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Reflective Writing and Artificial Intelligence in the Practicum of Italian Initial Teacher Education Pathways: Coordinating Tutors' Perspectives on the Journal and the E-Portfolio

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Abstract: The Italian Prime Ministerial Decree (DPCM) of 4 August 2023 assigns the practicum journal and the e-portfolio a central role in developing prospective teachers' reflective competences, yet research has long shown that practicum writing tends to remain descriptive unless it is supported. This study examines how coordinating tutors perceive these tools and which conditions would enhance their reflective potential. An anonymous questionnaire, combining rating scales and open-ended questions, was administered to 56 coordinating tutors of the 60-ECTS initial teacher education pathways at Università Telematica Pegaso (academic year 2025/26); closed-ended responses were analysed with descriptive statistics and non-parametric tests, and open-ended responses through thematic analysis. Among the practicum documents, tutors attribute the greatest capacity to stimulate reflection to the journal and the e-portfolio, and the reflective value attributed to the journal is associated with the perceived clarity of its function and with the rating of the e-portfolio. Open-ended responses point to the perception that the journal is optional, a weak connection between the two tools, writing that is often descriptive, and completion concentrated close to deadlines; proposals converge on short guiding questions, integration between the tools and workshop-based support. The findings thus identify specific support needs for reflective writing. On this basis, and in dialogue with the literature, the authors put forward a proposal, not yet tested, in which generative AI could act as metacognitive, dialogic, formative and longitudinal scaffolding, within explicit rules of use and within the relationship with the tutor.

Keywords: practicum; reflective writing; e-portfolio; artificial intelligence; initial teacher education

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1. Introduction[1]

The Italian Prime Ministerial Decree (DPCM) of 4 August 2023, which redesigns the initial teacher education pathways for secondary school, places practicum documentation at the centre of initial teacher education and, in the professional profile set out in Annex A, gives explicit prominence to reflective and

[1] This contribution is the result of the joint work of the authors. Lia Daniela Sasanelli wrote Sections 1 (Introduction) and 2 (Materials and Methods); Marilena di Padova wrote Sections 3 (Results) and 4 (Discussion); Anna Dipace wrote Section 5 (Conclusions).

metacognitive competences. Documentation tools are therefore expected to function as training devices and not merely as collections of evidence. From this perspective, the journal and the e-portfolio perform complementary functions of documenting and re-elaborating experience, which can support the development of the reflective practitioner described by Schön (1983).

International research has long recognised writing as one of the main tools for developing prospective teachers' reflectivity, but it has also shown its limits. Practicum journals tend to remain at a descriptive level (Hatton & Smith, 1995), and the quality of reflection improves only when writing receives targeted feedback (Bain et al., 1999). The critical literature also points to the ambiguity of the concept and to the risk that reflection is reduced to a prescribed exercise (Beauchamp, 2015; Collin et al., 2013). This study takes this tension as its starting point and proceeds from a constructive hypothesis, namely that the formative potential of these tools can be supported by integrating a workshop on metacognitive reflective writing, which may also be mediated by technology.

Reflectivity is not a gift that one either possesses or lacks, but a disposition that develops over time, as Perla reminds us when she defines it as "the habit of pondering at length before acting" (2013, p. 373; our translation, as for all quotations from Italian sources). For practicum writing to nurture it, the literature points to four conditions: distancing oneself from experience, distinguishing fact from interpretation, gradual support, and writing distributed over time.

Distancing is the first of these conditions. For Dewey (1933), reflective thinking arises when judgement is suspended rather than reached at once, and it takes the form of a rigorous process of meaning-making (Rodgers, 2002). Schön (1983) situates practicum documentation within reflection that follows action, when "contextualised experience" can be "de-contextualised" (Sasanelli, 2024, p. 26), and Mezirow (1991) shows that reflection becomes transformative when it moves from content and process back to premises. Among the devices for distancing, writing is perhaps the oldest. It has been interpreted as an autobiographical practice of self-construction (Cambi, 2002), as an exercise of reflective thinking (Mortari, 2003) and as an action that professionalises, because it gives a name to the practical knowledge that teachers enact without being able to name it (Perla, 2010, 2017). In metacognitive terms (Flavell, 1979), it is in this passage that classroom experiences become knowledge about one's own way of teaching.

