

Strategies applied to strengthen reflective practice in initial and continuing teacher education: a systematic review (2019–2025)

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Abstract: This systematic review analyzed 21 articles published between 2019 and 2025 in indexed databases (Scopus, Web of Science, SciELO, DOAJ, and Dialnet) with the purpose of analyzing the strategies implemented to strengthen reflective practice in teachers in initial and continuing education. The results of the study were organized into five thematic categories: The construction of professional knowledge is achieved through a dialogic process. Formative accompaniment and support structures are also integral components of this process. Instruments for self-reflection and continuous improvement are necessary for the development of professional knowledge. Integration of technological resources for reflection is also a component of this process. Finally, reflective evaluation and transformation of teaching practice are essential for the advancement of professional knowledge. The findings indicate a tendency toward the implementation of applied strategies, wherein the dialogic construction of professional knowledge emerges as a prevailing paradigm. This construct is defined as a series of methodologies that foster collective interaction, dialogue, and communication, thereby serving as a conduit for the development of pedagogical knowledge and the integration of reflective practice within teaching methodologies. It is noteworthy that the efficacy of reflective practice is maximized when executed in a collaborative manner. It has been demonstrated that other frequent strategies incorporate instruments of self-reflection and continuous improvement, which have been shown to strengthen autonomy and pedagogical innovation. It has been determined that the strategies employed to enhance reflective practice serve as a unifying framework within the context of teacher professional development, thereby facilitating a trajectory of sustained advancement in contemporary educational training.

Keywords: reflective practice, teacher training, pedagogical strategies, systematic review, higher education.



1. Introduction

Reflective practice has been established as a fundamental component of teacher training and professional development in recent decades. The seminal contributions of Dewey (1933) and Schön (1983a) have established the foundation for the conceptualization of reflection as a dynamic process of conscious review. This process enables educators to evaluate, interpret, and transform their pedagogical practices. In the contemporary context, marked by the integration of digital technologies, the proliferation of hybrid learning models, and the emergence of innovative forms of formative support, reflective practice has regained its significance as a pedagogical strategy. This strategy fosters autonomy, critical thinking, and ongoing professional development among educators during both their initial training and ongoing professional development.

Recent years have seen an uptick in research endeavors within the scientific literature that examine pedagogical strategies designed to operationalize teacher reflection. These strategies encompass a range of approaches, including peer dialogue, mentor guidance, the utilization of digital portfolios, video analysis, e-portfolios, and reflective communities of practice (Anijovich & Cappelletti, 2019). These strategies are designed to enhance the introspective capacity of educators and to facilitate the collective construction of professional knowledge.

However, despite the growth in academic production on the subject, there has been no recent systematic review to date that has integrated the evidence published between 2019 and 2025. This period witnessed intensified technological and pedagogical innovations in response to the global health crisis and the advancement of virtuality in teacher training. In this context, the present study sought to systematize the strategies employed to fortify reflective practice in initial and continuing teacher training programs, identifying common patterns, emerging trends, and research gaps.

The primary objective of this study was to analyze the strategies implemented for the development of reflective teaching practice. The overarching goal was to establish an interpretative synthesis that can guide future evidence-based educational interventions.

The findings of this study demonstrate that reflective practice can be comprehensively understood not only as a professional competence, but also as a transformative training process that is based on interaction, self-regulation, and educational technology.

2. METHODS

2.1. Design of the review

The study corresponds to a descriptive qualitative systematic review. This review followed the recommendations of the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) proposed by Moher et al. (2009), where it specifies the following phases: The four phases of the process are as follows: (1) identification, (2) screening, (3) eligibility, and (4) inclusion. The study adhered to the reporting standards for systematic reviews established by the American Psychological Association (2020). A subsequent examination of the quality criteria was conducted in relation to the 27 items that necessitate exhaustive verification of the article's entire structure and content.

2.2. Search strategy

An exhaustive search was conducted between May and July of 2025 in six databases: Scopus, Web of Science (WOS), Crossref, SciELO, Dialnet, and DOAJ. The searches were conducted using English-language terms. A meticulous approach was employed to ensure the precision of the research by utilizing precise search quotation marks for "reflective practice," "teacher education," and the Spanish equivalents, "reflective practice," "teacher training," and "reflective strategies." This methodological rigor was implemented to enhance the accuracy of the studies directly related to the object of research.

The primary instrument employed for executing the searches through the official Scopus and WOS APIs was Free Software: Publish or Perish (Harzing, 2016). This instrument facilitated direct access to the academic metadata of both databases and enabled the export of records in . RIS and . CSV. Concurrently, complementary searches were executed in Crossref employing the Publish or Perish function, thereby facilitating the identification of articles that have been registered with Digital Object Identifier (DOI) and linked to open repositories such as Scielo, Dialnet, and DOAJ. This procedure expanded coverage to open access literature, ensuring the inclusion of peer-reviewed studies that provided methodological and geographic diversity.

The search was constrained to peer-reviewed articles published between 2019 and 2025, as 2019 signifies a pivotal year in the evolution of teacher education, marked by the integration of digital environments and innovative reflective strategies, including e-portfolio, virtual mentoring, and video reflection. The present time cut guarantees the methodological and technological timeliness of the evidence, as demonstrated in the works of Page et al. (2021) and responds to the conceptual renewal of reflective practice in teachers, as outlined in the works of Marcelo & Vaillant (2022) and Zeichner (2020).

