

## A CONCEPTUAL MODEL FOR THE EVALUATION OF PEDAGOGICAL ACTION RESEARCH IN HIGHER EDUCATION\*

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### **Abstract**

*Pedagogical action research has gained increasing prominence in higher education, where it provides a structured and iterative cycle of planning, action, observation, and reflection through which faculty members systematically develop their teaching practice and enhance student learning. Unlike traditional research approaches oriented toward broad generalisation, evaluation in action research clarifies the situated processes of change, documents their relevance for disciplinary and institutional contexts, and fosters collective learning within academic communities. This study examines the epistemological, methodological, and ethical foundations of pedagogical action research evaluation in higher education and analyses its main functions, including formative feedback, accountability, reflexive inquiry, and participatory engagement among faculty, students, and institutional actors. Particular attention is devoted to methodological coherence, data triangulation, analytic transparency, and meta-evaluation as main determinants of research quality in university-based inquiry. The article proposes a conceptual model that integrates interdependent evaluative stages designed to support the continual adaptation of pedagogical interventions, foreground participant perspectives, and reinforce educators' reflective and inquiry-oriented competencies. The analysis indicates that evaluation operates as an epistemic instrument that guides pedagogical decision-making in higher education, optimises instructional practices within courses and programmes, and enhances the transferability of findings across comparable academic contexts.*

**Key words:** *Pedagogical action research, Evaluation, Methodological consistency, Reflexivity, Triangulation.*

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## 1. Introduction

In contemporary educational sciences, pedagogical action research (PedAR) has been consolidated as a significant paradigm for teachers' professional development and the advancement of educational practice. Its methodological coherence is shaped by the iterative cycle of *planning, action, observation, and reflection*, within which evaluation functions as the central mechanism that sustains *validity, coherence, and practical relevance*. In contrast with research models oriented toward generalisation or theoretical verification, evaluation in action research aims to trace how change emerges in specific contexts, how it unfolds in practice, and how the learning processes it generates acquire meaning for practitioner communities (Meyer, 2000).

This theoretical examination considers the conceptual and methodological dimensions of PedAR evaluation in higher education, approaching it *as a dynamic and integrative principle that supports quality, methodological coherence, and ethical conduct in educational research*. Evaluation is understood as a systematic process through which the value and significance of a project or educational intervention are examined (Silver, 2006, cited in Makoelle, 2019). Within action research, this definition acquires a practical orientation directed toward analysing the transformations that take place in situated pedagogical contexts. Tomal (2010) notes that without sustained evaluative inquiry, the practitioner-researcher "never knows whether the results of the action were successful or whether the problem was solved" (p. 135, cited in Ivankova, 2015), a position that highlights how the absence of evaluation would compromise the rationale of a methodology designed to address educational problems through reflective action.

In PedAR, the evaluation of outcomes is conceived as a reflective process that permeates each cycle of inquiry. Unlike traditional research traditions, which prioritise generalisable claims, evaluation in action research is oriented toward the gradual refinement of practice and the cultivation of collective learning. The criteria used to interpret outcomes relate to the effectiveness of the actions undertaken, their relevance to the local context, and the reflective engagement of the collaborating practitioners.

According to Piggot-Irvine and Bartlett (2008), the evaluation of action research evidences the methodological coherence and quality of the inquiry while clarifying the degree to which the process supports practical improvement and enables transformative learning for participants. In this sense, evaluation functions as an epistemic dimension through which pedagogical action research enacts its formative and transformative role within contemporary higher education practice.

## 2. Evaluation as a Dynamic and Integral Component in Pedagogical Action Research

The significance of evaluation emerges across several interrelated levels, each illustrating a distinct dimension of its function within PedAR. *From an epistemic and feedback-oriented perspective*, evaluation encompasses a broad range of outcomes that include the consolidation of knowledge, observable changes in individual performance or behaviour, transformations in organisational climate,

cost-benefit appraisals, and judgments regarding the feasibility, utility, and overall effectiveness of the intervention (Ivankova, 2015).

