regarding the actions of the KPE. More specifically the research team monitors three educational programmes of KPE that are carried out by student groups, with a view to developing and redesigning them. AR in the field of educational programmes consists not only of observing the educators’ instructional practice but also the programmes’ content. During the reflective dialogue and redesigning process, the possibilities of improving the instructional practice of each member separately but also of the group as a whole are examined and efforts are made to bring out its interdisciplinary nature. Furthermore the research team studies the way in which the training seminars offered to primary and secondary teachers are designed and implemented at KPE.

During the research process, members of the KPE’s educational team explore the possibility of undertaking training work, while actions are also addressed to the local community. During the AR’s course, educators detect the factors that shape their practice, which can be related to the personal educational theory or the institutional frame in which they work and co-examine the factors that are responsible for the problematic situations they are faced with. By observing themselves the implementation of changes that have been agreed upon after each reflective dialogue, they discover that the results are getting better and better every time. In particular, with regard to educational programmes that are implemented with student groups,

they discover that the change of teaching practice and the use of group-collaborative teaching methods in small groups of children, stimulates their interest and increases the participation of students. Progressively and gradually, educators realize the potential that lies behind cooperation and reflective-critical dialogue. This encourages them to redefine their personal theory and also the way they collaborate. The possibility of participating in a community for the exchange of ideas offers suitable stimuli for improving instructive practice as a result of interaction within this professional group.

Through this communicative and participative process we seek to foster a culture that is characterized by reciprocal support and respect between the members, encouraging an open discussion and debate within the frame of exchanging ideas. Nevertheless, the whole attempt of creating a community of practice presented several difficulties, since teachers who already had many years in the educational field were characterized by those attributes which we also encounter in bibliography. A bibliographical review would demonstrate that the main characteristic of the teacher's profession in most educational systems is the isolation and individualistic tradition (Klette 1997, Thornton 2006, Bezzina & Testa 2005, Kougioumtzis & Patrinsksson 2009). The causes for this professional isolation must be sought largely in organizational and ideological constraints, which leave little room for collective work and critical investigation. Aronowitz and Giroux argue that «the crisis of creativity and critical learning is largely attributable to the tendency of weakening the teachers in all educational levels» (1993, p. 37). Therefore, the entire effort of forming a community of practice and learning entailed significant difficulties. Many of them seemed to weather, but certainly it will take constant and long-term effort to establish positive results.

In the primary school, the facilitator, two schoolteachers that participate in the research and the students of two classes attempt to function as a reflective and self-critical community of learning. The basis of the educational research is an environmental programme, specifically, waste management and sustainable development. Meetings between teachers and the facilitator are held regularly on a weekly basis. The critical friend participates as well in many of these meetings. In these meetings, the teachers familiarize themselves with discussing, opening up, sharing and critically viewing their goals, visions and practice. They describe incidents from their daily praxis and communication with their students, they detect erroneous actions or problematic areas, they recognize weaknesses in their own intervention and attempt to interpret and comprehend them. This interaction helps them examine their work under different angles and investigate the value and prospect of alternative approaches or choices. Moreover, the interaction of educators and students, either in the daily communication of the class or in organized discussions in regular time intervals, not only helps students express their thoughts openly but also helps educators view their work through the children's "eyes" and "filter" their choices through their students' experiences, thoughts and criticism.

Therefore, this participative and self-critical process encourages the educators' professional development. At the same time, however, it fosters the creation of a similar culture within school classes. Despite the initial difficulties and obstacles of this effort, students gradually familiarize themselves with the social climate of the community of learning. They realize the value and role of their participation in the

daily school affairs, they practice in taking initiatives and responsibility, they familiarize with the democratic processes, they show trust in and seek collaboration and dialogue in their interpersonal relations. They increasingly seek and encourage collaboration within their class, both within their group and among other groups, and experience more and more readiness to solicit collaboration outside the boundaries of the class in their communication with educators and students of other classes, the director and the school's auxiliary personnel. Students practice in cultivating great social skills, both individual and social, through cooperative action and interactive communication. Thus, the quality and prospect of the undertaken school actions is improved and upgraded. Gradually the school develops into a living social and educational organization that learns to improve and to evolve according to the visions and expectations of its own participants.

