

# RESPONSIBILITY, CHALLENGE AND SUPPORT IN TEACHERS' LIFE-LONG PROFESSIONAL DEVELOPMENT

ATEE 2010 ANNUAL CONFERENCE  
PROCEEDINGS



Editors:  
György Mészáros,  
Iván Falus

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# Learning While Teaching: Embracing a Collaborative Action Research Project

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## **Abstract**

*In a context of swift and continuous scientific, technological, socio-economical and environmental change, teachers must become more and more aware of the complexity of the educational process and continually analyze their actions, responsibilities and roles.*

*Commonly, teachers regret the scarcity and inadequacy of lifelong training programs, the time they involve and the gap between theory and practice. They must understand they can better meet the educational challenges they face if they engage in collaborative research projects.*

*One of the greatest challenges teachers face daily has to do with students' lack of interest in learning what society thinks they should learn. In this paper, we present some data from a research project (Research for a Relevant Curriculum) that illustrates how collaborative action research can help teachers think their practices and improve their teaching skills aiming for their students' motivation and success (Sousa and Valadão, 2008).*

*RRC is a collaborative action research project developed in the Azores (Portugal). It involves twelve teachers of basic education from two islands of the Archipelago (São Miguel and Terceira) and four researchers from the University of Azores. In 2009, RRC established an international partnership with teachers and researchers from Bucharest, Romania (ENCUR), and, in July, 2010, organized the first Portuguese-Romanian Colloquium on Curriculum Issues, which took place in Terceira, Azores. The second edition is already being prepared and will take place in 2011, in Bucharest.*

**Keywords:** *Action research; professional development; curriculum.*

## Action research and professional development

Roldão (1999) defines teachers as those who «generate and manage ways of making others learn (...) something» (115). This bears all the complexity of education as it assigns teachers a tremendous responsibility.

Teachers do not only play a very important role in education, but a complex one also. They must be able to articulate scientific and pedagogical knowledge in a way that it is relevant and adequate to each particular context. Shulman (1987) names this a «pedagogical content knowledge». Sá-Chaves and Alarcão (1998) describe it as a

*(...) reflective competence that articulates science and pedagogy, allowing teachers to make scientific content understandable to students, either through its (de)construction or through the knowledge and control of all the other teaching and learning dimensions. (n/p)*

This knowledge includes both knowing which teaching approaches fit the content and how elements of the content can be arranged for better learning. Sá-Chaves and Alarcão (1998) say this competence is what distinguishes teachers from other professionals. Mastering it is no easy task, that's why teaching training programs, whether initial or continuous, must promote it and teachers, themselves, must take charge of their own training processes and become responsible for their own professional development (Day 2001).

Teachers must no longer be technicians who carry on the strategies and routines they learned during their initial training. Socioeconomic, cultural, scientific and technological developments demand that teachers continuously adjust to new roles and tasks and develop new skills. Following authors such as Schön (1983) and Zeichner (1993), we believe that can be better achieved if teachers think their practices in a critical manner, be open to change those and become active in seeking out answers to the problems they face in their classrooms, whether individually or in group.

As García (2009) states, when teachers question their practice, they unveil their ideas, beliefs, images and values, and engage in a professional and personal developmental process that both empowers them and helps schools develop and improve educational quality.. A reflective practice pushes teachers to be open, thorough and social conscious. It helps them deal with uncertainty in a positive manner and work on their daily problems, opening up to new working hypotheses, discovering new ways and building up new solutions. Furthermore, it enhances their ability to analyze and address the conflicts they face, defend their own values and commit to change (Zeichner and Liston, 1996).

Stenhouse (1984) points out that a reflective practice should be helped by research. Research promotes teachers' systematic analysis on their practices and problems and helps them improve their pedagogical intervention. Teachers must, then, become researchers in the natural environment where their practice takes place: their school and their classrooms in particular (Gómez 1997).

Action research seems to suit that purpose well. Sáez and Elliott (1989) argue action research helps teachers transform the learning set (the curriculum, teaching methods and school climate) in order to enable students to discover and develop themselves, their power and capabilities. As it provides teachers with knowledge about the contexts they work on, action research puts educational communities' ways of thinking and acting into question and helps them reconstruct their ways. It requires that teachers take responsibility for deciding what changes are needed and use their critical analysis as a basis for monitoring, evaluating and deciding on the research steps that follow (Ainscow, 2000). Furthermore, it broadens teachers' perspectives on teaching and learning and on society at large.