2.3. Inclusion and exclusion criteria

The inclusion criteria considered: (C1) articles published between 2019 and 2025, (C2) written in Spanish or English, (C3) published in peer-reviewed journals indexed in the aforementioned databases, (C4) focused on initial or continuing teacher training, (C5) research that implemented, analyzed, or evaluated strategies aimed at strengthening reflective capacity, (C6) available in full text and open or institutional access.

Documents not related to the educational field, theses, reviews, technical reports or articles without peer review were excluded. In addition, duplicates and studies with insufficient methodological information were eliminated. The criteria were systematically applied during the screening process, guaranteeing methodological coherence and quality (Page et al. 2021; Petticrew & Roberts, 2006).

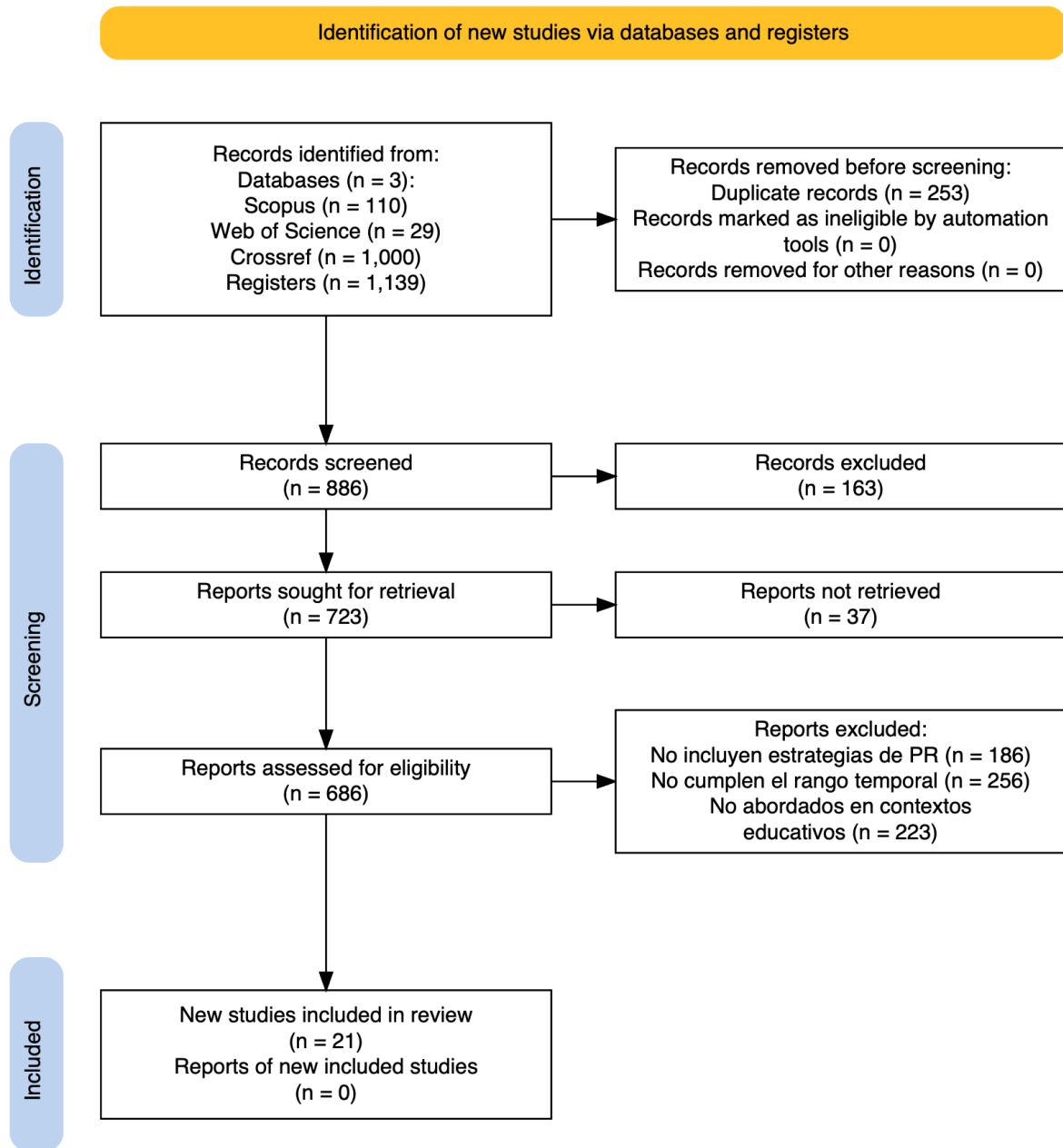
2.4. Study selection procedure

The selection process followed the identification, screening, eligibility and inclusion phases proposed by PRISMA (Page et al. 2021).

Initially, 1 139 records were identified in the 3 databases consulted. Subsequently, 253 duplicate records were eliminated, leaving 886 documents for the screening process, during the stage of review of titles and abstracts, 163 records were excluded for not responding to the purpose of the review, leaving 723 potentially relevant reports. Of these, 37 could not be retrieved due to lack of access, so 686 studies were assessed at full text.