*Within the accountability dimension*, evaluation functions as a mechanism through which practitioners communicate progress to funding bodies, professional organisations, and the wider community of stakeholders, thereby contributing to transparency and legitimacy in the research process. It also enables a reflective examination of the extent to which the outcomes correspond to the objectives that guided the intervention, thus supporting a coherent relationship between intended goals and actual results, as noted by Stringer (2014, cited in Ivankova, 2015).

*In the emancipatory and reflective dimension*, evaluation advances critical self-awareness and self-regulation by enabling practitioners to scrutinise the trajectory of their actions and examine the effectiveness of the procedures they have implemented. As noted by Ivankova (2015), evaluation also establishes a participatory frame that invites stakeholders into the process, ensuring that the inquiry remains attentive to their concerns, expectations, and situated experiences.

A defining characteristic of evaluation in action research lies in its continuous and adaptive functioning. Stringer (2014) explains that evaluation should unfold as *an ongoing cycle of monitoring*, reflection, and action rather than as a singular event, with this cyclical movement generating sustained feedback that supports iterative modifications and further empirical testing of the action plan. Ivankova (2015), drawing on Evashwick and Ory (2003), observes that such continuity strengthens the long-term viability of educational change efforts.

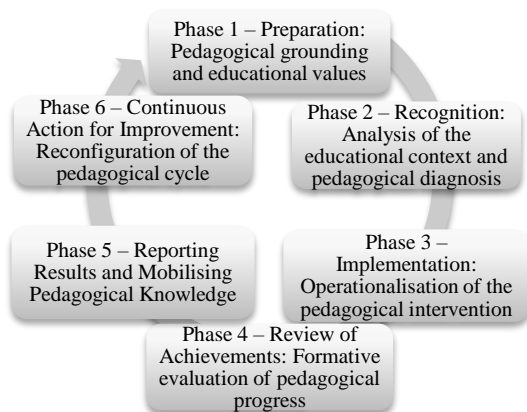
The evaluation of outcomes in PedAR is conducted through *data triangulation, iterative analytic cycles, and hermeneutic interpretation*, which facilitate critical reflection on pedagogical practice and the calibration of instructional strategies in relation to contextual particularities. These procedures sustain systematic reflection and the steady refinement of interventions, ensuring a continuous appraisal of the relevance and effectiveness of the results. Therefore, evaluation functions as an integrated and dynamic component that continually informs the adaptation of pedagogical practice through the systematic incorporation of accumulated data and feedback (Borozan & Bushnaq, 2025).

A methodological paradigm consistent with these principles is Action Evaluation (AE), conceptualised as *an innovative approach that defines, monitors, and assesses success in real time* throughout the implementation of a project rather than limiting assessment to its final stage (Friedman & Rothman, 2015). AE enables project leaders, funders, and participants to collaboratively establish and refine success criteria as the intervention progresses, thereby supporting the ongoing enhancement of the design, effectiveness, and overall influence of the actions undertaken (AERI, 2000; Silver, 2006, as cited in Makoelle, 2019). From this perspective, evaluation may address *the quality of the process* through continuous analysis of the activities undertaken and *the impact of the intervention* through systematic measurement of the outcomes achieved, with outcome evaluation conducted both diachronically throughout implementation and synchronically at the conclusion of the research (Makoelle, 2019).

Piggot-Irvine and Bartlett (2008) extend the discussion of evaluation in action research by portraying it as both *a scientific undertaking and a methodological orientation* in its own right. They contend that evaluation possesses an inherently eclectic character, drawing on qualitative, quantitative, and mixed-methods procedures while depending on triangulation to strengthen analytic coherence and the credibility of the results. The authors highlight the difficulty of applying a single evaluative standard across diverse educational environments and instead advocate an approach that maintains sensitivity to local conditions and interpretive frameworks. In their view, the worth of action research emerges from the plurality of stakeholder perspectives, which calls for an evaluative process that is participatory and responsive to the layered meanings generated throughout the inquiry.