Therefore, action research, developed either individually or in group (collaborative action research), is already an internationally widespread teacher education and training strategy, whether in pre-service or in-service programs, in a lifelong learning perspective.

Great many studies give evidence of collaborative action research's success in promoting teachers' professional knowledge (Chou, 2010; Castro, 2005; Gonçalves and Araújo e Sá, 2005; Alonso, Magalhães, Portela and Lourenço, 2002; Leal and Martins, 2002; Oliveira, 1997) and reflection in action (Moran, 2007; Del Carlo, Hinkhouse and Isbell, 2009; Moreira and Alarcão, 1997). Moreover, they show it increases teachers' awareness of classroom problems and provides them with deeper knowledge about their students' interests, needs and ways of thinking, as it builds up teachers' confidence in their own abilities, renewing their commitment to their job (Megowan-Romanowics, 2010; Leal, Dinis, Massa and Rebelo, 2010; Chin et al, 2006). As it links theory and practice, it also upholds changes in teachers' beliefs, attitudes and teaching practices (Cain and Milovic, 2010; Leal, Machado, Monteiro and Rebelo, 2010; Leal and Araújo e Sá, 2005; Haggarty and Postlethwaite, 2003; Leal and Martins, 2002; Leal, 2000).

### **Action research in the classroom: Speaking of project RRC**

Research for a Relevant Curriculum (RRC) is a collaborative action research project ongoing in the Archipelago of the Azores (Portugal), since 2007. It started in Terceira (one of the nine Azorean islands). It first integrated two school teachers and a professor from the University of the Azores. Since then, the team has been growing. In 2009, it welcomed a new team

located in S. Miguel (another island from the Azorean archipelago). It now brings together four professors from the University of the Azores and twelve school teachers (seven in Terceira and five in S. Miguel). In 2009 project RRC also established an international partnership with teachers and researchers from Bucharest, Romania (ENCUR)<sup>34</sup>.

Facing teachers as active agents and acknowledging their crucial role in decision making, project RRC chooses collaborative action research as the main research strategy for educational intervention. Following other research projects, such as PROCUR (Alonso, Magalhães, Portela and Lourenço 2002), RRC focuses on teaching tasks and teachers' curriculum management practices. It encourages teachers' reflective attitude, as they select curricular content and teaching methods, in order to enhance students' perception of curricular relevance and promote meaningful learning.

Project RRC accepts that learning processes and results lie largely on students' perception of school relevance and need and on the way they relate to school curriculum and teaching practices. Hence, it aims to transform teachers' work with students whose interests, expectations and individual needs, school does not seem to meet.

Teachers are expected to anticipate the problematic situations that may occur in their class and guide and regulate their didactical action in a way that it does not marginalize students who face more difficulties in the learning process. That does not mean, however, teachers should simplify content or avoid complex content, but that they be aware of their own students' particularities, and become more and more capable of presenting content in ways that better suit their students' knowledge and capabilities, in order to improve the way these face school tasks and contents and promote significant learning processes.

Project RRC integrates a broader research project, named *Contexts and practices of collaborative research in basic education curriculum*, ongoing in Child Study Center from Minho University, which «investigates the nature of teachers' professional knowledge, as teachers themselves perceive it, and its relation to educational practice, in order to produce knowledge that can be invested in improving the quality of teachers' performance» (Sousa and Valadão 2008. Our translation).

Following a collaborative action research methodology, project RRC reinforces both teachers' individual autonomy and professional development and teams' collective responsibility. Its main goals are:

- to understand students' lack of interest for curriculum in general or for some curricular dimensions in particular;

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<sup>34</sup> Project ENCUR (Enhancing Curricular Relevance) is based on a *Comenius Regio* partnership between the Regional Secretariat of Education (Azores, Portugal), the City Hall of District 6 (Bucharest, Romania), the University of the Azores, the University of Bucharest and some schools from both regions.

- to understand students' perception of curricular relevance;
- to relate students' perception of curricular relevance to teaching strategies;
- to promote teachers' reflective practice as they select content and teaching strategies;
- to encourage teaching practices that lead to meaningful learning.

