

ACTION RESEARCH AS A DRIVER OF PEDAGOGICAL INNOVATION: A COMPARATIVE STUDY OF ITALIAN AND SPANISH TEACHER EDUCATION MODELS

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Abstract

Scientific thinking skills (STS) are a foundational element in initial teacher education across disciplines, serving as essential prerequisites for creating an educational environment centered on co-generating meaningful experiential learning. These skills encompass the capacity to observe, analyse, document, evaluate and critically reflect on information. The integration of an interdisciplinary approach within the context of teacher education is identified as a pivotal element, thereby nurturing a socio-critical paradigm within the teaching-learning process. Action research is recognised as a particularly participatory and reflective methodology designed to foster positive change within specific contexts. Action research, as pioneered by Kurt Lewin in the 1940s, is a methodology that involves active participation from members of the relevant community or institution, facilitating collaboration through a cycle of planning, action, observation, and reflection. This iterative process is repeated until a practical, effective solution is reached, aiming to improve a given situation through systematically posing questions, planning, observation-based inquiry, analysis, rediscovery of prior knowledge, and the promotion of co-learning. The present study aims to compare the pathways for qualifying secondary school teachers in Italy and Spain, specifically examining whether and to what extent these programs incorporate and encourage the development of scientific thinking through the use of action research methodology. The overarching objective of this study is to enhance the teaching-learning process, thereby supporting the holistic development of individuals.*

Keywords: *Action research, pedagogical innovation, teacher training, comparative study, Italy, Spain.*

1. Introduction

The enhancement of scientific thinking is considered a pivotal objective in the context of effecting transformations in established educational practices. In this context, it is essential to adequately value action research so as to integrate it into the advancements of every scientific discipline and educational community, thereby contributing relevant knowledge to each educational pathway (Elliott, 2009).

In this contribution, we examine scientific thinking as a political, social, collective and strategic tool to safeguard the human rights of all individuals, thereby supporting the democratisation of knowledge. This perspective necessitates a critical examination of the contemporary promotion of scientific thinking in educational settings, particularly in the context of initial teacher training. The present study is anchored in the observation that recent years have been characterised by the growing influence of technology in almost every sphere of daily life.

This phenomenon underscores the importance of access to scientific and technical knowledge, which has become a crucial element and one of the primary factors in current inequalities. Scientific thinking is not confined to the academic sphere, but offers numerous advantages in daily life and in the comprehensive development of the individual. Scientific thinking has been shown to stimulate reasoning skills, promote the interconnection of simple and complex concepts, facilitate problem-solving in real-life situations, contribute to the construction of learning, enhance deductive capacities for strategy formulation, and improve perception of spaces, shapes, parts, and wholes. Consequently, scientific thinking is inextricably linked to the capacity for autonomous action and the navigation of daily challenges, thereby facilitating a more nuanced comprehension of the interrelationships among facts, concepts, causes, and effects (Ritchhart, 2015).

* This contribution is the synergetic fruit of the three authors. Specifically, Donatella Donato is the author of paragraph 1, Maria Concetta Carruba is the author of paragraph 2 and Alessandro Barca is the author of paragraph 3.

Educational communities are therefore under an obligation to play a fundamental role in promoting values such as democracy, solidarity, interdependence, responsibility, and, most importantly, critical thinking. As emphasised in numerous studies (Zulyusri et al., 2023), critical thinking not only fosters reflection but also demands social transformation within our communities. The development of academic models that effectively integrate research, teaching, and the connection between universities and society is becoming increasingly crucial. Such models must adopt a cooperative and interdisciplinary approach, facilitating the recovery of other forms of knowledge and competencies while enriching the necessary debates regarding higher education and universities. In this context, the issue of access to knowledge emerges as a pressing concern, as it is essential to protect knowledge as a public good to be equitably distributed across society in a free, collaborative, and, most importantly, non-commercial manner. This approach is identified as a pivotal factor in the effective mitigation of inequalities and poverty, while concurrently promoting and fortifying democratic participation (Salmon & Barrera, 2021). Action research is a methodological approach that combines the principles of scientific inquiry with the practical application of knowledge, thus offering a valid alternative for addressing both theoretical and practical issues. This methodology strengthens the connection between the creation and application of scientific knowledge, offering an integrated approach to social science practice. This approach examines its role in the functioning of human society and has been widely applied in various contexts, from education to community settings. Action research is regarded as an ideal form of scientific inquiry whenever there is a necessity to understand and transform a social reality. The term was first coined by Kurt Lewin in 1944 to refer to a type of research that combined the experimental approach of the social sciences with social action programs (Elliott, 1991; 2007).

