



A Reflective Approach to Optimising Pedagogical Action Research

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Abstract: The article examines the role of reflection in enhancing pedagogical action research, emphasizing its relevance for the improvement of educational practices and the professional development of teachers. Pedagogical action research is framed as a systematic, contextualized, and participatory inquiry addressing authentic problems in educational settings, positioning the teacher in the dual role of practitioner and researcher. Pedagogical reflection is conceptualized as an ongoing cognitive and metacognitive process that enables critical engagement with teaching experience, its reinterpretation, and the evidence-informed pedagogical decision-making. The article argues that reflection, enacted as reflection-in-action, reflection-on-action, and reflection-for-action, contributes to the quality of pedagogical action research by facilitating the identification and framing of the research questions, guiding the adaptation of methodological approaches, and the in-depth interpretation of findings. By embedding pedagogical reflection throughout all phases of the research process, from identifying the problem situation to evaluating the outcomes of the intervention, the research maintains coherence between theory and practice while remaining contextually relevant. At the same time, pedagogical reflection supports the development of a reflexive culture within pedagogical action research, reinforces teachers' professional identity, and fosters an educational process responsive to the dynamics and complexity of contemporary contexts.

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Ongoing changes within the educational system, driven by social, technological, and cultural developments, call for a substantive reconsideration of how teaching, learning, and assessment processes are designed and enacted. Within this context, pedagogical action research (PedAR) emerges as a relevant approach for understanding and improving concrete educational practices, directing scholarly inquiry toward the real problems of teaching activity.

A defining feature of pedagogical action research is the teacher's active involvement in investigating their own practice. The teacher engages directly in identifying challenges, formulating hypotheses for change, implementing interventions, and evaluating their outcomes. This participation requires a systematic reflective stance, in which professional experience is critically examined and continuously reconstructed. Pedagogical reflection thus becomes a main aspect of teaching professionalism, enabling a shift from simply describing educational situations to interpreting them in explanatory and evaluative terms, and supporting evidence-informed pedagogical decision-making grounded in both reasoned judgment and ethical considerations.

Integrating reflection into pedagogical action research enhances the research process and increases its impact on educational practice. The process yields improved teaching strategies, tailored to the specific context and the needs of learners. In this way, reflective pedagogical action research contributes to the development of a culture of continuous professional learning, which is essential in an educational system undergoing constant transformation. In this context, Borozan and Țurcan (2025) observe that PedAR functions as a central strategy for developing and improving teaching practice (pp. 65-72).

In the view of Donald A. Schön (1983), the reflective approach is a response to a crisis of confidence in traditional professional knowledge, a crisis that arises from the persistent gap between the kinds of knowledge honoured in academic settings and the competencies valued in real educational practice. Schön argued that the prevailing model of technical rationality, in which professional competence is understood primarily as the application of scientific theory and technique, is inadequate for dealing with the complexity of real-world practice. In actual practice, problems are often messy, unique, and indeterminate, and do not lend themselves to standard technical solutions. Schön described these kinds of situations as the "swampy lowlands" of professional practice, where the highest stakes and most challenging concerns lie, and where conventional technical solutions frequently fail (Schön, 1984, p. 78).

Similarly, Nedelcu (2011, p. 20) emphasizes that achieving high-quality educational practice is no longer a matter of applying universal teaching recipes. Instead, it requires cultivating reflective practitioners who can systematically investigate, critically evaluate, and continuously refine their own practice through iterative cycles of action research.

The emphasis on fostering autonomous reflection and respecting the individuality of learners has deep roots in the history of educational thought. As early as antiquity, Plato, Seneca, and Aristotle advocated for an education that went beyond the mere transmission of information, cultivating instead the learner's capacity for introspection and discernment. During the Renaissance and Enlightenment, thinkers such as M. de Montaigne, J. J. Rousseau, and J. H. Pestalozzi reinforced the idea that authentic learning is inseparable from personal experience and the active engagement of the learner. In the twentieth century, humanistic approaches advanced by C. Rogers, A. Maslow, and V. Frankl provided a theoretical foundation for education aimed at self-actualization, where the teacher-student relationship is framed as a subject-to-subject dialogue and learning is grounded in rich experiential engagement. This historical trajectory has culminated in the recognition of reflexivity as an essential professional competence within the European higher education context, endorsed by foundational documents such as the *Magna Charta Universitatum* and the *Bologna Declaration* (Apud Rusov, 2025, pp. 68–70).