In the nursery school, we explore the potentials of constituting a community of practice through the cooperation and interaction of nursery teachers, children and their parents within the scope of *Parental Involvement*, namely the participation (both quantitative and qualitative) of parents in the educational process. The term is quite vague and could mean anything, from a simple visit of the parent at school during the school year, up to the substantial cooperation between parent and teacher and the actual participation of the parent in major decisions that concern the school (Brito & Wallet 1994). The extent of involvement varies and depends on numerous parameters such as the child's age and sex, his/ her performance at school, the parents' socio-economic status, their educational level, their attitudes and expectations, the attitude of teachers towards parental involvement etc (Pugh 1985, Tomlinson 1995, Georgiou 2000).

In the research conducted, the ecosystemic model of Bronfenbrenner (1986) was adopted which is classified under general considerations that are based on the systemic approach. According to this model, all people are living in a hypersystem which is divided into smaller subsystems that more or less affect people. The model's basic assumption is that an individual is involved, throughout his life, in many different systems, which in their turn are developing interactive and interdependent relationships between them. The effects on the individual are many and diverse and it is difficult to determine them precisely. Some of them derive from the systems with which the individual is in direct and frequent contact such as family, school, etc. and are decisive for the individual's way of thinking and behaving, while others stem from smaller systems and are affecting the individual indirectly (Bronfenbrenner 1986, Georgiou, 2000, Milonakou-Keke, 2009). Elements from Epstein's (2009) six types of parental involvement (parenting, communicating, volunteering, learning at home, decision making, collaborating with the community) were also adopted in the research.

The research team, the researcher and three nursery teachers, one of which also acts as school principal, acted as the basic community of practice. The team members, through regular weekly meetings and having the four cyclical recurrent phases of the action research as a guideline, learn to discuss, exchange opinions and find ways to communicate and constructively cooperate with parents. They also set and jointly plan goals and actions taking into account the active participation of children and parents, observe critically, contemplate and reflect and gradually improve their practice in light of the sustainable school. Parents' involvement operates as the key



that facilitates the expansion of the community of practice. Working groups are formed which comprise of parents and students (at home and at school), parents, children and nursery teachers, parents and the researcher, all having as common goal and vision the sustainable school. The groups are variable and change according to the interest, skills and availability of parents and gradually efforts are made in order to reach out to the broader local community.

More specifically, at the beginning of the school year parents, children and nursery teachers participate in groups where, through democratic procedures, they choose the environmental education programme that forms the basis of the research process, which is water management and sustainable development. Thereafter, parents are informed regarding the programme's progress through weekly written communication and participate by suggesting actions, visits, contacts with competent bodies, by providing printed and electronic informational material at school, by offering knowledge and help as professionals, by completing activities at home with their children, by participating in working groups with the children and schoolteachers in classes but also in areas outside the school. Through the weekly written communication and their collaboration in actions, parents, children and nursery teachers are therefore exchanging knowledge, ideas and opinions, they undertake initiatives, share experiences that they gain through their interaction, provide support to each other, thus fostering their common vision of a sustainable school.

In the established communities of practice relationships are formed that promote the value of preschool education, contribute to the professional development of nursery teachers, facilitate the growth of cooperative learning and the development of communication skills, of active exchange and reciprocity in the dialogue between children, parents, schoolteachers and the researcher. This process encourages the development of a climate of confidence and an atmosphere of joint responsibility and reciprocal respect which is developed both at school and at students' homes.