The Evaluative Action Research (EvAR) framework developed by Piggot-Irvine and Zornes (2016) operationalises this broader conception of evaluation. Their model offers a methodological structure for designing, implementing, and evaluating interventions across contexts characterised by complexity, variability, and shifting participant needs. In this study, the EvAR framework is adapted to the specific conditions of pedagogical action research so that its evaluative logic corresponds to the situated nature of classroom practice, the collaborative participation of educational actors, and the iterative refinement of instructional processes.

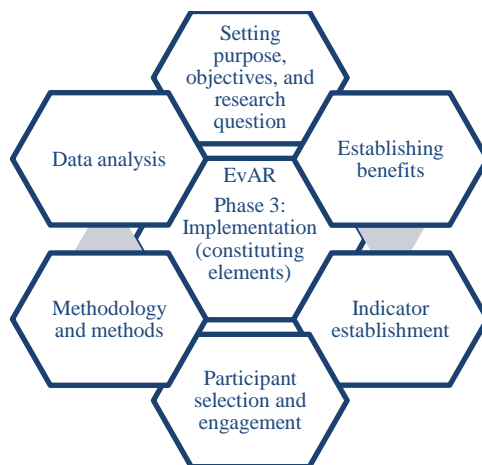
Piggot Irvine and Zornes (2016) describe EvAR as unfolding through six interconnected phases that form a cycle of ongoing improvement; each phase emerges from critical reflection on the preceding one and incorporates the evaluative insights generated throughout the process. This cyclical movement supports methodological coherence while sustaining a reflective orientation that allows evaluation to inform both the procedural and pedagogical dimensions of the research.



**Figure 1. Phases of Evaluative Action Research in Pedagogical Practice**

The EvAR framework (Piggot Irvine & Zornes, 2016) is guided by principles that ensure a collaborative, democratic, and reflective process, fostering authentic engagement of all partners; maintain flexibility and responsiveness to emerging

needs and contextual specificity; emphasise reflexivity and meta-evaluation, attending to the evaluative process itself; employ mixed methods to enhance validity and comprehensiveness through triangulation; and reflect fully the core values of action research, including participation, social impact, skill development, and the practice of responsible ethics.



**Figure 2. Constituting elements in the EvAR framework**  
(Piggot-Irvine, E., & Zornes, D., 2016)

Figure 2 depicts Phase 3 – Implementation, where Evaluative Action Research (EvAR) advances from planning to concrete action; theoretical concepts and developed plans are translated into practice, and data collection is initiated to support the evaluative process. This phase constitutes the operational core of the research, as all components generate the information necessary to assess progress and intervention effectiveness (Piggot-Irvine & Zornes, 2016). Methodologically, evaluation in pedagogical action research utilises established instruments, including individual and focus-group interviews, and questionnaires (Williamson, 2017); reflecting the collaborative and reflective character of action research, evaluation criteria are informed by qualitative research principles such as *credibility*, *transferability*, *dependability*, *confirmability*, and *authenticity*, ensuring consistency and transparency throughout the investigative process.

In light of the above, the quality of action research is shaped by a combination of decision points and evaluative criteria that together guide the design, implementation, and assessment of interventions. According to Bradbury, Lewis, and Embury (2019, p. 25), these decision points include the clear articulation of objectives; fostering partnership and participation; contributing to both theory and practice; employing appropriate methods and processes; ensuring actionability; sustaining ongoing reflexivity; and producing relevant outcomes. Complementing this framework, Piggot-Irvine and Bartlett (2008) identify evaluative criteria that emphasise authenticity, ensuring findings accurately reflect participants' lived

experiences and are perceived as meaningful; relevance and engagement, capturing the extent to which the inquiry addresses concrete educational needs and supports democratic participation in reflection and decision-making; methodological accuracy, achieved through systematic, transparent, and triangulated data collection and analysis; practical improvement and transformation, evident in observable changes in teaching practice, student learning, and teachers' reflective growth; and personal development and learning, demonstrated by enhanced autonomy, critical awareness, and reflective capacity among practitioners.