One of the most influential educational philosophers, John Dewey, defined reflection as “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (Dewey, 2007, p. 137). In Dewey's view, reflection is triggered by a difficulty, doubt, or problem encountered in the course of action, prompting the individual to pause habitual routines and examine the situation. This perspective reframes pedagogical research from an academic requirement into an existential necessity for teachers committed to fostering social progress and advancing educational reform.

Within the reflective approach, pedagogical research is understood as a systematic process of observing and investigating educational phenomena, aimed at advancing knowledge, improving practice, and fostering innovation in teaching and learning. The literature identifies a diverse typology of pedagogical research, classified according to key criteria that determine how reflexivity is integrated into the research process. In terms of focus, research may be *theoretical/foundational*, aimed at expanding understanding of educational phenomena, or *applied*, oriented toward enhancing specific areas of practice, such as student assessment and learning outcomes (Rusov & Cotos, 2020, pp. 9–10).

Pedagogical action research (PedAR) is primarily situated within the realm of applied research, yet it is distinguished by the fact that it is initiated and conducted by practitioners themselves, including teachers, mentors, and students, with the aim of improving their own professional context (Borozan & Bushnaq, pp. 47–67).

Within the reflective approach, the main functions of pedagogical research are:

- *Explanatory function* – to interpret and clarify the underlying principles that guide the teaching and learning process.
- *Praxiological function* – to optimize and innovate educational practice through

structural adjustments or the adoption of more effective methodologies.

- *Systematizing function* – to organize knowledge derived from practice into a coherent theoretical framework that supports the transfer of innovations.
- *Prospective function* – to anticipate learners' future needs and adapt the curriculum to meet the demands of an increasingly globalized world (Nedelcu, 2011, p. 38).

The epistemology of reflective practice is grounded in the work of D. A. Schön, who transformed the understanding of professional knowledge by critiquing the model of *technical rationality*, which reduces problem-solving to the strict application of scientific theories. Schön argued that this model overlooks the fact that many problems in professional practice are complex and resist standardized solutions. He proposed, instead, an epistemology of practice centered on two key concepts: *reflection-in-action* and *reflection-on-action*.

Reflection-in-action is the process by which a practitioner thinks about what they are doing while they are doing it, especially when confronted with an unexpected or puzzling situation in practice. It is the moment when the teacher becomes a researcher in their own context, framing and reframing the problem as they act. This form of reflection requires alertness, flexibility, and the ability to respond to indeterminate or uncertain situations (Schön, 1983).

Reflection-on-action occurs after the teaching episode, when the practitioner retrospectively considers what happened, why certain actions were taken, and the consequences of those actions. This process enables the practitioner to transform experience into professional knowledge. By reframing situations, the teacher may realize that what appeared to be a student's incapacity is, in fact, a consequence of the teacher's own methods or of unrecognized cultural or contextual factors (Schön, 1983).

Research indicates that competent practitioners "know more than they can say," a form of tacit knowledge evident in their spontaneous performance. The reflective approach in pedagogical action research serves to make this knowledge explicit, enabling its examination and validation within a scientific framework while preserving its contextual richness. PedAR is a cyclical process aimed at refining practice through systematic investigation. The integration of reflexivity into this process depends on a sequence of thoughtfully designed stages (fig. 1), with the practitioner (the teacher) actively engaged at each stage.