Project RRC is structured in research cycles. Each cycle lasts one school year. The process starts with the identification and characterization of students from six to sixteen, who seem to lack interest and motivation for learning, who do not like school or take little or no satisfaction at all in learning processes or contents. It goes on with individual interviews to those students, aiming to understand their representations about school, school subjects, contents and teaching practices, as well as to identify their interests and expectations concerning future life. The following steps require that the research team analyzes the data and selects new teaching and learning strategies, evaluates its impact on students' motivation and performance throughout the school year. Adjustments may be done when needed and new strategies selected. By the end of the school year, each research team analyses the need to start up a new research cycle involving the same students or others that fit the research aims (see Fig. 1).

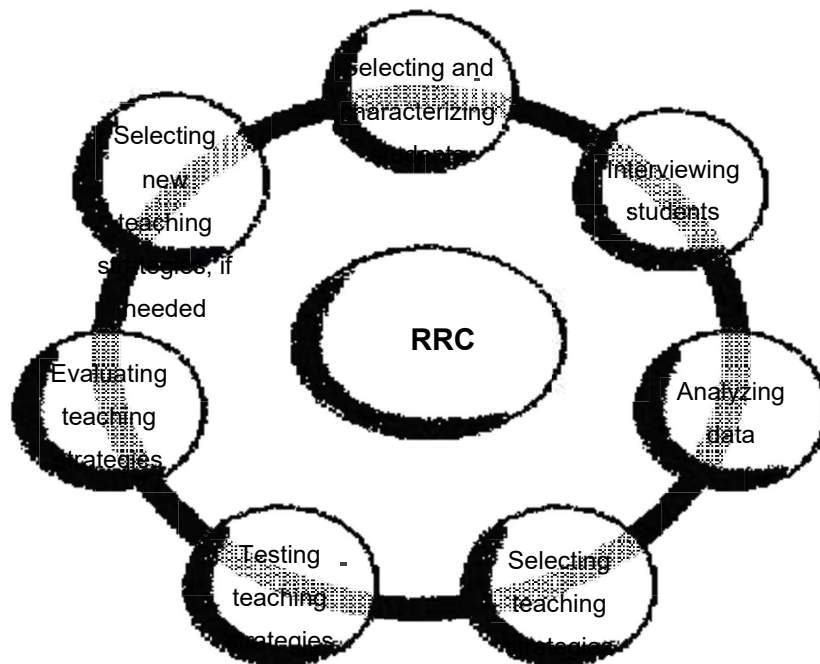


Fig. 1 – Project RRC's action research cycles (Leal, Sousa and Dinis, 2009).

## **RRC's impact on teachers' professional development**

Some studies have pinpointed that teachers tend to face pressures to change their ways and practices depending on their evaluation of the adequacy and relevance of such changes to the problems and needs they face (Day 2001; Doyle and Ponder 1977-78), its complexity and durability (Duffy and Roehler 1986), its practicality (Ducros and Finkelstein 1990) and their perception of the intellectual or emotional costs and risks of such changes (Haggarty and Postlethwaite 2003; Doyle and Ponder 1977-78).

Developing action research projects demands, therefore, that we understand, for example: What leads teachers to join a specific research project? What encourages them to proceed or give up? How they evaluate its relevance and impact on their performance and professional development? In search for answers to these questions, we analyzed individual records of two school teachers involved in project RRC (T1 and T2), from the team located in S. Miguel.

In T2's written records we found the expression of many doubts about the actual value of joining an action research project. She wrote: «Is it worth it? Or is it just more theory, without any practical value?» We know these reservations are shared by many teachers who admit finding little or no use in research work. Research is often faced as something external to schools and teachers. Teachers often argue it does not answer their daily problems; it is mostly developed by specialists, who seem to worry more about building up theories than solving real problems.

When teachers are asked to participate, they sometimes excuse themselves with too much work already in school (that was sometimes the case when project RRC's researchers approached and invited some school teachers to integrate the project). Teachers often face research as an activity that adds more work to an already filled up agenda and consumes precious time. T2s' words express just that:

*Will I have time to all that is asked (contacts with parents, interviews, transcriptions, analysis, and search for strategies that meet the students expectations...)? (T2)*

Bearing that in mind, what then lead T2 to join project RRC? In her case, two factors seem to have dictated her decision to join the project. On the one hand, a previous action research experience, during her training year, which she found «very positive, despite the tremendous amount of work it implied, since all the theory [she] researched worked when put into practice!!!» (this fact points out the importance of introducing trainee teachers to research).