Applying these decision points and quality criteria is particularly important during the implementation phase, where the effectiveness of evaluation relies on both methodological accuracy and active engagement from the university community. In a university-level pedagogical action research project, these principles are operationalised through carefully designed instructional activities, formative assessments, and reflective practices embedded in course delivery. Table 1 summarises the quality criteria applied in evaluating pedagogical action research within higher education, highlighting the integration of methodological and ethical considerations and illustrating how objectives, indicators, and methods are consistent with the academic context to ensure coherence across planning, action, and reflection.

**Table 1. Quality Criteria in the Evaluation of Pedagogical Action Research**

<b>Component</b>	<b>Quality Criterion</b>	<b>Educational Example (University Context)</b>
Establishing purpose, objectives, and research question	Clear and specific objectives formulated in relation to authentic learning needs in higher education, with a research question grounded in students' academic and experiential realities	In what ways can the use of collaborative digital platforms support the development of research competences among first-year university students?
Defining benefits	Measurable and relevant benefits for students, instructors, and the institution, generating improvement in teaching, learning, and academic support processes	Students strengthen academic communication and inquiry competences; the instructor obtains evidence for refining course design; the faculty integrates effective digital practices in curriculum reform
Setting indicators	Observable and quantifiable indicators consistent with the objectives, allowing methodological consistency and clarity in data interpretation	Increase in students' ability to formulate coherent research questions (rubric scores); higher participation in seminar discussions (participation logs); improved attitudes toward research activities (survey results)
Selection and engagement of participants	Active and responsible participation of all involved actors in the university community, with meaningful collaborative roles	Students participate in seminars and online collaborative tasks; instructors and teaching assistants coordinate instructional activities; academic

		advisors provide feedback during the research process
Methodology and methods	Coherent methodology, complementary methods, and validated instruments, presented with transparency and methodological precision	Action research conducted across a semester; <i>Methods</i> : systematic observation of seminars, short reflective notes written by students, the instructor's analytical journal, project assignments, pre-intervention and post-intervention diagnostics; <i>Instruments</i> : observation protocols, rubrics, student questionnaires
Data analysis	Transparent and systematic analytical procedures, supported by the use of several data sources to ensure credibility and authenticity	Integration of diagnostic results with seminar observations and student reflections; presentation of insights through comparative tables and interpretive commentary
Personal and professional development	Strengthening of autonomy, reflective capacity, academic self-awareness, and contribution to theoretical understanding and professional practice	Instructors refine their pedagogical approaches based on evidence; students demonstrate greater independence in academic tasks, increased engagement, and improved research-related abilities

The generation of objective evidence in action research is achieved through a systematic approach grounded in methodological triangulation, which integrates data from multiple sources, including reflective journals, interviews, video observations, questionnaires, focus groups, and quantitative pre- and post-intervention assessments (McNiff & Whitehead, 2011; Stringer, 2014). This evidence is analyzed using comparative analysis to detect patterns and inconsistencies. Data credibility is reinforced through techniques designed to establish trustworthiness, including triangulation of data, methods, and researchers; critical reflexivity, where the researcher examines personal preconceptions; and member checks, involving validation of results and interpretations by participants directly engaged in the study. Researcher impartiality is strengthened through transparency in interpretation, acknowledgment of potential errors, and the incorporation of discrepant data into a coherent reflective account, thereby enhancing the credibility and contextual relevance of the findings. The validity of an action derives from its capacity to enhance understanding of the problem and generate meaningful change (Mills, 2003), while outcome validity captures the extent to which implemented actions effectively address the initial problem and yield practical, useful knowledge (Herr & Anderson, 2015). Success is measured by demonstrating positive change and, more importantly, by the insights produced through the iterative transformation of practice, shifting the focus from final outcomes to the reflective value of the experience (Meyer, 2000). Meta-evaluation, which involves establishing explicit success criteria and periodically reflecting on

progress, is essential for capturing both the effectiveness of the intervention and the reflective insights gained throughout the process (Piggot-Irvine, 2009).