### **Final comments**

The familiarization of all members with the social atmosphere of a community of practice was practically not an easy, smooth and unobstructed process. Like every educational innovation that promotes not only the adoption of a new practice but also the change of culture and the abolition of entrenched practices, it is reasonable that the prospect of a community of practice in the context of sustainability takes many by surprise and faces strong opposition (Giles and Hargreaves 2006, Rudduck 1991, Morrish 1976). Especially at first, participants raised several obstacles and resistance. Despite their stated intention to cooperate, the members of the learning communities perceived their role and the relationship between them differently. Some were more receptive to cooperation, showed greater tolerance to the different views and sought consent in all decision making processes. On the contrary, others were having difficulties in practice to put aside their personal perceptions and to adapt to the collective decisions of the community of practice. Some even manifested regal tendencies, seeking to promote their personal views in the learning community's work. Gradually, over the course of development of communities of practice, it became increasingly detectable that cooperation is not just something that is offered, but rather it is established gradually and is nurtured through an interactive

form of communication (Perez et al 1998). It is also worth noting that several problems in the operation of the communities of practice were associated with lack of time, as it was not easy to find the appropriate time for meetings of all members. Especially in the case of the primary school, the available school time was limited and several practical difficulties arose in the differentiation of the school's timetable.

Nevertheless, the detected obstacles and difficulties were largely associated with the lack of participants' familiarization with participative and self-critical processes and with their difficulty to show trust in this different quality of communication offered by the community of practice (Gough 2005 , 2004).

As it is also confirmed theoretically, teachers are more familiar with activities that are being assigned to them based on explicit and concrete directions and are less used to acting autonomously and depending on their own strengths (Gough 2005). In general, the interaction between the community members has clearly a dynamic character, is determined by many factors and is expressed in relations that are occasionally competitive and conflicting. The will or the intention of the community members for social participation is certainly not self-evident nor given and is one of the factors that influence the formation of communities of practice (Wenger 1998, Habhab-Rave 2008).

Moreover, based on research data the educational institution's structure seemed to affect the organization and the function of communities of practice. The more hierarchically structured an institution is, the less the chances are of forming a community of practice. Since the functioning of an educational organization is based on specific and institutionally defined structures, it is extremely difficult to break free from its existing culture and to put aside or overturn well-established attitudes and habits (Hollingsworth & Sockett 1994). From several research data it is confirmed that many institutions (e.g. schools) do not have the flexible structures needed in order to support and set in place participative educational processes (Breiting 2008, Lotz - Sisitka and O'Donoghue 2008), even if they seem to wish or seek to do so. Research shows that many teachers who have attended participative seminars are having difficulties in introducing and implementing this kind of processes in their school units. Specially trained school counselors are also unable to provide sufficient assistance to school teachers, due to the wide variety of structural, institutional or other barriers that interfere and are associated with the particular circumstances of the school environment and the school's staff (Lotz - Sisitka and O'Donoghue 2008).

At the same time leadership played an important role and was responsible for the creation of supportive conditions that would encourage the function of communities of practice in the institutions, since a learning organization should have a democratic and participative administration capable of "learning" (Silins et al 2002, Snell 2001).

It is clear that changing the educational mentality and culture in an educational institution constitutes a slow, progressive and long-term process (Gough 2005, Giles and Hargreaves 2006). Since most schools are not accustomed to participative and collaborative processes, educational changes and innovations can not be achieved rapidly and at once. Adequate time and very careful preparation is required in order to build the environment that will allow teachers and students to feel comfortable with working together in their attempt to restructure the school, since changes are not

caused accidentally nor by good will, nor by the application of pre-planned projects. Redefining the roles of the parties involved in the educational process and reviewing the function and priorities of an educational institution are prospects that require constant thought and reflection by the educational community. The content and implementation rhythm of the attempted changes cannot be determined beforehand. It depends on each school separately which, after estimating the conditions, its limits and capabilities, undertakes the proper changes for its goals (Gough 2005).

The organization and creation of communities of practice in the three theses that were conducted gave us the opportunity not only to locate the difficulties that intervene and impede their function, but also to process ways in order to overcome these obstacles.