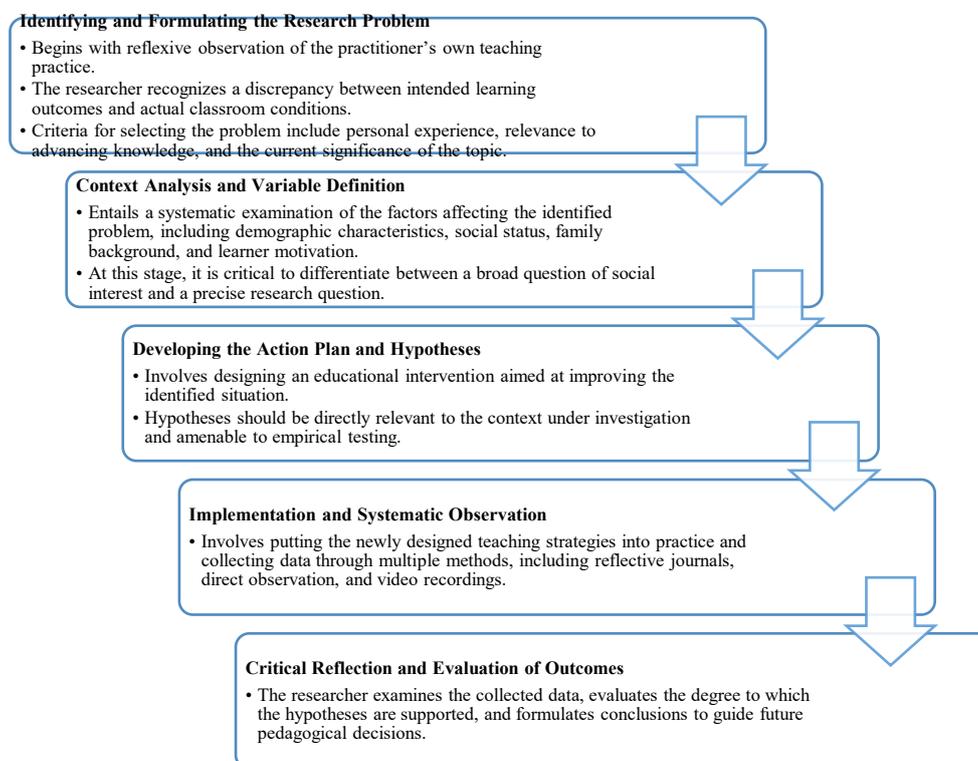


Figure 1. PedAR Reflective Approach Stages

The stages presented in Figure 1 indicate that the process of pedagogical action research, grounded in reflexive observation of professional practice, demonstrates that the rigorous identification of an educational problem arises from the incongruence between pedagogical intentions and the concrete realities of classroom activity. This discrepancy constitutes an essential element of the investigative process and ensures the practical relevance of the research.

Contextual analysis and the definition of variables emphasize the importance of a systemic understanding of educational phenomena, in which demographic, social, familial, and motivational factors significantly influence learning outcomes. The clear distinction between a problem of general interest and a specific research question enables focused intervention and strengthens the methodological precision of the inquiry.

The development of the action plan and the formulation of hypotheses confirm the active role of the practitioner-researcher in designing change. Hypotheses formulated on the basis of classroom realities and subject to empirical verification transform teaching practice into a space for controlled innovation and continuous optimization.

The implementation of the intervention and systematic observation indicate that the use of multiple data collection methods, including reflective journals, direct observation, and video recordings, contributes to the development of a comprehensive and valid understanding of the applied strategies effects.

Finally, critical reflection and the evaluation of results demonstrate that pedagogical action research functions as a mechanism of professional development. Conclusions derived from the collected data support evidence-informed pedagogical decision-making and sustain the deliberate transformation of educational practice in accordance with learners' real needs and the objectives of contemporary education.

To understand how the stages of pedagogical action research are operationalized through reflective practice, it is necessary to examine models that account for the transformation of experience into knowledge. Within action research literature, one of the most widely recognized frameworks is Kolb's experiential learning cycle, which conceptualizes learning as a process unfolding through four interdependent stages.

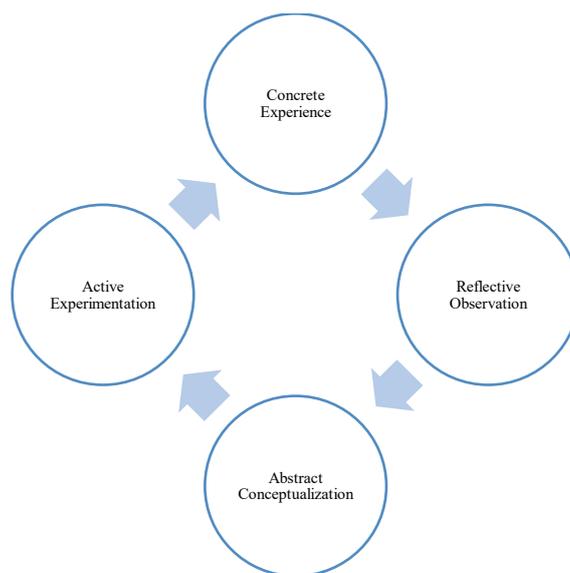


Figure 2. Kolb's Experiential Learning Cycle

Kolb's experiential learning cycle emphasizes that effective learning is a cyclical process, involving a balance between *concrete experience* (direct engagement and emotional involvement), *reflective observation* (analysis and consideration from multiple perspectives), *abstract conceptualization* (the development of theories and logical understanding), and *active experimentation* (action and testing) (Kolb, 2014). In the context of pedagogical action research, this model provides a framework for moving from participation in teaching activities to transforming these experiences into a rigorously studied object of inquiry.

An essential contribution to teacher development is provided by the ALACT model (fig. 3), proposed by Fred Korthagen. This model is specifically designed to guide reflection on professional practice, emphasizing the relationship between action and the awareness of key aspects of the teacher's professional identity.