On the other hand, the «frustration» T2 experienced with students who did not respond positively to her teaching strategies and did not achieve success in school. As she states:

*More than once I found myself thinking about my students' lack of interest, their poor enthusiasm and lack of motivation, questioning myself about what I was doing wrong. Through the years, I have rehearsed several strategies hoping to change this set, motivate my students and show them how important and beautiful knowledge is. I felt, inevitably, some frustration towards unsuccessful cases, but I managed to look for inspiration in successful cases. So, during the summer break, when I heard of RRC, I was compelled to embrace the project. (T2)*

Identical motivations seem to have led T1 to join project RRC:

*By involving myself in this project, I expect to learn more about my students and understand the reasons for their lack of interest in school, learning how to put an end to this lack of interest. (T1)*

These teachers' words highlight the fact that action research projects must be meaningful to the teachers involved and must offer them opportunities to think their problems and search for answers to them in group, especially when their own strategies proved to be unsuccessful.

No matter how hopeful and enthusiastic teachers may be, we must recognize action research projects do demand extra work and real commitment:

*I regret at this point [beginning of the second term], the lack of time I had to participate in the team meetings and carry on the investigation procedures... I felt overwhelmed with work at school and for school... (T2)*

Teachers who join such projects must know that for a fact. They must be helped on the way, so that they won't give up easily. In respect to project RRC, what can we say about Teacher 1 and Teacher 2's motivations to proceed? T2 highlights team's support and understanding as an important factor to help face the difficulties teachers experiment over time and carry on with the project:

*I felt a bit tired and with little motivation to do all the work that had to be done in school plus all the RRC chores. But the fact is that the team understood very well school demands and did not impose deadlines or increased pressure. (T2)*

Although research teams' understanding and support seem to play an important role in keeping teachers faithful to project RRC's aims and procedures, it would probably not be enough if there weren't any positive results in their students' attitudes toward school and learning outcomes. Teachers expect and demand results when they engage in research projects, so that they feel their time and energy is well spent. Positive results are what they seem to find in project RRC. They say selected students feel teachers care and change their attitudes towards school tasks and contents:

*In what concerns students directly involved in RRC, we must recognize their "pride" for being part of this project and their effort to live up to this responsibility. (T2)*

*The first stage (student's interviews) [...] had immediate impact on students' attitudes [...]. One of the selected students stood up and asked to sit away from her classmates. When I questioned her about it, she said "Here I know I can be more focused in the classroom and therefore earn the attention you are paying me." Even students with good school results, who used to show disrespect to their classmates with low academic performances, spontaneously offered to help them succeed and have been doing so since. (T1)*

Although they perceive project RRC's impact on students' self-esteem and enthusiasm as a very important and immediate positive result from the project's procedures, they say its impact goes beyond that. It extends to classmates, who change their attitude towards the students directly involved in the project, former ignored or mistreated (classmates offer to help them with school tasks; some even ask to be part of the project), as well as these students' families, who, somehow, change their attitude towards school (parents thank teacher researchers for caring for their children and show increasing interest in their children's school progress).

One of project RRC's main aims is to help teachers get to know their students better so that they can find the teaching strategies that best suit those and help them understand school's relevance and improve academic performance. The interviews project RRC requires seem to suit that purpose well. Teachers testify to its importance in getting to know their students better (their interests, expectations, needs and social-economic background):

*[...] this project [...] allowed me to know better some of my students, due to the interviews and the contacts with their families [...]. [The fact is that] the knowledge that you obtain from your students is much deeper and broader, what makes us (teachers)*

*much more effective in managing situations of indiscipline or lack of attention... We know what they like and do not like, we know what distracts them more. (T2)*

Teachers often find out they knew little about their students. Students' reactions and performances often surprise them and go against their own ideas and beliefs:

*I have also done some dictations, because they repeatedly said that they enjoyed doing it. I made sure that they knew that one of the main reasons why I was doing dictations was that students A, B and C considered it an important activity. A, B and C were all proud and for my particular delight the entire class was thrilled to do a simple dictation. (T1)*