AR's methodology formed an integral part of the educational process and operated as the means that facilitated the confrontation of the obstacles that arose. It allowed equal participation of all research groups members (teachers, students, parents, researchers) and gave them the opportunity to jointly examine the actions implemented, to locate the difficulties and weaknesses, to critically consider and interpret unpleasant or negative experiences, to express alternative ways of action, to improve the weaknesses of their involvement and restructure their action (Kemmis & McTaggart 1988).

Open communication helped develop a common language between the communities' members which are associated with the educational practice, where they shared personal opinions, expectations and values. A common framework was thus formed between the participants, which was strengthened by the shared prospect and vision of sustainability and sustainable school.

Critical thinking through Action Research encouraged a process of investigation, justification and interpretation of the practice of the communities' members that were formed. Considering both the example of the *teacher-as-researcher* (Stenhouse 1975) and the *reflective practitioner* (Schön 1983), teachers attempted to approach their teaching choices from an interpretative and reflective-critical perspective. The value of critical reflection is emphasized by Bourdieu (1998), who emphasizes the need to investigate our practice by reflecting on the action, the existing cultures and ideologies and the applicable restrictions, given that such a process is the key for a participative approach that is inherent to the reality.

In conclusion, collaboration between participants also showed the way towards teamwork with a common goal and the consent, in a broader framework, of the entire school environment but also beyond that, in the scope of the local society.

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## References

- Aronowitz, S. & Giroux, H. (1993). *Education still under siege*. London: Bergin & Garvey.
- Ali Khan, S. (1996). A vision of a 21st-century community learning centre. In: J Huckle and S. Sterling (eds), *Education for Sustainability*. London: Earthscan 222-227.
- Altrichter, H., Posch, P. and Somekh, B. (2001). *Οι εκπαιδευτικοί ερευνούν το έργο τους. Μια εισαγωγή στις μεθόδους Έρευνας Δράσης [Teachers investigate their work. An introduction to the methods of action research]* (μτφρ. Μ. Δεληγιάννη) [translated in Greek by M. Deligianni]. Αθήνα: Μεταίχμιο [Athens: Metexmio Publications].
- Bezzina, C. & Testa, S. (2005). Establishing schools as professional learning communities: perspectives from Malta. *European Journal of Teacher Education*. 28(2), 141-150.
- Bourdieu, P. (1998). *Practical Reason*. Cambridge: Polity Press.
- Breiting, S (2008). Mental Ownership and Participation for Innovation in Environmental Education and Education for Sustainable Development. In A. Reid, B.B. Jensen, J. Nickel and V. Simovska (eds) *Participation and Learning. Perspectives on Education and the Environment, Health and Sustainability*. New York: Springer. 32-60.
- Brito, J., & Waller, H. (1994). Partnership at a price? In: R. Merttens, D. Mayers, A. Brown & J.Vass (Eds), *Ruling the Margins: Problematizing Parental Involvement*. London: Institute of Education, University of London. 157-166.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research Perspectives. *Developmental Psychology*. 22, 723-742.