In this phase, 665 reports were excluded for the following reasons: not including RP strategies (n=186), not complying with the time range established between 2019 and 2025 (n=256) and not addressing educational contexts (n=223). Finally, 21 studies met the eligibility criteria distributed in the following sources: WOS (4), Scopus (11), SciELO (4), DOAJ (1) and Dialnet (1). The process is summarized in the PRISMA diagram, which transparently shows the exclusion and inclusion phases of the studies.

Figure 1. Flowchart 2020



2.5. Data extraction and encoding

The extraction of information was performed by the author following a standardized protocol to support the consistency of the record. Each of the 21 studies was incorporated into a master matrix (see Table 1) that included the following variables: (a)ID; (b) title of the article; (c) author(s) (d) year of publication; (e) country of origin; (f) language; (g) type of research; (h) methodology; (i) main results reported; (j) strategy applied to improve reflective practice; (k) database and (l) journal.

Table 1. Master Matrix

I D	Original title of	Autho r/s	Ye ar	Count ry of origin	Lang uage	Type of researc h	Methodol ogy	Results (brief abstrac	Strategy applied	Data base	Magaz ine
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	the article							t in Spanish)			
1	Online Reflective Practice Among Peers During the Practicum of Teaching in a Transnational Project	Miquel Alsina Tarrés; Alexander Masarado; Cristina Mallol Macau	2021	Spain – United Kingdom	Spanish	Qualitative case study after the implementation of a program	Research-Action (2 cycles) + Grounded Theory; Inductive Coding (Atlas.ti)	Development of communicative and empathetic skills; transnational collaboration enhances reflection and didactic innovation.	Reflective practice among peers on a digital platform during the practicum.	Scopus	REDU. Journal of University Teaching
2	Mediated Reflective Practice for English Teachers in Preschool and Elementary Education	Ingrid Eugenia Cerecero Medina	2021	Mexico	Spanish	Qualitative	Single case study; Narrative analysis	Mediation guides self-reflection: improved planning, self-criticism, and decision-making; Feedback from peers and mediator was key.	Mediated reflective diary + workshops and feedback.	SciELO	Nearby Zone
3	Collective Reflective Practice: An Experience of Teacher Development in Higher	Katina Isabel Camarago Ariza; Ana Carolina Moreno Herrera	2019	Colombia	Spanish	Quantitative (experimental) applied	Analysis of the effect of the "Let's Talk Teaching" program	The reflection was aligned with contextual and technical focuses; evidence of	Community of reflective teacher practice.	Scopus	Pedagogical Perspectives Journal

	Educatio n							progress towards critical reflexivi ty.			
4	Model for Reflecti ve Practice in Teacher Training in Natural Sciences	Claudi a A. Mazzit elli; Ana M. Guirad o; Julieta Lauda dío	20 23	Argen tina	Spani sh	Applied	Model design and implement ation; Descriptiv e analysis	Systema tic reflectio n empowe rs teachers and favors continu ous training; it is recomm ended to instituti onalize it.	Structure d model of reflectio n in science.	Dial net	Didacti cs of Experi mental and Social Scienc es
5	Reflecti ve Practice at the Universi dad Iberoam ericana: Training Routes and Area of Universi ty Reflecti on (ARU)	María Ofelia Béjar López Penich e	20 20	Mexic o	Spani sh	Applied	Programm atic implement ation; systematiz ation	Training routes with reflectiv e practice improve teaching by "walkin g with others"; they consolid ate trust and certaint y.	ARU reflectiv e itinerarie s (diaries, guided sessions) .	Scop us	Nearby Zone
6	E- portfolio : a tool for the develop ment of reflectiv e practice of teachers in training	Milena Vega Díaz; Daniel a Appelg ren Muñoz	20 19	Chile	Spani sh	Qualitati ve	Instrument al Case Study	The e- portfoli o links theory and pedagog ical decision s; Increase s safety when running classes.	Reflectiv e digital portfolio .	DOA J	Electro nic Journal of Educat ional Resear ch

7	Interaction and reflective practice of the teacher in the classroom	Marco A. Villalta Paucar; Sergio Martinic; Cecilia Assael	2022	Chile	Spanish	Applied Qualitative	Multiple Case Studies (PAPs)	Greater use of mediated dialogic structures and more elaborate reflection in those who actively participate in the program.	Accompaniment of the practice + guided reflection.	Scopus	Colombian Journal of Education
8	Reflective practice: innovative training strategies in Cantabria, Coimbra and Padua	Ángela Saiz Linarez; Noelia Ceballos López	2024	Spain – Portugal– Italy	Spanish	Applied Qualitative	Multi-site study; systematization	The synergy of several strategies produces deeper reflections and reconstruction of teaching thinking.	Combined strategies (journaling, co-assessment, tutoring).	SciELO	Educational Praxis
9	Teacher training in reflection: Learning situations with the R4 method	Oscar O. Calzadilla Pérez; Idalmis Ortiz Sánchez; Carlos Sánchez Cutiño	2024	Cuba	Spanish	Applied Qualitative	R4 design; Analysis of experiences	R4 systematizes the inquiry into practice and promotes professional development; curricular priority.	R4 method (guided reflection sequences).	SciELO	Journal of the University of Havana
10	Tell. A systematization of	M. de la Luz Marqués	2021	Chile	Spanish	Applied Qualitative	Systematization of experiences (SE)	The critical educator-friend	Critical friendship +	SciELO	Journal of Education