*What shocked me the most in this all process was that some of these students really managed to surprise me (in a positive way). I thought they were incapable of performing better in class, but they proved me wrong by showing an enthusiasm and commitment that truly compensated all my hard work and dedication. (T2)*

The fact does allow us to think that teachers act more according to their own representations about what they should teach and how, than in respect to what they know about their pedagogical contexts. We may then say project RRC can be of great help to teachers, as it provides them with deeper knowledge about their students. Teachers say this knowledge is a significant asset in what concerns their ability to manage the teaching and learning processes and introduce some changes in their pedagogical practices:

*After analyzing the interviews, I checked these students' interests and conducted my classes based upon what they revealed. The strategies used were i) activities that allowed students to discover experimentally mathematical properties; ii) pair and group work; iii) usage of the computer (webquests); iv) and consolidation games. (T1)*

*[...] I have done an effort to integrate new technologies in the classroom, using a large diversity of materials that, fortunately, my school has to offer. My students answered multiple quizzes, using electronic devices, like videogames joysticks. The fact that they feel like TV stars, helps them to become top class stars. The students involved in the RRC project presented good results in these quizzes. (T2)*

Even though project RRC focuses in some students in particular, aiming for teachers to select activities, contents, themes and materials, that better suit those students, it does not intend to exclude or pay less attention to the other students from the classes. As teachers learn more about the students they selected, they often realize those students share many needs, interests and expectations with their classmates , and that their new pedagogical options must be managed in such a way that all students should benefit from them. And so do teachers say:

*[...] it is curious how the things that I learn with RRC's students allow me to create a better environment inside my classroom. [...] Because I am more aware of the importance of knowing kids better, I have created room for them to share their expectations and I value their experiences. I try to show them why school matters and why is it important to learn Portuguese for their daily lives. (T2)*

According to these teachers, project RRC seems to have had a positive impact not only in students' attitudes, but in their academic performance as well. They say most students performed better. The new strategies implemented in class motivated them and helped them acquire knowledge and develop new skills (to learn more about these strategies one can read Leal, Machado, Monteiro and Rebelo 2010). Furthermore, students' improving results strengthened their own confidence in their capabilities and encouraged them to commit to learning.

We believe the results reported on a learning level could only be reached because project RRC's research methodology raises teacher-researchers' awareness of their teaching practices and promotes a more analytical and reflexive attitude. As we formerly stated, it is essential that teachers sustain a reflective posture in order to help improve the quality of educational processes. Project RRC seems to favor such an attitude:

*In practical terms, this project [...] allowed me to be much more aware and conscious of my daily practices, identifying and enhancing moments in class that were involuntarily wasted before [...]. I notice that I have become more self-critical. For instance, in class, I often find myself identifying something I did wrong [...], looking for a solution and, amazingly, being able to find one. (T2)*

*Carrying out the investigation procedures in class presents us a good opportunity to think about it [...] because it is not a common thing and it involves complex processes, which can present dilemmas and conduct us to think on our own practice and clarify it. (T1)*

Both T1 and T2 consider that one of project RRC's greatest benefits is its collaborative nature, either in presence, between S. Miguel's team members, or at a distance, with Terceira's team members, using Moodle as a tool to promote interaction and share data as well as pedagogical materials and strategies:

*Reflection by itself is not enough, it has to have the strength in it to cause action, i.e., make the teacher an active agent in this process, lead him/her to rethink his/her practices and change them when needed [...]. This process can be enhanced if there is a propitious environment to collaborative work. It will certainly help its members to be more autonomous. (T1)*

### **Final considerations**

Project RRC believes teachers can play a major role in promoting the quality of educational processes and results. It then focuses on helping them learn more about their students, understand better what goes on in their classrooms, think on their practices in a critical manner and change them, in a process that is both progressive and collaborative.

Project RRC's main attention goes to those students who do not seem to find a special meaning or relevance in school, for it believes that is in part why they resist school and school tasks, often show a troublesome behavior and have poor academic results.