- Brown, J. S. & Duguid, P. (2000). *The social life of information*. Boston, Massachusetts: Harvard Business School Press.
- Carr, W. and Kemmis, St. (1997). Για μια κριτική εκπαιδευτική θεωρία. Εκπαίδευση, γνώση και Έρευνα Δράσης [Becoming Critical. Education, Knowledge and Action Research] (μτφρ. Αλ. Λαμπράκη-Παγανού, Ε. Μηλίγκου, Κ. Ροδιάδου-Αλμπάνη) [translated in Greek by Al. Lambraki-Paganou, E. Miligkou, K. Rodiadou-Almbani]. Αθήνα: Κώδικας [Athens: Kodikas Publications].
- Coppieters, P. (2005). Turning schools into learning organizations. *European Journal of Teacher Education*. 28(2), 129-139.
- Dalin, P., Hopkins, D. and Reynolds, D. (1993). *Changing the School Culture*. London: Cassell Publications.
- Dufour R., & Berkley T. (1995). The principal as staff developer. *Journal of Staff Development*. 16(4). Available: <http://www.nsd.org/library/publications/jsd/dufour164.cfm>
- Dufour, R.P. (1997). The school as Learning Organization: Recommendations for school improvement. *NASSP Bulletin*. 81, 81-87.
- Dufour, R.P. (2004). What is a 'professional learning community'? *Educational Leadership*. 61(8), 6-11.
- Eaker, R., Dufour, R. and Dufour, R. (2002). *Getting Started. Restructuring Schools to become Professional Learning Communities*. Bloomington Indiana: Solution Tree.
- Elliott, J. (1991). *Action Research for Educational Change*. Milton Keynes-Philadelphia: Open University Press.
- Elmore, R. F. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, 66 (1), 1-26.
- Epstein J.L, Sanders, M.G., Sheldon, S.B., Simon, B.S., Salinas, K.C., Jansorn, N.R., Voorhis, F.L.V., Martin, C.S., Thomas, B.G., Greenfeld, M.D., Hutchins, D.J. and Williams, K.J. (2009). *School, Family, and Community Partnerships: Your Handbook for Action*. California: Corwin Press.
- Fullan M. G. (1991). *The new meaning of educational change*. New York: Teachers College Press.
- Fullan, M. (1993). Why Teachers Must Become Change Agents. *Educational Leadership*. 50 (6), 12-17.
- Giles, C. and Hargreaves, A. (2006). The sustainability of Innovative Schools as Learning Organizations and Professional Learning Communities during standardized reform. *Educational Administration Quarterly*. 42(1), 124-156.

- Gough, A. (2005). Sustainable Schools: Renovating Educational Processes. *Applied Environmental Education and Communication*. 4, 339-351.
- Gough, A., (2004). *Evaluation of the Sustainable Schools Stormwater Action Project 2003/2004 for the Gould League*. Final Report. Victoria: Deakin University. Faculty of Education. Consultancy and Development Unit.
- Habhab-Rave, S. (2008). Workplace Learning in a Community of Practice: How do Schoolteachers Learn? In: Kimble, C., Hildreth, P. and Bourdon, I., *Communities of Practice. Creating Learning Environments for Educators*, vol.1, 213-231.
- Hollingsworth, S. & Sockett, H. (1994). Positioning Teacher Research in Educational Reform: An Introduction. In S. Hollingsworth and H. Sockett (eds) *Teacher Research and Educational Reform. Ninety-third Yearbook of the National Society for the Study of Education*. Chicago: NSSE & University of Chicago Press, 5-9.
- Hopkins D. (1985). *A Teacher's Guide to Classroom Research*. Milton Keynes - Philadelphia: Open University Press.
- Jensen, B.B. (2005). *Education for Sustainable Development - Building Capacity and Empowerment..* Conference report on Education for Sustainable Development Denmark: Esbjerg.
- Johnson, J.R. (1998). Embracing change: A leadership model for the learning organization. *International Journal of Training and Development*. 2 (2), 141-150.
- Kemmis, St. (1980). *Action Research in Retrospect and Prospect*. Paper presented at the Annual Meeting of the Australian Association for Research in Education. Sydney, 6-9 November 1980.
- Kemmis, St. and McTaggart, R. (eds) (1988). *The Action Research Planner*. Victoria: Deakin University Press.
- Klette, K. (1997). Teacher individuality, teacher collaboration and repertoire-building: some principal dilemmas. *Teachers and Teaching*. 3(2), 243-245.
- Kougioumtzis, K. & Patriksson, G. (2009). School-based teacher collaboration in Sweden and Greece: formal cooperation, deprivatized practices and personalized interaction in primary and lower secondary schools. *Teachers and teaching*. 15(1), 131-154.
- Lave, J. and Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.
- Lea, M. & Blake N., (2002). *Block 2 exploring theoretical perspectives in distributed learning*. Milton Keynes- Philadelphia: Open University Press.