	reflective practice between teacher and critical friend	Rosa; F. G. Molina Hernández; V. L. Gómez Nocetti; M. B. Angulo Carmo na						dyad documents and deepens reflective processes; It democratizes classroom learning opportunities.	systematization.		
1 1	Using video to support teachers' reflective practice	C. Hamel	20 19	Canada	English	Applied Qualitative	Video reflection (analysis of recorded classes)	The video favors metacognitive awareness, analysis of practice and improvement of pedagogical decisions.	Reflective video analysis.	Scopus	Cogent Education (Taylor & Francis)
1 2	Rethinking approaches to reflection in initial teacher education	O. Tiainen; et al.	20 24	Finland	English	Applied Qualitative	Mentoring in peer groups; Design Studio	Peer mentoring reconfigures reflection, promotes agency and depth in initial training.	Structured peer mentoring.	Scopus	Educational Studies (Taylor & Francis)
1 3	The hall of mirrors: reflecting on pre-service teachers' reflections	D. Spiteri	20 25	Malta	English	Qualitative	Reflective Journal Analysis	The "mirror of mirrors" reveals identity construction and layers of self-	Guided reflective journals.	Scopus	Teachers and Teaching (Taylor & Francis)

								reflection; need for scaffolding.			
14	Teacher educators' use of feedback to facilitate reflective practice among pre-service teachers during microteaching	D. Asregi et al.	2023	Ethiopia	English	Mixed	Microteaching + structured feedback	Guided feedback during microteaching increases reflective depth and transfer to practice.	Structured feedback.	Scopus	Cogent Education (Taylor & Francis)
15	Using scaffolds to support preservice teachers' reflective practice	T. L. Chaselay; S. Abercrombie	2025	United Kingdom	English	Applied Qualitative	Scaffolding/prompt design	Scaffolding improves consistency and level of reflective analysis; reduce superficiality.	Reflex scaffolds (prompts).	Scopus	Frontiers in Education
16	Preservice Teachers' Reflection Processes When Collaboratively Reflecting on Videotaped Classroom Teaching	L. Rothe; K. Göbel	2024	Germany	English	Qualitative	Collegial reflection with video (Reflecting Teams)	Collaborative reflection on video enhances perspective and analytical depth.	Reflection teams with didactic videos.	Scopus	Education Sciences (MDPI)
17	Reflective Practice for Pre-	H. Li	2025	China	English	Applied Qualitative	Program-level implementation	Integrating reflective	Institutional program of	Scopus	SAGE Open

	Service Teachers', Professional Development							practice through out the program enhances professional development and agency.	reflection.		
18	Reflective practice among pre-service teachers: the role of portfolios	R. Scoupe; L. Delnoij; S. Beausert	2024	Netherlands	English	Qualitative	Study with portfolios in initial training	The portfolio promotes metacognition and progress tracking; Support for formative assessment.	Reflective portfolio.	WOS	Educational Studies (Taylor & Francis)
19	One teacher educators' strategies for encouraging reflective practice	Tom Russell	2022	Canada	English	Applied Qualitative	Reflective study of strategies	Extensive writing, learning from experience and reflective feedback: effective combination to deepen reflection.	Reflective writing + metacognition + feedback.	WOS	Frontiers in Education
20	The Role of Reflective Practice in Enhancing	Leonie G. Malica	2023	Philippines	English	Applied	Institutional implementation; Descriptive study	Structured feedback and integrated activities	feedback + reflective activities.	WOS	International Journal of All Research Scholars in

	Teacher Preparati on Program s							s increase teacher preparat ion.			Compu ter Techno logy
2 1	Connecti ng the dots: the role and potential of portfolios in lifelong teacher develop ment in Italy	M. C. Pettena ti; S. Martin elli; A. Tancre di	20 25	Italy	Engli sh	Position al with evidenc e	Synthesis of institution al experience s	Structur ed portfoli os support continu ous develop ment and critical reflectio n of teachers	Portfolio througho ut professio nal life.	WO S	Journal of e- Learni ng and Knowl edge Society

Note. Authors' elaboration based on the articles selected in the Scopus, WOS, Scielo, Dialnet and DOAJ databases (2019-2025).

Subsequently, a qualitative coding process was carried out in accordance with the guidelines of Gough et al. (2017) and Snyder, (2019). In the first phase, units of meaning linked to reflection strategies and their formative effects were identified; in a second, the codes were grouped into five thematic categories:

Table 2. Units of meaning linked to thematic categories

ID	Textual quotation (units of meaning)	Initial code	Thematic category
1	"Online reflective practice among peers favored the construction of a shared knowledge about the teaching experience."	Transnational co-reflection	Dialogic construction of professional knowledge
1b	"Tutorial accompaniment and peer interaction are valued as key elements to achieve more complex levels of reflection."	Peer Mentoring and Mediation	Dialogic construction of professional knowledge
2	The model seeks to integrate theory and practice through mediation and the teacher's perceptual and real transformation.	Dialogic integration theory and practice	Training accompaniment and support structures
2b	The figure of the mediator is essential to accompany, guide and sustain the reflective process of teachers, preventing them from abandoning the cycle.	Role of the mediator and sustainability of the process	Training accompaniment and support structures
2c	The use of blogs, Facebook and digital platforms allowed continuous communication between peers and mediators, strengthening collaborative reflection.	Technological mediation in reflection	Training accompaniment and support structures
3	Peer interaction favors processes of self-evaluation and co-evaluation that	Teacher self-evaluation and co-evaluation	Dialogic construction of professional knowledge