Teacher-researchers' testimonies we present in this paper tell of project RRC's impact both on those students' attitudes and results as on their classmates' attitudes and results and on teachers' practices and professional development. Their words illustrate project RRC helps teachers learn while teaching, as they get to know their students better, think their teaching practices and try to change them in order to better meet their students' interests and needs. These results prove to be both rewarding and encouraging to project RRC's team members. We find teacher-researchers involved in project RRC goes on because, so far, the project has been able to meet their expectations and help them find solutions for some of the problems they face in their classes. Also, team's support and good working climate seems to play an important role in the process.

We find, however, it has not been an easy job, whether for each teacher-researcher in particular or for the research team as a whole. It is very difficult for team members to find time to meet and discuss; some tasks are not fulfilled in due time; some team members do not handle Moodle easily and their lack of time often keeps them away from online discussions or material sharing. Teachers' increasing working hours and their involvement in

a growing number of school tasks, usually of a bureaucratic nature, seems to take most of their time and energy. They find it hard to conciliate the research tasks with other professional tasks and responsibilities and their family life.

## References

- Ainscow, M. 2000. The next step for special education: supporting the development of inclusive practices. *British Journal of Special Education* 27, 2: 76-80.
- Alarcão, I. 1996. Reflexão crítica sobre o pensamento de D. Schön e os programas de formação de professores. In *Formação reflexiva de professores: Estratégias de supervisão*, org. I. Alarcão. 9-39. Porto: Porto Editora.
- Alonso, L., Magalhães, M. J., Portela, I., and Lourenço, G 2002. *Projecto PROCUR. Contributo para a mudança nas escolas*. Braga: Centro de Estudos da Criança, Universidade do Minho.
- Cain, T., and Milovic, S. 2010. Action research as a tool of professional development of advisors and teachers in Croatia. *European Journal of Teacher Education* 33, 1: 19-30.
- Castro, M. 2005. Investigação e reflexão colaborativas e desenvolvimento profissional – a didáctica da escrita na aula de Inglês. In *Supervisão: Investigações em contexto educativo*, org. I. Alarcão et al. 185-216. Aveiro: Universidade de Aveiro/ Governo Regional dos Açores – Direcção Regional da Educação/ Universidade dos Açores.
- Chin, E-T. et al. 2006. Collaborative action research on implementing inquiry-based instruction in an eighth grade mathematics class: an alternative mode for mathematics teacher professional development. In *PME 30: Proceedings of the 30th conference of the International Group for the Psychology of Mathematics Education, 2*, ed. J. Novotna; H. Moraova,; M. Kratk and N. Stehlikova. 305-312. Praga: Charles University.
- Chou, C-H. 2010. Investigating the effects of incorporating collaborative action research into an in-service teacher training program. In *Innovation and creativity in education*, ed. H. Uzunboylu 2728-2734. Amsterdam: Elsevier Science BV.
- Day, C. 2001. *Desenvolvimento profissional de professores. Os desafios da aprendizagem permanente*. Porto: Porto Editora.
- Del Carlo, D., Hinkhouse, H., and Isbell, L. (2009). Developing a reflexive practitioner through the connection between educational research and reflexive practices. *Journal of Science Educational Technology*, 19, 58-68.
- Doyle, W. and Ponder, G. A. 1977-78. The practicality ethic in teacher decision-making. *Interchange* 8, 3: 1-12.