This approach would achieve theoretical advancements and social change in a simultaneous manner. Lewin's model of action research is recognised as a methodological approach for the social sciences, and a wide range of approaches to its application have emerged from his concepts and applications. The foundation of Lewin's approach to action research is rooted in three fundamental elements that emerged from his oeuvre as a social researcher.

- Field theory;
- The notion that the most efficacious manner in which to study a system is to attempt to transform it;
- His interest in the application of social sciences to solving social problems.

The guiding principle for transitioning from one phase to another in the research cycle is exploration, evaluation and understanding of what emerges from action. The new cycle is defined by continuous analysis and information about the results of actions in specific contexts, thereby generating knowledge about change. The central proposition is, therefore, that of active science, integrating social action with the production of knowledge derived from such action. This approach does not seek to establish universal truths applicable to all contexts as rigid laws, but rather to investigate specific situations to generate practical and evolving knowledge.

Furthermore, interventions in the daily lives of individuals and groups are only justified when those involved wish to improve their reality. Consequently, science must open itself to the perspective of individuals, who are the true protagonists, and rely on their participation to understand reality. This requires sharing knowledge, recognizing limitations, conducting self-assessments, and relinquishing the position of power that knowledge can confer. We therefore consider action research fundamental in the context of education for multiple reasons. It enables critical reflection on teaching methodologies, fostering improvements based on concrete data. This process of self-reflection and continuous adaptation is essential for ensuring high-quality teaching standards. Additionally, through action research, teachers can identify the specific needs of their students and develop tailored teaching strategies. Such a student-centred approach fosters a more inclusive and effective learning environment. Action research has been shown to stimulate innovation, allowing classrooms to explore new teaching methods and techniques, potentially leading to significant discoveries that enrich the teaching-learning process (Efron & Ravid, 2019). It also promotes collaboration among educators, creating opportunities to share experiences and knowledge (Hine, 2013). This collaborative spirit can contribute to building a stronger and more cohesive educational community, supporting teachers' professional development by equipping them with advanced skills in research and evaluation. This enhancement of teaching practice is accompanied by the opening up of new professional perspectives. In summary, educators can utilise action research to design and evaluate targeted teaching interventions and to foster scientific thinking as the foundation of meaningful, experiential, and co-generated learning, enhancing the capacity to observe, analyse, document, evaluate, and critically reflect on information.

2. Action research in teacher qualification pathways in Italy and Spain

Action research is an increasingly valued pedagogical and formative methodology in teacher qualification pathways in both Italy and Spain. Empirical evidence has demonstrated its efficacy in promoting critical reflection and enhancing educational practices. This is achieved by directly involving teachers in research activities tied to their specific school contexts. However, the integration of action research into teacher training programmes varies between the two countries. The action-research methodology in teacher education systems in Italy and Spain is implicitly connected to educational and academic policies shaped by the context of globalisation and the Bologna Process. The Bologna Declaration of 1999 initiated a process that led to the establishment of the European Higher Education Area (EHEA), with the aim of standardising university programmes and professional qualifications across European countries. The Bologna Process has been interpreted as a form of academic "colonial planning" in Italy and Spain, a term used to describe the deliberate imposition of a particular educational model on a region or population, often with the aim of standardising educational practices and systems. The term "academic colonial plan" is intended to convey the notion that national educational systems have been adapted to meet supranational standards, which are designed to address global needs rather than local realities. This has resulted in the promotion of standardised training models that, in some cases, may dilute each country's cultural and educational specificities.