	strengthen critical awareness of one's own practice.		
3b	The strategy is structured in collaborative workshops that integrate individual, group and institutional reflection, linking practice with educational research.	Collaborative workshops and institutional reflection	Dialogic construction of professional knowledge
4	The model for reflective practice in Natural Sciences is based on a cyclical process that combines mediation, scaffolding and progressive autonomy of the teacher.	Guided reflective cycle	Self-reflection instruments, continuous improvement
4b	The use of instruments such as class records, incident analysis and continuous evaluation is promoted to generate critical awareness of teaching.	Reflective instruments and continuous evaluation	Self-reflection instruments, continuous improvement
5	The Training Routes are an institutional model that guides teachers towards self-reflection and continuous analysis of their practice before, during and after class, promoting sustained pedagogical changes.	Institutional model of teacher reflection	Reflective evaluation and transformation of teaching practice
5b	Each route includes theoretical-practical modules and innovation laboratories where teachers share experiences, difficulties and achievements with their peers, strengthening their confidence and didactic creativity.	Collaborative teaching innovation laboratories	Reflective evaluation and transformation of teaching practice
6	The E-portfolio makes it possible to link ICT with teacher training, promoting reflection from the first years of the career and strengthening professional autonomy.	ICT Integration – Teacher Reflection	Integration of technological resources for reflection
6b	Its use fosters a systematic process of questioning beliefs, decisions and pedagogical actions, aimed at solving educational problems and improving practice.	Systematic questioning of practice	Integration of technological resources for reflection
7	The reflective interaction between teachers and students during the class is conceived as a dialogic process that makes it possible to understand pedagogical actions in real time.	Reflective teacher-student interaction	Reflective evaluation and transformation of teaching practice
7b	Video recordings and self-observations of classes are applied as strategies to analyze interaction and provide feedback on pedagogical practices.	Video recording and self-observation as a strategy	Reflective evaluation and transformation of teaching practice
8	The study examines three European models of practicum (Cantabria, Coimbra and Padua), focusing the analysis on innovative training strategies that promote reflection and research as axes of teaching practice.	European models of reflective training	Dialogic construction of professional knowledge

8b	Guided observation and interviews with school actors are consolidated as strategies to connect theory and practice, favoring contextual understanding and critical thinking of the teacher in training.	Observation and reflective interview	Dialogic construction of professional knowledge
8c	Microteaching, applied in Padua, combines recorded simulations and collaborative analyses that help future teachers recognize strengths and weaknesses in their performance.	Reflective microteaching	Dialogic construction of professional knowledge
9	The study is based on the R4 method of Domingo (2013), which structures reflective practice in four phases: selection of a situation, reconstruction of the fact, self-regulated reflection and optimization of practice.	Phases of the R4 method	Instruments for self-reflection and continuous improvement
9b	Learning situations designed with the R4 method encourage self-regulation, metacognition, and critical evaluation of teacher performance.	Reflective learning situations	Instruments for self-reflection and continuous improvement
10	The study systematizes the Contarte experience, focused on collaborative reflection between an early childhood teacher and her "critical friend" to improve language teaching in vulnerable rural contexts.	Collaborative teacher-critical friend reflection	Dialogic construction of professional knowledge
10b	The use of diaries, logs, audiovisual records and digital conversations (WhatsApp, emails) constituted a tool to document and critically analyze the teaching action.	Multi-format reflective documentation	Dialogic construction of professional knowledge
11	The review analyzed 89 studies on the use of video in initial and continuing teacher education, identifying that recording and visual analysis facilitate professional awareness and critical reflection.	Video analysis and teacher awareness	Integration of technological resources for reflection
11b	The most frequent reflective tasks were group discussion and writing reflections, followed by video editing or coding, which favors different levels of analysis.	Multimodal reflective tasks	Integration of technological resources for reflection
12	The reflection is structured on the basis of dialogues in peer groups and with the mentor, supported by video recordings that stimulate self-evaluation and collective analysis.	Peer mentoring with video support	Training accompaniment and support structures
12b	The role of the mentor was transformed: he went from being a managerial figure to a horizontal participant who listens and	Participative role of the mentor	Training accompaniment and support structures

	accompanies, favoring the self-management of future teachers.		
12c	The analysis of the recordings showed that the trainee teachers were able to link theory with practice by identifying authentic problems and proposing pedagogical solutions.	Identification of practical problems	Training accompaniment and support structures
13	The study examined the diaries of three pre-service teachers to identify how they reflect on their daily practice, using Gibbs' model as an analytical framework.	Gibbs-based reflective journal	Instruments for self-reflection and continuous improvement
13b	The reflections focused mainly on the evaluation and analysis of the classes, while the expression of emotions was scarce or indirect.	Predominance of cognitive over emotional analysis	Instruments for self-reflection and continuous improvement
14	Teacher trainers used assessment criteria as an initial guide ("feed-up") to guide the planning and implementation of micro-classes, although with little practical demonstration.	Criteria-based anticipatory feedback	Reflective evaluation and transformation of teaching practice
15	The study evaluated the impact of digital reflective scaffolds on the quality of reflective thinking in trainee teachers during micro-teaching courses.	Reflective digital scaffolding	Integration of technological resources for reflection
15b	Two types of scaffolding were implemented: a descriptive one, based on general questions, and a critical incident one, focused on authentic dilemmas and problem solving.	Types of Reflective Scaffolding	Integration of technological resources for reflection
16	The study explores how pre-service teachers collaboratively reflect on didactic videos, within the FLECTT project, based on the Reflecting Teams approach.	Videotaped collegiate reflection	Dialogic construction of professional knowledge
16b	The participants worked in teams: a "video-team" group that analyzes its own class, and a "meta-team" that performs a meta-reflection and proposes new perspectives.	Division into reflective teams	Dialogic construction of professional knowledge
17	"The development of reflective practice in teachers was strengthened through the implementation of collaborative strategies in virtual environments, promoting the exchange of experiences and professional self-evaluation."	Virtual collaborative strategies	Integration of technological resources for reflection
17b	"Peer feedback activities contributed to critical awareness of one's own teaching practices."	Critical peer feedback	Integration of technological resources for reflection