- Ducros, P., and Finkelstein, D. 1990. Dix conditions pour faciliter les innovations. *Cahiers Pédagogiques* 286: 25-27.
- Duffy, G., and Roehler, L. 1986. Constraints on teacher change. *Journal of Teacher Education* 37, 1: 55-59.
- García, C. M. 2009. Desenvolvimento profissional docente: Passado e futuro. *Sísifo. Revista de Ciências da Educação* 8: 7-22.
- Gómez, A. P. 1997. Qualidade do ensino e desenvolvimento profissional do docente como intelectual reflexivo. *MOTRIZ* 3, 1: 29-43.
- Gonçalves, L., and Araújo e Sá, M. H. 2005. A investigação-acção como estratégia de formação colaborativa de professores: Um projecto focalizado na exploração didáctica de estratégias de aprendizagem e uso de Inglês língua estrangeira. In *Supervisão: Investigações em contexto educativo*, org. I. Alarcão et al. 109-134. Aveiro: Universidade de Aveiro/ Governo Regional dos Açores – Direcção Regional da Educação/ Universidade dos Açores.
- Haggarty L. and Postlethwaithe K. 2003. Action research: a strategy for teacher change and school development? *Oxford Review of Education* 29, 4: 423-448.
- Leal, S. M. 2000. *O exercício de poder pela linguagem em aula de língua materna. Um projecto de investigação-acção com professores-estagiários de Português.* (Unpublished Master's degree dissertation, University of Aveiro, Aveiro, Portugal).
- Leal, S. M., and Araújo e Sá, M. H. 2005. Poder e Linguagem em aula de Língua Materna. Um projecto de investigação-acção com professores-estagiários de Português. In *Supervisão: Investigações em contexto educativo*, org. I. Alarcão et al. 233-259. Aveiro: Universidade de Aveiro/ Governo Regional dos Açores – Direcção Regional da Educação/ Universidade dos Açores.
- Leal, S. M., and Martins, M. A. 2003. Desenvolvimento da competência didáctica – contributos da investigação-acção na formação inicial de professores de Português e Francês. In *Didáctica das Línguas e Literaturas em Portugal: contextos de emergência, condições de existência e modos de desenvolvimento*, org. C. Mello et al 351-358. Coimbra: SPDLL and Pé de Página Editores.
- Leal, S. M., Machado, O., Monteiro, M., and Rebelo, F. 2010. Promover a aprendizagem, transformar o ensino: O contributo do projecto. *Investigação para um Currículo Relevante, Interações* 6, 15: 115-140. <http://www.eses.pt/interaccoes>.
- Leal, S. M., Sousa, F., and Dinis, R. 2009. *Escutando vozes de crianças que falam da escola: o contributo do projecto ICR.* Paper presented at the III Conference on Childhood. Ribeira Grande, Azores.
- Megowan-Romanowics, C. 2010. Inside out: Action research from the teacher-researcher perspective. *Journal of Science Educational Technology* 21: 993-1011.

- Moran, M. J. 2007. Collaborative action research and Project work: promising practices for developing collaborative inquiry among early childhood preservice teachers. *Teaching and Teacher Education* 26, 2: 344-349.
- Moreira, M. A., and Alarcão, I. 1997. A investigação-acção como estratégia de formação inicial de professores reflexivos. In *Percursos de formação e desenvolvimento profissional*, org. I. Sá-Chaves. 119-138. Porto: Porto Editora.
- Oliveira, L. 1997. A acção-investigação e o desenvolvimento profissional dos professores. Um estudo no âmbito da formação contínua. In *Percursos de formação e desenvolvimento profissional*, org. I. Sá-Chaves. 91-106. Porto: Porto Editora.
- Perrenoud, P. 2000. *10 Novas Competências para Ensinar*. Porto Alegre: Artmed Editora.
- Roldão, M. C. 1999. *Os Professores e a Gestão do Currículo*. Aveiro: Edições CIDInE.
- Sá-Chaves, I., and Alarcão, I. 1998. O Conhecimento profissional dos professores: Análise multidimensional usando representação fotográfica. *European Conference of Educational Research (ECER)*. Eslovénia (policopiado), n/p.
- Sáez, M. J., and Elliott, J. 1989. La investigación en acción en España: un proceso que empieza. *Revista de Educación* 287: 255-266.
- Schön, D. 1983. *The reflective practitioner*. London: Basic Books.
- Schön, D. 1987. *Educating the reflective practitioner*. São Francisco, CA: Jossey-Bass.
- Sousa, F. R. 2006. *PROJECTO ICR (Investigação para um Currículo Relevante)*. Proposta de projecto de investigação a apresentar ao CESC – Centro de Estudos da Criança. Instituto de Estudos da Criança, Minho University, Braga, Portugal.
- Sousa, F., and Valadão, F. 2008. *Que relevância reconhecem as crianças no currículo? Trilhando um percurso de investigação-acção*. Paper presented at the I International Congress on Child Studies. Minho University, Braga, Portugal.
- Stenhouse, L. 1984. *Investigación y desarrollo del curriculum*. Madrid: Morata.
- Zeichner, K. 1993. *A formação reflexiva de professores: Ideias e práticas*. Lisboa: Faculdade de Psicologia e Ciências da Educação da Universidade de Lisboa.
- Zeichner, K., and Liston, D. 1996. *Reflective teaching: An introduction*. Hillsdale, NJ: Lawrence Erlbaum.