- Leithwood, K., Doris, J. and Steinbach, R. (1998). Leadership and other conditions which foster organisational learning in schools. In K. Leithwood and K.S. Louis (eds) *Organisational Learning in Schools*. Lisse, Netherlands: Swets Zeitlinger.
- Leithwood, K., & Louis, K. S. (1998). *Organization Learning in schools*. The Netherlands: Swets & Zeitlinger
- Lotz-Sisitka, H. and O'Donoghue, R. (2008). Participation, Situated Culture and Practical Reason. In A. Reid, B.B. Jensen, J. Nickel and V. Simovska (eds) *Participation and Learning. Perspectives on Education and the Environment, Health and Sustainability*. New York: Springer, 111-127.
- Lomax, P. (ed) (1996). *Quality Management in Education: Sustaining the vision through action research*. London & New York: The Falmer Press.
- Mitchell, C., & Sackney, L. (2000). *Profound improvement: Building capacity for a learning community*. Lisse, Netherlands: Swets & Zeitlinger.
- Morrish, I. (1976). *Aspects of Educational Change*. New York: Halsted Press.
- Orr, D. (1992). *Ecological Literacy: Education and the transition to a postmodern world*. Albany: SUNY Press.
- Ovens, P. (1991). Getting started on Action Research. In E. Gwyn and P. Rideout (eds) *Extending the Horizons of Action Research*. Norwich: Carn Publications, 29-33.
- Pedler, M., Burgoyne, J. and Boydell, T. (1991). *The Learning Company: a strategy for sustainable development*. London: McGraw Hill.
- Pelling, M., High, C., Dearing, J. and Smith, D. (2008). *Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations*" *Environment and Planning A* **40**(4) 867 – 884
- Perez, A.I., Blanco, N., Ogalla, M. and Rossi, F. (1998). The Flexible Role of the Researcher within the Changing Context of Practice: forms of collaboration. *Educational Action Research*. 6 (2), 249-252.
- Posch, P. (1998). *The ecologisation of schools in Austria*. PEB Exchange, Programme on Educational Building, 1998/5, OECD Publishing.
- Posch, P. (2003). Action Research in Austria: a review. *Educational Action Research*. 11 (2), 233-246.
- Preece, J. (2000), *Online communities: Designing usability, supporting sociability*, New York: J. Wiley & Sons

- Pugh, G. (1985). *Parents and Professional in Partnership: Issues and Implications*. Papers from a National Children's Bureau study day held in London on October. 3-9.
- Rovai, A.P. (2002). Building a sense of community at a distance. *International Review of Research in Open and Distance Learning*, 3 (1). Available on <http://www.irrodl.org/content/v3.1/rovai.html>, Retrieved January 05, 2005
- Rudduck, J. and Hopkins, D. (1985). *Research as a basis for Teaching*. London: Heinemann Educational Books.
- Rudduck, J. (1991). *Innovation and Change*. Milton Keynes- Philadelphia: The Open University Press.
- Schön, D. (1983), *The Reflective Practitioner*. London: Temple Smith.
- Scribner, J.P., Cockrell, K.S., Cockrell, D.H and Valentine, J. (1999). Creating professional communities in schools through Organisational Learning: An evaluation of a School Improvement Process. *Educational Administration Quarterly*. 35, 130-160.
- Senge, P. M. (1990). *The fifth discipline: the art and practice of the Learning Organization*. New York: Doubleday.
- Shallcross, T., Robinson, J., Pace, P. and Wals, A. (2006). *Creating Sustainable Developments in our schools*. Trentham Books.
- Silins, H.C., Mulford, W.R. & Zarins, S. (2002). Organizational Learning and School Change. *Educational Administration Quarterly*. 38 (5), 613-642.
- Smylie, M., Lazarus, V. & Brownlee-Conyers, J. (1996). Instructional outcomes of school-based participative decision making. *Educational Evaluation and Policy Analysis*. 18(3), 181-198
- Snell, R.S. (2001). Moral foundations of the learning organization. *Human Relations*, 54 (3), 319–342.
- Snyder, W. M., Wenger, E. C., & de Souza Briggs, X. (2004). Communities of practice in government: Leveraging knowledge for performance. *Public Manager*. 32 (4), 17–21.
- Stenhouse, L. (1975). *An Introduction to Curriculum Research and Development*. Oxford: Heinemann.
- Sterling, S. (1996). Education in Change. In J. Huckle and S. Sterling (eds) *Education for Sustainability*. London: Earthscan, 18-39.
- Sterling, S. (2002). *Sustainable Education*. Schumacher Briefings No 6. Bristol: Green Books.