17c	"The use of digital reflective diaries made it possible to evidence processes of transformation in the pedagogical understanding of teachers in training."	Digital reflective journal	Integration of technological resources for reflection
18	The study analyzed how the use of the reflective portfolio strengthens reflective thinking and employability competencies in physical education teachers in training.	Reflective portfolio as a professional tool	Instruments for self-reflection and continuous improvement
18b	The phases of the reflective process – awareness, analyse, plan, act and reflect – directly influenced the formation of employability skills.	Reflection cycle	Instruments for self-reflection and continuous improvement
19	She designed an assignment entitled "The story of my year learning to teach", structured in five installments that document the student's professional reflective evolution.	Sequential reflective writing	Training accompaniment and support structures
19b	He concludes that teaching reflection requires positive relationships, constant modeling, moderate use of the term, and sustained accompaniment in practice.	Principles for Teaching Reflection	Training accompaniment and support structures
20	Programs include regular reflective activities such as journals or logs, which promote critical thinking and teacher self-regulation.	Reflective journals and self-evaluation	Instruments for self-reflection and continuous improvement
20b	It is recommended to standardize reflective integration, include longitudinal evaluations and strengthen continuous training in teacher reflection.	Improvement strategies	Instruments for self-reflection and continuous improvement
21	The article conceptualizes the portfolio as a tool to articulate initial training, induction, and ongoing professional development of teachers.	Portfolio as an articulating axis	Reflective evaluation and transformation of teaching practice
21b	The portfolio functions as a narrative and metacognitive space, where teachers document experiences, reflect on their practice and project future goals.	Portfolio as a reflective narrative space	Reflective evaluation and transformation of teaching practice
21c	The success of the portfolio depends on the accompaniment of mentors and an institutional culture that values reflection and collaboration.	Mentoring and reflective culture	Reflective evaluation and transformation of teaching practice
21d	It is recommended to maintain the balance between flexibility and standardization, to prevent the portfolio from losing its formative potential and becoming an administrative procedure.	Balancing control and autonomy	Reflective evaluation and transformation of teaching practice

Source: own elaboration

2.6. Methodological quality assessment

The methodological quality of the 21 selected studies was analyzed through ten criteria built from the integration of theoretical and methodological references recognized in qualitative and mixed reviews. These criteria were adapted from Gough et al. (2017) and Nowell et al. (2017), with subsequent adjustments made to align with the educational context and the objective of this review.

The results of the study are presented in Table 3. The majority of the studies have high or moderate methodological quality. These studies are characterized by clarity of objectives and internal coherence. However, the explicitness of the researcher's reflexivity and the formal validation of instruments are lacking.

Table 3. Assessment of the methodological quality of studies included in the systematic review

ID	1. Obj. Clear	2. Method-objectives	3. Context described	4. Defined participants	5. Data collection	6. Validity/reli	7. Triangulation	8. Reflexivity	9. Transparent	10. Coherent conclusions
1	+	+	+	+	+	±	±	+	+	+
2	+	+	+	±	+	±	+	±		+
3	+	+	+	+	+	±	±	±	+	+
4	+	+	+	±	+	±	+	±	+	+
5	+	+	+	±	+	±	+	+	+	+
6	+	+	+	+	+	±	+	±	+	+
7	+	+	+	+	+	±	+	±	+	+
8	+	+	+	+	+	+	+	±	+	+
9	+	+	+	±	+	±	+	±	+	+
10	+	+	+	+	+	±	+	+	+	+
11	+	+	+	+	+	+	+	±	+	+
12	+	+	+	+	+	±	+	±	+	+
13	+	±	±	–	–	±	–	+	±	+
14	+	+	+	+	+	+	+	±	+	+
15	+	+	+	+	+	±	+	±	+	+
16	+	+	+	+	+	+	+	±	+	+
17	+	+	+	+	+	+	+	±	+	+
18	+	+	+	+	+	±	+	±	+	+
19	+	±	±	–	–	±	–	+	±	+
20	+	+	+	+	+	+	+	±	+	+

21	+	+	+	+	+	+	+	±	+	+
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Note. Evaluation based on the methodological analysis of the 21 articles, following the criteria of (Gough et al., 2017; Nowell et al., 2017 and Ferrero et al., 2021)

Legend: (+) Fully meets the criteria; (±) Partially complies or with limited information; (–) Not compliant or not reported.