Judging success also requires attention to the learning process and the degree to which practitioners perceive the findings as relevant and useful, rendering evaluation a participatory endeavor oriented toward shared reflection. The value of action research resides in the depth and significance of the insights generated, with generalization functioning analytically to use case studies for theory development and testing rather than for statistical inference. To ensure relevance and applicability, reporting must provide rich contextual detail and be expressed in accessible language, enabling readers to evaluate transferability to analogous educational settings rather than relying on statistical generalization. The necessity of addressing ethical dimensions, including informed consent, confidentiality, and power relations, is paramount as these factors directly influence the credibility, acceptability, and applicability of the findings (Meyer, 2000). The evaluation of action research outcomes is consequently oriented toward the quality of educational practice and interpersonal relationships, with McNiff and Whitehead (2002) emphasizing that results are analyzed in terms of the quality of practice, particularly the relationships between people, which positions improvements in teaching, communication with students, and the learning environment as central indicators of success. In this framework, the value of research emerges from the accumulation of data as well as from the interpretive processes that enable the transformation of educational practice.

### **3. A Comprehensive Framework for the Evaluation of Pedagogical Action Research in Higher Education**

Action Research (AR) is fundamentally defined by the reflection and continuous improvement of local teaching practices, which sets it apart from conventional research. To be genuinely development-oriented, the AR project itself must be systematically evaluated, using the phases of the action process as its structural framework (Privitera & Ahlgrim-Delzell, 2018)

Evaluation in PedAR is a reflective, systematic, and contextually informed process that assesses the quality, relevance, and impact of the educational endeavor across its entire project cycle, addressing process analysis, methodological coherence, data validity, and pedagogical effects, rather than focusing solely on final outcomes. The first phase, reflection and need-identification, requires researchers to conduct systematic fact-finding and contextual analysis, examining the educational problem from multiple stakeholders' perspectives. This stage ensures the problem is clearly defined, the action plan is coherent and grounded in diagnostic data, and the roles, responsibilities, and necessary resources are clarified. Subsequently, the implementation of actions and any necessary adjustments must be systematically documented. Researchers must use professional judgment to determine an appropriate duration of implementation that allows for the observation of meaningful changes, recognizing that the time required varies based on the intervention's nature. Data analysis must be closely aligned with the research problem, addressing specific indicators relevant to the phenomenon under study. Findings must then be

communicated in clear, accessible language to all stakeholders to facilitate understanding, interpretation, and the practical application of conclusions. Reflection on results and the discussion of future actions are essential for sustaining the improvement process and ensuring iterative learning (Privitera & Ahlgrim-Dezell, 2018).

In this context, a contextualized PedAR evaluation model for advancing reflective and evidence-informed pedagogical practices in universities is proposed, structured around sixteen interconnected dimensions that enable a thorough and comprehensive examination of the educational process. Each dimension is defined through specific objectives, evaluation criteria, and suggested instruments, ensuring that the evaluation is systematic, contextually relevant, and reflective of both the processes and outcomes. By encompassing elements such as problem clarification, epistemological consistency, pedagogical relevance, resource adequacy, knowledge mobilization, stakeholder participation, ethical integrity, evidence credibility, impact assessment, and long-term effects, the framework provides a coherent structure that supports meaningful, actionable, and sustainable improvements in teaching, learning, and institutional practice.



**Figure 3. A Contextualized PedAR Evaluation Model for Advancing**

**Reflective and Evidence-Informed Pedagogical Practices in Universities**

Identifying the pedagogical problem involves a thorough examination of institutional, disciplinary, and societal dimensions, integrating curricular analyses, policy reviews, and student learning needs, while triangulating perspectives from faculty, administrators, and learners to ensure the inquiry is grounded in authentic and contextually situated educational challenges (Borožan & Bushnaq, 2025;

Stringer, 2014). This stage establishes a precise foundation for subsequent research cycles by articulating the problem in relation to both theoretical constructs and practical imperatives.

Ensuring conceptual and epistemological consistency requires verifying that research questions correspond to the identified problem and the underlying theoretical framework, drawing on reflective literature reviews, methodological scrutiny, and critical peer discussions. Such alignment reinforces the logical structure of inquiry and supports the production of findings that are both analytically sound and pedagogically meaningful (Borozan & Bushnaq, 2025; Piggot-Irvine & Zornes, 2016).