- Thornton, H. (2006). Teachers talking: the role of collaboration in secondary schools in Bangladesh. *Compare*. 36(2), 181-196.
- Tomlinson, S. (1995). *Parental Involvement: Developing networks between home, school and Community*. London: Cassell.
- Uzzell, D. (1999). Education for Environmental Action in the Community: new roles and relationships. *Cambridge Journal of Education*. 29(3), 397-413.
- Wang, J. (2008). *Organisational learning capacity in crisis management*. *Advances in Developing Human Resources*. 10: 310-330
- Wenger, E., (1998). *Communities of Practice. Learning, Meaning and Identity*. Cambridge: Cambridge University Press.
- Γεωργίου, Σ. [S. Georgiou] (2000). *Σχέση σχολείου - οικογένειας και ανάπτυξη του παιδιού*. [School-family relation and children development] Αθήνα: Ελληνικά Γράμματα. [Athens: Ellinika Grammata Publications].
- Κατσαρού, Ε. & Τσάφος, Β. [E. Katsarou & V. Tsafos], (2003). *Από την Έρευνα στη Διδασκαλία. Η εκπαιδευτική Έρευνα Δράσης* [From Research To Teaching. The Educational Action Research.]. Αθήνα: Σαββάλας [Athens: Savalas Publishers].
- Λιαράκου, Γ., Φλογαίτη, Ε. [G. Liarakou, E. Flogaiti], (2007). *Από την Περιβαλλοντική Εκπαίδευση στην Εκπαίδευση για την Αειφόρο Ανάπτυξη* [From the Environmental Education to the Education for the sustainability] Αθήνα: νήσος [Athens: nisos Publications].
- Μυλωνάκου-Κεκέ, Η. [I. Milonakou-Keke ], (2009). *Συνεργασία σχολείου, οικογένειας και κοινότητας* [School, family and community collaboration ]. Αθήνα: Παπαζήση [Athens: Papazisi Publications ].
- Φλογαίτη, Ε. και Δασκολιά, Μ. [E. Flogaiti & M. Daskolia], (2004). *Περιβαλλοντική Εκπαίδευση: Σχεδιάζοντας ένα «αειφόρο» μέλλον* [Environmental Education: Planning for a “sustainable” future.]. Στο Π. Α. Αγγελίδης και Γ. Γ. Μαυροειδής (επιμ.) [In P.A. Aggelidis & G.G. Mavroeidis (ed.)] *Εκπαιδευτικές καινοτομίες για το σχολείο του Μέλλοντος* [Educational Innovations for the School of the Future], Τόμος Β΄ [Vol.B]. Αθήνα: Τυπωθήτω-ΓΙΩΡΓΟΣ ΔΑΡΔΑΝΟΣ [Athens: Typothito – GIORGOS DARDANOS Publications], 281-302.
- Φλογαίτη, Ε. [E. Flogaiti] (2006). *Εκπαίδευση για το περιβάλλον και την αειφορία*. [Education for the environment and sustainability] Αθήνα: Ελληνικά Γράμματα [Athens: Ellinika Grammata Publications].