Table 4. *Criteria evaluated in Table 3*

number	Criterion	Operational Description	Compliance indicator
1	Clarity of objectives	Assesses whether the purposes of the study are explicitly defined and related to the improvement of reflective teaching practice.	It is considered fulfilled (+) when the objectives are clear, coherent and verifiable.
2	Consistency between method and objectives	Analyzes the correspondence between the objectives set and the methodological design used.	A grade (+) is given if the selected method directly answers the research questions.
3	Educational context described	Assesses the precision with which the study scenario is presented (institution, educational level, area or modality).	Meets (+) if the context is described in sufficient detail to replicate the study.
4	Defined participants	Examines the description of the number, characteristics and selection criteria of the participants.	(+) is assigned if the sample is clearly delimited and justified.
5	Detailed data collection	Consider clarity and completeness in the explanation of data collection procedures.	It is fulfilled (+) when instruments, phases and times of fieldwork are specified.
6	Validity and reliability of instruments	Evaluates whether the instruments or techniques applied have evidence of reported validity or reliability.	(+) is true when theoretical validation, statistics or triangulation of experts is mentioned.
7	Triangulation of techniques or sources	Check to see if the study combines different methods or sources of information to strengthen interpretation.	It is considered (+) if it integrates at least two analytical techniques or perspectives.
8	Reflexivity of the researcher	It measures whether the author recognizes his or her role, biases, or positioning in front of the object of study.	(+) is fulfilled when the researcher's reflective or self-critical process is explicitly stated.
9	Transparent and systematic analysis	It examines whether the analysis procedure (coding, categorization, statistics, etc.) is described in sufficient detail.	It is assessed (+) whether the analytical process is replicable and congruent with the reported data.

10	Conclusions consistent with the results	Determines the congruence between the findings presented and the conclusions formulated.	(+) is fulfilled when the conclusions derive directly from the analysis and do not extrapolate evidence.
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2.7. Synthesis of results

From the previous codification, five central thematic categories were established:

Table 5. *Thematic categories*

Thematic category	Conceptual description
1. Dialogic construction of professional knowledge	It groups strategies that promote collective reflection and shared learning among teachers or students in training. It is based on co-reflection, interaction between equals and professional dialogue as a means to build pedagogical knowledge.
2. Formative accompaniment and support structures	It brings together the actions of mediation, supervision and tutoring aimed at guiding reflective processes and strengthening professional practice. Highlight the role of the tutor or mentor as a facilitator of reflection.
3. Instruments for self-reflection and continuous improvement	It includes strategies and instruments that favour self-assessment and monitoring of teachers' own learning. It includes the use of journals, logs, portfolios and reflective guides.
4. Integration of technological resources for reflection	Describes the use of digital platforms and virtual environments that facilitate reflective practice through communication, feedback, and recording of teaching experiences.
5. Reflective evaluation and transformation of teaching practice	It includes strategies aimed at the practical application of reflection, in which teachers integrate theoretical learning in real situations, evaluating their impact and modifying their practice.

The comparison between these categories allowed to build an integrated vision of the reflective strategies documented between 2019 and 2025, evidencing the trend towards training models where the dialogic construction of professional knowledge and the application of instruments of self-reflection and continuous improvement predominate, the findings are presented in the Results section.

Results

Table 6. *Results of the study*

Thematic category	Study ID	Frequency (n)	Percentage (%)
1. Dialogic construction of professional knowledge	1, 3, 8, 10, 16	5	23.8
2. Training accompaniment and support structures	2, 12, 19	3	14.3
3. Instruments for self-reflection and continuous improvement	4, 9, 13, 18, 20	5	23.8
4. Integration of technological resources for reflection	6, 11, 15, 17	4	19.0
5. Reflective evaluation and transformation of teaching practice	5, 7, 14, 21	4	19.0

Total	—	21	100
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Note: own elaboration.

The results of Table 6 show that the most representative categories are the dialogic construction of professional knowledge and the instruments of self-reflection and continuous improvement, both with a frequency of 23.8%, this finding suggests that RP is understood in most of the studies reviewed, as a process of social interaction and professional self-awareness. From the perspective of (Schön, 1983a) and Dewey, (1933) Reflection is consolidated as an act of persistent and careful review of the beliefs or forms of knowledge that guide the teaching action.

The predominance of the category of dialogic construction confirms that current reflective strategies tend to be developed in collaborative spaces of constant interaction, where teachers co-construct meanings and reconstruct their pedagogical knowledge through dialogue, conversation, criticism and joint participation. On the other hand, the relevance of self-reflection instruments reflects the need for concrete methodological structures, such as journals, portfolios or reflective rubrics, which allow reflective thinking to be operationalized.

Table 7. Interpretative synthesis of thematic categories

Thematic category	Analytical Description	Synthesis of finding
1. Dialogic construction of professional knowledge	It emphasizes reflection among peers, communities of practice and co-construction of teaching knowledge.	Reflective practice is strengthened through collaborative dialogue and the exchange of experiences.
2. Training accompaniment and support structures	It groups tutorial and pedagogical mediation strategies aimed at guiding reflection.	Tutoring and mentoring allow structured reflective processes to be sustained.
3. Instruments for self-reflection and continuous improvement	It brings together mechanisms for self-evaluation and personal monitoring (diaries, portfolios, rubrics).	Reflective journals promote critical awareness of teaching practice.
4. Integration of technological resources for reflection	It includes digital environments and ICT tools that facilitate individual and collaborative reflection.	Virtual environments favor co-reflection and feedback among peers.
5. Reflective evaluation and transformation of teaching practice	It focuses on the practical application of reflection as a process of professional change.	Reflection-action-reflection drives innovation and pedagogical transformation.