Evaluating the instructional significance of interventions encompasses assessing their capacity to enhance teaching strategies, foster student learning, and stimulate professional growth. This entails a critical appraisal of instructional designs, feedback mechanisms, and evidence of transformative engagement, ensuring that the intervention contributes to pedagogical innovation while remaining responsive to local needs (Bradbury, Lewis, & Embury, 2019; Makoelle, 2019).

The feasibility of pedagogical action research is contingent on sufficient temporal, institutional, technological, and human resources. Assessment involves examining the availability and appropriateness of infrastructural support, research tools, and professional competencies, alongside the researcher's methodological expertise, to ensure that the study can be executed effectively and that data collection, analysis, and interpretation are sustainable (Privitera & Ahlgrim-Delzell, 2018; Ivankova, 2015).

Maximizing the applicability of results requires evaluating how the generated knowledge informs instructional practice, curriculum development, and institutional decision-making. Mechanisms include structured dissemination of outcomes, collaborative discussions among educators, and integration of findings into policy and practice, thereby bridging the gap between research and practical utility (Borozan & Bushnaq, 2025; Stringer, 2014).

Maintaining consistency between research activities, cycles of action, and reflective processes is essential for sustaining methodological integrity. This includes the careful sequencing of tasks, adherence to established timelines, and ongoing monitoring to ensure that iterative interventions follow the logical progression of pedagogical action research and respond dynamically to emerging contextual factors (Ivankova, 2015; Piggot-Irvine & Zornes, 2016).

Establishing a credible evidentiary foundation in pedagogical action research requires systematic collection, triangulation, and reflective analysis of multiple data sources, including reflective journals, observational records, portfolios, and institutional documents. Such evidence must be interpreted transparently, with explicit attention to contextual meaning, participant perspectives, and iterative validation processes, ensuring that conclusions are both internally coherent and relevant to the specific educational setting. Through these procedures, researchers transform raw data into trustworthy evidence, fostering interpretive accuracy and

enhancing the legitimacy of claims regarding pedagogical impact (McNiff & Whitehead, 2011; Williamson, 2017).

Effective participatory research requires deliberate structuring of stakeholder roles to ensure meaningful engagement and accountability. This includes delineating responsibilities, fostering collaboration among faculty, students, and administrators, and integrating diverse perspectives into the evaluative process, thereby enhancing the relevance, inclusivity, and legitimacy of the findings (Ivankova, 2015; Piggot-Irvine & Bartlett, 2008).

Assessing the extent of professional growth involves examining qualitative and quantitative changes in instructional reasoning, pedagogical competencies, and reflective practice. Instruments such as self-assessment surveys, semi-structured interviews, and professional portfolios capture the depth and sustainability of learning outcomes, documenting how engagement in PedAR strengthens educators' capacity for reflective decision-making and continuous improvement (Bradbury, Lewis, & Embury, 2019; Borozan & Bushnaq, 2025).

Ethical integrity encompasses adherence to principles of informed consent, confidentiality, fairness, and respect for participant autonomy, alongside transparent documentation of research design, methods, and analytical procedures. Maintaining methodological transparency ensures that the inquiry is defensible, replicable, and aligned with professional ethical standards, which strengthens the legitimacy of both the process and the outcomes (Meyer, 2000; Privitera & Ahlgrim-Delzell, 2018).

In pedagogical action research, ensuring the credibility and validity of findings involves establishing coherence between data collection, analysis, and conclusions, so that interpretations are accurate and relevant to the context under study (Efron & Ravid, 2013). The emphasis is on producing knowledge that is meaningful, applicable, and responsive to the specific educational setting. Strategies to support credibility include the triangulation of multiple sources of evidence, such as reflective journals, student work, interviews, and observation records, allowing researchers to verify patterns and confirm the consistency of findings (Dosemagen & Schwabach, 2019). Engaging participants in reviewing and discussing interpretations strengthens the authenticity of results, ensuring that findings reflect the perspectives and experiences of those involved. Transferability is enhanced through detailed documentation of the context, including the characteristics of participants, institutional environment, and socio-cultural factors, so that other educators or researchers can assess the applicability of findings to similar settings (Gay, Mills, & Airasian, 2012). Validity is operationalized by assessing the extent to which interventions effectively address the identified pedagogical problem and produce knowledge that participants recognize as useful. Strategies such as systematic data collection, reflective recording of actions, and transparent reporting of analytical decisions contribute to the reliability of interpretations. Additionally, attention to the relevance of findings, their potential to inform teaching practice, and their ability to support professional learning ensures that PedAR produces outcomes that are both practical and meaningful, enhancing the capacity of educators to implement evidence-informed improvements.