Italy: The university pathway for teacher qualification, including the master's degree, 24 CFU, and the new 60 CFU programme, aligns with European directives to standardize qualifications and professional access requirements. The CFU system follows the European Credit Transfer and Accumulation System (ECTS), ensuring international compatibility and recognition. Action research is integrated into mandatory internships and qualification pathways, influenced by Anglo-Saxon and European models that promote the teacher as a reflective practitioner, emphasizing a "technical" view of teaching.

Spain: Similarly, Spain's *Máster Universitario en Formación del Profesorado* is part of the European harmonisation framework, introduced through the Bologna Process. The MAES reflects European educational policies aimed at enhancing teacher training to improve competitiveness and education quality across the EU. It includes modules on educational research and action-research projects, aligning with European standards to produce teachers with an international profile and transferable skills within the European labor market.

2.1. Critiques of the colonial plan

- Cultural homogenization is evident in both educational systems, which have been influenced by training models and methodologies derived from diverse external sources. The adoption of training models and methodologies derived from different contexts has been observed in both educational systems, which may not always align with the cultural and social specificities of Italy and Spain.
- Regulatory dependency: National educational reforms are often shaped in response to supranational directives, leaving limited room for solutions tailored to local needs.
- Excessive standardisation: The harmonisation of university pathways and methodologies (including action research) risks reducing the diversity of educational approaches, and replacing local pedagogical traditions with standardised models imported from other contexts.

2.2. Italy

Action research has a significant presence in teacher education, especially during internships and practical experiences within qualification pathways. Primary Education Science Degree for teachers in early childhood and primary education: Action research is frequently integrated into the internship component of the Primary Education Science degree programme. Students are encouraged to design, implement, and evaluate educational interventions in partner schools, reflecting critically on their practices. This methodology is taught as a tool to observe, analyse, and improve teaching practices.

2.2.1. University qualification pathway (60 CFU) for secondary education. In the new qualification pathway that was introduced in 2022: Action research is emphasised in methodological-didactic training, particularly in the domains of lesson planning and assessment. The mandatory direct and indirect internship programme offers opportunities for the practical application of this methodology in real-world contexts, thereby fostering a reflective and critical approach.

2.2.2. Educational research projects. In Italy, action research is frequently promoted through collaborative endeavours between educational institutions, including schools and universities. In-service teachers are encouraged to participate in educational research projects, for example, as part of professional development and continuous training programs. Action research is utilised to introduce innovative teaching strategies, particularly in areas such as inclusion, digital education, and sustainability education.

2.3. Spain

In Spain, action research occupies a central role in both initial and ongoing teacher training, largely due to the mandatory integration of educational research components in qualification pathways.

2.3.1. Máster Universitario en Formación del Profesorado (MAES). The MAES, a prerequisite for secondary school teachers, comprises the following modules: Modules dedicated to research methodology in education, where action research is presented as a key tool to improve teaching quality. The MAES culminates in the submission of a thesis, often requiring the application of an action-research project, where students must design, implement, and evaluate educational interventions based on observation and critical reflection.

2.3.2. School internship (prácticum). During the period of the mandatory internship: Students are encouraged to develop small-scale action research projects in their host schools, often in collaboration with school and academic tutors. The objective of this initiative is to cultivate the critical faculties of prospective educators, empowering them to discern the intricacies of the educational milieu, recognise deficiencies, and formulate action-oriented resolutions.

2.3.3. Continuous professional development. In the Spanish education system, the Ministry of Education and the Autonomous Communities promote action research as part of continuous teacher training. Teacher Training Centers (Centros de Formación del Profesorado, CEP) are responsible for the organisation of courses and workshops with a focus on this methodology. Furthermore, educational innovation projects frequently incorporate action research groups, thereby enabling teachers to develop new teaching strategies or address specific educational challenges.