Table 7 shows that the strategies applied to improve reflective practice in teacher training are conceived as a process multidimensional which articulates individual reflection and the collective construction of professional knowledge. Collaborative strategies, formative accompaniment and the use of instruments that systematize the experience predominate, which reaffirms that reflection is not only introspective, but also dialogic and action-based Schön, (1983) and Zeichner, (2020).

The presence of categories such as Instruments of self-reflection *and* Formative accompaniment evidence of the need to Methodological structures (journals, portfolios, tutorials) that favor self-evaluation and awareness of the practice. At the same time, the integration of technological resources reflects the adaptation of teaching reflection to the needs of the students. Digital and collaborative environments, expanding co-learning opportunities (Perrenoud, 2004).

Table 8. *Thematic categories included in strategies applied to improve RP*

Thematic category	Strategies applied to improve reflective practice	ID
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1. Dialogic construction of professional knowledge	Reflective Peer Practice on Digital Platforms; communities of reflective practice; critical friendship; reflection teams with didactic videos; combined strategies of journaling, tutoring, and co-evaluation.	1, 3, 8, 10, 16
2. Training accompaniment and support structures	Reflective diary mediated with workshops and feedback; structured peer mentoring; Reflective writing with metacognition and feedback.	2, 12, 19
3. Instruments for self-reflection and continuous improvement	Structured model of reflection; R4 method of guided reflection; reflective diaries; reflective portfolios; Self-evaluation and improvement activities.	4, 9, 13, 18, 20
4. Integration of technological resources for reflection	Reflective digital portfolio; reflective video analysis; virtual scaffolding to promote reflection; institutional program mediated by ICT.	6, 11, 15, 17
5. Reflective evaluation and transformation of teaching practice	Institutional Reflective Itineraries (ARU); accompaniment of the practice with guided reflection; structured feedback; Longitudinal portfolio of professional development.	5, 7, 14, 21

Table 8 shows that the category of strategies applied to improve RP is that the category of dialogic construction of professional knowledge concentrates experiences of co-reflection (peers, communities of practice, "critical friendship", video reflection teams) that situate reflection in socially mediated interactions, on the other hand, formative accompaniment and support structures (mentoring, Workshops, feedback) show that pedagogical mediation stabilizes and deepens reflection, linking theory and practice favoring progressions towards more complex levels of teaching analysis.

At the same time, the instruments of self-reflection and continuous improvement (diaries, portfolios, guided reflection) show the need to incorporate focused strategies in which the teacher or future teacher can account for his or her mistakes and strengths, based on this, organize an action plan that allows him or her to constantly improve his or her teaching practice. The integration of technological resources (digital portfolios, video analysis, virtual scaffolding) does not appear as an end in itself, but as a mediation that drives collaboration and feedback. Finally, the category of reflective evaluation and transformation of practice (itineraries, structured feedback, longitudinal portfolios) show evidence of changes in didactic decision-making and in the sustained improvement of teaching, which is precisely the result of the development of the teaching process. Schön, (1983) considered as the transition from the technical to the reflective professional.

Taken together, the pattern that emerges suggests that the most powerful strategies combine: (a) dialogic spaces for co-construction, (b) scaffolding and instruments that systematize evidence from practice, and (c) technological mediations that expand collaboration and traceability. This triad configures a reflective ecosystem capable of producing observable changes in teaching practice, both in initial and continuing education, and provides an operational framework for the design of interventions with a higher probability of impact.

4. Discussion

The results of this review show trends that align with recent findings. First, the importance of incorporating strategies linked to the dialogic construction of professional knowledge, as mentioned in his systematic review Medina et al. (2023) Reflective dialogues favor a review of pedagogical practice, in which teachers analyze and reconstruct their experiences to improve their beliefs, emotions, and actions generating new knowledge that strengthens their critical thinking and professional development. These dynamics position the teacher as an essential agent and engine of success in the fulfillment of educational objectives.

Research such as that of Medina & Mollo, (2021) mentions that mentors or mediators have a positive impact on the accompaniment, feedback and self-regulation of students, which is related to the category of formative accompaniment and support structures, it is worth specifying the fundamental role that these mediators play in the incorporation of RP in the teaching activity.

In its systematic review Pereda, (2022) He mentions that technological resources have been implemented during the health emergency due to COVID-19, becoming indispensable tools to sustain pedagogical interaction. However, their relevance has not been limited to that context, but is maintained and strengthened to the present day, consolidating themselves as means that facilitate reflective practice, in this sense, technologies not only act as channels for the transmission of information, but as true environments of reflective mediation that enable the exchange of ideas, collective construction, professional accompaniment between teachers and students.

On the other hand Recio-Muñoz & Nagata (2021) In their study, they characterize teacher learning by mediating technological strategies, evaluating the impact of a digital application on the reflection of teachers in training. Their results confirm that technological tools can serve as powerful mediators of reflection, but they also require a careful design of the reflective flow and pedagogical support, which is linked to the category integration of technological resources for reflection.

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