Effective project management necessitates the identification, analysis, and mitigation of potential risks that may impede the implementation or validity of the study. This includes scenario planning, documentation of constraints, and collaborative reflection on uncertainties, enabling researchers to adapt strategies responsively while preserving the continuity, integrity, and quality of pedagogical action research (Borozan & Bushnaq, 2025; Ivankova, 2015).

Criterion-referenced assessment in pedagogical action research (PedAR) evaluates student performance against explicit competency standards rather than group performance distributions. Introduced by Glaser (1963) and later developed for formative and summative evaluation, this approach allows monitoring of competencies, skills, and performance in relation to defined mastery levels. It aligns with Bloom's (1968) mastery learning theory, which emphasizes individual progress toward clear performance standards. According to Sadler (1989), progress requires students to understand the target standard, their current performance, and ways to close the gap. By referencing explicit criteria, PedAR provides calibrated feedback that supports self-regulated learning (Nicol & Macfarlane-Dick, 2006). Criterion referenced assessment thus functions as a development-oriented pedagogical strategy. Black and Wiliam (1998) note that it reduces bias and increases transparency, as standards are public, predetermined, and directly linked to learning outcomes. When PedAR programs define competency descriptors precisely, criterion referenced assessment ensures internal consistency and evaluative validity.

Evaluating the impact of PedAR begins from the premise that the teacher becomes an agent of change rather than a mere implementer of a prescribed curriculum. Elliott's studies (1991) show that when teachers investigate their own contexts, their capacity to diagnose difficulties, formulate pedagogical hypotheses, and adapt instructional strategies in a contextualized manner increases. In higher education, this contributes to diversified teaching methods, stronger adaptation to individual student needs, and improvement of the learning environment. Impact evaluation in pedagogical action research must also consider effects on student progress. According to Hopkins (2008), action research can strengthen student outcomes through personalized interventions, continuous progress monitoring, timely and contextualized feedback, and the development of students' metacognitive skills. Through reflective cycles, the teacher adjusts strategies immediately, enhancing the effectiveness of university teaching. Fullan (2001) argues that a university becomes a learning organization when collaboration and systematic reflection are embedded in its institutional culture. Action research supports this process by strengthening professional learning communities, improving communication among teachers, students, and leadership, and cultivating a culture of innovation and shared responsibility. Its impact is visible in greater pedagogical coherence and in the continuous professional development of teaching staff. Cochran-Smith and Lytle (1993) explain that action research transforms teachers' professional identity by increasing self-efficacy, deepening critical reflection, developing skills in educational data analysis, and encouraging an active role in innovation. Consequently, impact evaluation must include quantitative dimensions,

such as student results and progress indicators, and qualitative dimensions, such as levels of reflection, collaboration, and shifts in professional mindset. Assessing the impact of pedagogical action research in the university environment involves examining transformations at three levels: instructional practice, student progress, and the organizational culture that supports professional development. The scholarly literature consistently shows that action research generates sustainable change when implemented systematically, collaboratively, and reflectively.