3. Comparative analysis conducted

This study undertakes an analysis of the academic guides of programmes established in Spain and Italy for access to secondary education teaching at the lower and upper secondary levels. The objective of this study is to identify programmes that incorporate action research into initial teacher training. In Spain, the current legislation stipulates that access to regulated teaching professions in various areas of secondary education is contingent upon possession of a university degree or an equivalent qualification, in addition to pedagogical and didactic training at the master's level. The Master's in Secondary Education Teaching confers the professional qualification required by the Education Administration to teach in secondary education institutions, both public and private. The master's programme is structured into multiple specialisations, each of which is aligned with a distinct area of secondary education. The programme provides a thorough training curriculum for those aspiring to pursue a career in secondary education, in addition to offering distinct preparation in one of the professional domains.

The sources consulted for this research were the academic guides available on the Master's in Secondary Education Teaching programme website of the Universitat de València. The investigation conducted for this study focused on data collected between November and December 2024. The findings were meticulously organised into a series of tables, with each table addressing a distinct dimension outlined in the aforementioned guides: a) Summary; b) Previous knowledge; c) Competencies (RD 1393/2007); d) Learning outcomes (RD 822/2021); e) Content description; f) Teaching methodology; g) Evaluation; h) Bibliographic references.

An analysis of the course syllabuses for the 30 cfu qualification courses at Pegaso University reveals that the research-action methodology is not uniformly addressed in the teaching programmes of the competition classes. However, its presence is explicitly or implicitly referred to in some areas. For the sake of brevity, only those subjects in which the value of research action clearly emerges are listed here:

Experimental Pedagogy: Action research is evidently embedded within the programme, serving as a pivotal methodology for integrating practical action and critical reflection. This approach is described as central to improving educational processes and applying empirical and interpretive study models. Educational Methodologies and Technologies: Action research is addressed through the analysis of active teaching methodologies (e.g., cooperative learning, problem-based learning) and the use of educational technologies, demonstrating how these practices can be fertile ground for action research-based interventions. General Psychology: The course's objectives and content, including critical reflection on educational action, the iterative approach, and the management of complex scenarios, allude to the principles of action research.

In the field of Educational Psychology, the research methods covered in the course include approaches similar to action research. Design and Evaluation of School and Digital Systems: the course content includes empirical methodologies and case studies that demonstrate parallels with action research.

Finally, Special Pedagogy emphasises inclusive and operational strategies that align with the principles of action research applied to the educational context.

The analysis yielded several key findings, including the observation that numerous programmes make only indirect references to the value and importance of action research, without engaging in a thorough discussion of the subject. In conclusion, the following recommendations are proposed:

- The integration of action research in educational programmes should be promoted, emphasising its importance for improving educational quality and the active involvement of school actors.
- The link between action research and other methodologies, such as cooperative learning and problem-based learning, should be made explicit, encouraging methodological synergy.
- The practical application of action research should be encouraged through projects, workshops and case studies that involve the trainees themselves.

4. Conclusion and discussion

This comparison highlights how both countries incorporate action research into their educational systems, with some differences in implementation and emphasis. However, this choice is not solely driven by internal needs but is part of a broader supranational framework (the Bologna Process) that promotes the standardisation of training programmes according to a model of global governance in higher education. This framing within the academic colonial plan highlights how national education policies are often shaped by external directives, offering advantages (e.g. international mobility, shared standards) but also posing risks of overlooking local necessities and peculiarities. Action research is thoroughly embedded within the teacher training curriculum in both countries, though with certain distinctions: In Italy, its integration into teacher training is more closely tied to internships and school-based projects, with an increasing role in qualification pathways (particularly in the new 60 CFU programme). In contrast, in Spain, it is a core component of the MAES, where it assumes a formal and mandatory role, especially through the final thesis and educational research modules. In both systems, action research serves as a fundamental strategy to promote reflective and evidence-based teaching, adapting to the needs of diverse educational contexts.

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