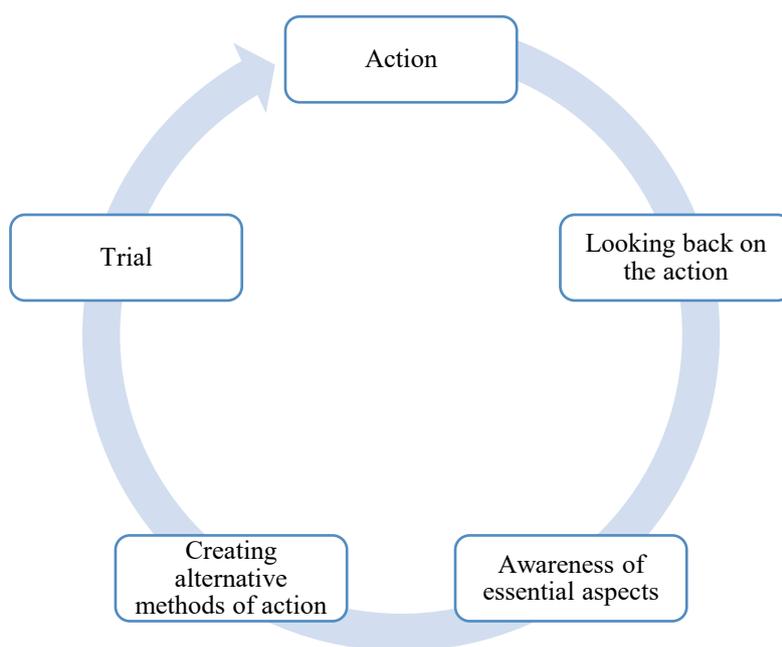


Figure 3. The ALACT Reflective Model, adapted from Fred Korthagen

The application of the ALACT model of reflection (Action – Looking back on the action – Awareness of essential aspects – Creating alternative methods of action – Trial), as articulated by Korthagen, illustrates that teacher professional development unfolds as a cyclical, dynamic, self-regulated process. Beginning with *action* in the classroom, the practitioner then engages in *looking back on the action*, followed by developing an *awareness of essential aspects* that influenced the experience, and subsequently *creating alternative methods of action*. The cycle continues with *trial*, in which the alternatives are enacted in practice, leading into a new cycle of reflection and development (Korthagen, 2004, pp. 77-97).

This structured reflective process supports the systematic consideration of teaching practice and the continuous refinement of pedagogical approaches, enabling educators to transform experience into professional knowledge and to construct practices that are both innovative and effective.

PedAR involves a systematic examination of both the teacher's observable behaviors and internal states. Drawing on the hierarchical model of reflection proposed by Bateson and further developed by Korthagen, the CEPEI framework (Circular, Experiential, Reflective, Epistemological, Independent) identifies multiple levels of reflection that influence the quality of pedagogical action research. These levels connect concrete classroom actions with deeper professional dimensions, competencies, beliefs, identity, and overarching professional mission, demonstrating that effective reflective practice integrates both external performance and internal awareness.

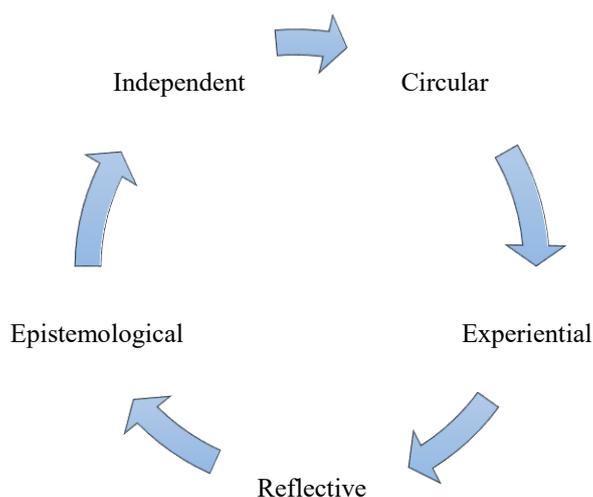


Figure 4. The CEPEI Model, adapted from Bateson and Korthagen

The CEPEI framework, in its interpretive adaptation inspired by the reflective frameworks of Bateson and Korthagen, constitutes a structured approach to reflective learning that positions experience as the starting point for both cognitive and professional development. Its cyclical nature embodies a continuous, iterative process in which learning does not end with a single classroom action but is constantly renewed through reflection and adjustment, reinforcing the principle of lifelong learning.

The experiential dimension of the CEPEI framework is grounded in learning through action. The process begins with the practitioner's concrete experience, which serves as the raw material for reflection. This experience is systematically examined and transformed into personal and professional understanding. The framework is organized into clear, process-oriented stages that guide the teacher from observation and awareness to the formulation of conclusions and the design of alternative actions applicable in future classroom situations.