Students' perceptions of teaching effectiveness serves as a core criterion for evaluating PedAR, as it provides empirically grounded evidence on the pedagogical conditions that support effective learning, sustained engagement, and academic satisfaction. The specialised literature recognises student perceptions as a valid, reliable, and pedagogically meaningful source of evidence for assessing instructional effectiveness (Marsh, 1984; Richardson, 2005). Within the context of evaluating PedAR, Marsh's empirical findings (1984) show that student evaluations consistently capture qualitative dimensions of teaching and are strongly associated with subsequent academic performance and active cognitive engagement. The positively appraised elements signal domains of pedagogical efficacy, including instructional clarity, coherent curricular structuring, and the teacher's capacity to activate higher-order cognitive processes through critical inquiry. This evaluative process extends beyond descriptive reporting, as it identifies practice components that warrant consolidation or extension, provides instructors with collectively validated formative feedback, supports the continuous optimisation of instructional design, and contributes to professional development through heightened reflexive awareness of pedagogical strengths. As Ramsden (2003) notes, high-quality teaching is anchored in a comprehensive understanding of students' learning experiences.

Beyond its immediate effects on instructional practice, PedAR generates a range of long-term outcomes with significant impact on both educational actors and the institutional environment. One of the major long-term outcomes is the consolidation of a culture of professional reflection. According to Schön (1983), educators who engage in systematic reflection become more adaptable, more aware of their pedagogical decisions, and better able to analyse the complexity of classroom situations. PedAR institutionalises this reflective practice, transforming it into a sustained professional habit. Continuous participation in action research processes fosters an innovation-oriented mindset. Elliott's studies (1991) indicate that teachers involved in PedAR become more responsive to student needs, more open to methodological experimentation, and more capable of transferring solutions to new contexts. Over the long term, this leads to a qualitative evolution of teaching strategies rather than isolated adjustments. Cochran-Smith & Lytle (1993) describe PedAR as an authentic form of *inquiry as stance*, through which teachers construct their professional identity around investigation and change. In the long term, this approach enhances professional self-efficacy and autonomy, strengthens data analysis and pedagogical decision-making skills, and produces educators who take an active role in educational reform. The long-term effects of PedAR extend beyond the individual to institutional transformation. Fullan (2001) argues that action

research contributes to the development of a learning organization characterised by sustained professional collaboration, sharing of effective practices, and evidence-informed pedagogical decision-making. These elements increase team cohesion and strengthen the institution's capacity to adapt to societal and curricular changes. Although the effects on students are often evaluated in the short term, research demonstrates that interventions based on reflective practice and systematic monitoring generate more stable academic progress, promote the development of metacognitive skills, and enhance engagement in learning (Hopkins, 2008). By continuously adjusting instructional practices based on collected data, PedAR indirectly supports sustainable educational development. Over the long term, pedagogical action research consolidates critical reflection and professional autonomy among teachers, drives continuous innovation and refinement of instructional practices, transforms the institution into a learning organization, and produces durable educational outcomes for students.

#### **4. Conclusion**

The proposed model for evaluating pedagogical action research in higher education illustrates that evaluation operates as the central and generative force of inquiry, shaping the design, implementation, and continuous refinement of teaching practices while simultaneously fostering professional development and pedagogical innovation. By systematically applying the theoretical underpinnings of the proposed model, employing mixed methods, and clearly defining criteria for authenticity and methodological integrity, evaluation becomes an instrument for learning, empowerment, and the sustainable development of educational practices, transforming the knowledge generated into a tool for authentic change, and as Meyer (2000) emphasizes, ensuring that the success of action research is measured by the relevance, applicability, and utility of its findings for both practitioners and participants. By systematically integrating triangulation, member checking, and reflective procedures within each phase of the research process, the model enables educators to capture the complex and multidimensional effects of interventions on instructional practice, student learning, and institutional culture. Through the deliberate embedding of core values such as participation, collaboration, transparency, and ethical responsibility, the framework enhances educators' capacity to design meaningful interventions, interpret evidence with analytic depth, and translate findings into actionable strategies that sustain both immediate and long-term improvements. The model further emphasizes the importance of reflexive and contextually informed analysis, ensuring that pedagogical insights are continuously validated, interpreted, and applied in ways that advance professional identity, cultivate collaborative learning communities, and strengthen the culture of innovation within higher education institutions. By positioning evaluation as an ongoing, knowledge-generating process rather than a terminal assessment, the conceptual framework reinforces the transformative potential of action research, enabling evidence-informed educational interventions to produce enduring impacts on teaching, learning, and the collective professional capacities of academic communities.

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