An essential component of the process is its independent and individual character, which emphasizes metacognition, personal reflection, and the practitioner's responsibility for their own learning. The teacher becomes an active agent in their professional development,

capable of critically analyzing their experiences, evaluating their performance, and adjusting their action strategies according to specific contextual demands (Korthagen, 2004, pp. 317–326).

Regarding its benefits, the CEPEI framework contributes to the development of self-assessment and self-regulation, transforming lived experience into durable professional knowledge. Through learning from mistakes and continuous adaptation, it supports the improvement of both academic and professional performance. Similar to established models such as those of Kolb and Gibbs, CEPEI provides a structured framework that facilitates the development of reflective practitioners who are aware of their own reflective trajectory and capable of integrating critical thinking with intentional action. Deep reflection in pedagogical action research occurs when the teacher-researcher succeeds in aligning these levels. As a result, the teacher can identify their core competencies and achieve a state of flow, in which the research process becomes a natural expression of their professional vocation.

The effectiveness of pedagogical action research depends on research instruments' capacity to integrate objective data with the subjective meanings present in the educational process. In qualitative approaches, pedagogical reflection functions as a methodological tool for establishing validity and authenticity (Nedelcu, 2011, p. 70).

Table 1. Key Reflective Instruments in PedAR

Reflective Instrument	Function in Reflective Research	Illustrative Application
Reflective journal	Records internal developments and professional dilemmas	Daily monitoring of responses to a new ICT tool
Video-based analysis	Makes teaching performance observable through review of nonverbal behavior	Examination of teacher-student interactions in a blended seminar
Critical incident analysis	Deconstructs critical moments to identify alternative strategies.	Managing conflict among ethnically diverse student groups
Reflective portfolio	Organizes evidence of professional growth and innovations	Reflective portfolio for performance assessment or mentoring

Pedagogical reflection constitutes a central element of pedagogical action research, as it facilitates the transformation of teaching experience into professional knowledge. The reflective instruments employed in this process serve both descriptive and formative functions, aimed at the continuous professional development of the teacher.

The reflective journal, video analysis, critical incident analysis, and reflective portfolio represent complementary tools through which the teacher investigates their own practice, becomes aware of professional dilemmas, and restructures action strategies. The integration

of these instruments in pedagogical action research supports the development of authentic reflective practice grounded in analysis, self-regulation, and experiential learning. In this way, reflection becomes a mechanism for pedagogical innovation and the consolidation of the teacher's professional identity.

A fundamental objective of pedagogical action research is pedagogical innovation, understood as a creative change, a restructuring of methodology or educational content aimed at improving the quality of teaching and learning. However, innovation remains isolated if it is not followed by effective transfer to the broader educational community. The competence to transfer pedagogical innovations refers to teachers' ability to assimilate, adapt, and implement innovations in new contexts. Research indicates that motivational factors play a critical role in this process, with teachers more inclined to innovate when they perceive the direct relevance of the research to their students' success (Bălan & Şova, 2025, pp. 177–192).

In a school as a learning organization, the teacher assumes the role of a leader in developmental processes, while the student, in turn, becomes an active investigator of their own learning trajectory. Although the benefits of the reflective approach in pedagogical action research are evident, its implementation faces multiple systemic and individual challenges.

Intense emotions such as fear, anxiety, or uncertainty can hinder the reflective process, leading to a defensive stance in the face of failure. Time constraints, fragmented curricula, and insufficient mentoring often prevent teachers from engaging in deep inquiry. Furthermore, complex systemic issues, including racism, sexism, and socio-economic inequalities, require coordinated institutional interventions. The absence of methodological training for research, or the presence of professional myths (e.g., "a good teacher never makes mistakes"), can limit the capacity to perceive reality from new perspectives.

Current directions in PedAR point to the need for integrating new technologies and holistic approaches that respond to labor market demands and the needs of today's learners. Professionalization through mentoring remains a fundamental condition for the success of pedagogical action research. The mentor teacher must be a reflective researcher capable of supporting the mentee in identifying learning needs and managing cultural differences, while ensuring impartial and constructive evaluation of teaching performance.

The reflective approach in optimizing PedAR transforms educational practice from an administrative routine into an adventure of knowledge and innovation. By assuming the role of a researcher of their own context, the teacher enhances student learning outcomes and consolidates their professional identity, reclaiming a central role in social progress. This perspective, positioned at the intersection of scientific research and philosophical reflection, supports the adaptability and sustainability of the education system in anticipating and addressing the requirements of future educational contexts.

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