Not all writing, however, accomplishes this conversion, because it is also necessary to distinguish what one has observed from what one thinks about it. In the 39 practicum portfolios analysed by Mansvelder-Longayroux et al. (2007), remembering and evaluating activities largely prevailed, whereas critical processing accounted for six of the 1,778 occurrences of learning activities counted, aggregated by topic within the portfolio themes. Bereiter and Scardamalia (1987) offer a key to interpreting this, distinguishing *knowledge telling*, in which the text follows the order of recollection, from *knowledge transforming*, in which the text poses a problem to be solved. The shift from one to the other occurs above all through rereading. Mortari (2003) therefore suggests using a blank margin to separate, on rereading, descriptive sequences from interpretive ones (p. 96), and in the initial phase a two-column record, devoted respectively to observations and comments, can help (Sasanelli, 2024, p. 108).

This shift takes time and meets predictable resistance. Meyer and Land (2005) describe the liminal space that precedes the crossing of a threshold concept, in which learners imitate expert language before grasping its meaning. This is what happens in journals that adopt pedagogical vocabulary without yet bending it to interpretation, in that "middle ground between the no-longer and the not-yet" (Perla, 2012, p. 33) that characterises practicum writing. The last two conditions follow from this: gradual support and writing distributed over time. The journal and the e-portfolio perform complementary functions, since the former is the place of sedimentation and the latter the place of composition, which gathers and reworks artefacts as evidence of competence (Sasanelli, 2024, pp. 121–123). Continuity of use fosters ownership of one's own learning and the connection between theory and practice (Ayan & Seferoğlu, 2011), and returning to one's own accounts after some time constitutes a desirable difficulty (Bjork, 1994), capable of opening up "new interpretive perspectives" (Mortari, 2003, p. 93).

Research on the use of artificial intelligence in prospective teachers' reflective writing is recent and limited in scope. A first strand, building on *reflective writing analytics*, studies AI as a feedback device. Even before large language models, it was possible to automatically recognise some categories of reflection (Ullmann, 2019) and to return actionable feedback (Gibson et al., 2017). Sorge et al. (2025) used BERT to classify the components of pre-service physics teachers' reflections and to provide structural feedback. Across five writing activities, which also included explicit instruction and feedback from instructors, they observed an increase in evaluative elements that cannot be attributed to the model alone. This approach should be distinguished from dialogue with a generative AI. Using a randomised design, Hofmann et al. (2025) found comparable gains with ChatGPT feedback and with feedback from university instructors. A second strand studies AI as an interlocutor in the revision of texts. Reflections revisited with ChatGPT in a "re-reflection" phase were more focused (Abualrob, 2025), whereas Mikeladze (2026) observed that assistance improved organisation and professional vocabulary but tended to standardise personal voice.

The literature also highlights the risks of such support. With ChatGPT support, the quality of texts may improve while metacognitive processes of orientation and evaluation decrease (Fan et al., 2025). A generic assistant improves performance during practice and worsens it once removed, unless it is designed with pedagogical constraints (Bastani et al., 2025), and students tend to rely on assistance rather than learn from it (Darvishi et al., 2024). The opportunities offered by language models thus appear inseparable from critical competence in their use on the part of teachers and students (Kasneci et al., 2023).

These findings belong to an issue that research on teacher education regards as central, namely coherence among the different components of programmes and, in particular, the link between field experience and the moments in which it is re-elaborated (Darling-Hammond, 2006). Zeichner (2010) described this link as a hybrid space, in which academic knowledge and practitioner knowledge meet on a less hierarchical plane. The journal and the e-portfolio, together with the indirect practicum led by the tutors, can constitute precisely this space, provided that writing does not remain a separate requirement but becomes the place where experience is questioned.

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Within the architecture of the practicum, a decisive role falls to the coordinating tutors, who lead the indirect practicum (the university-based component of the practicum), facilitate reflection groups and examine the documentation produced by trainees. Alongside the functions of modelling and assessment, the literature recognises that those who supervise the practicum also support reflection (Clarke et al., 2014). Tutors are therefore privileged witnesses of how reflective writing takes shape and of the points at which it stalls. In the Italian context, recent studies are already analysing the narratives contained in the e-portfolios of the initial teacher education pathways (Pentucci, 2026). The present contribution focuses on the perspective of coordinating tutors, on the connection between the journal and the e-portfolio and on the conditions for supporting writing, deriving implications for design.

The study gives voice to coordinating tutors and is structured around two research questions.

> **RQ1.** *How do coordinating tutors perceive the clarity, reflective value and workload of the practicum documents, and in particular of the journal and the e-portfolio?*
>
> **RQ2.** *What obstacles and what proposals for improvement do coordinating tutors identify in the reflective writing of the journal and the e-portfolio?*

The responses provide indications for a pathway in which AI supports the student teacher's thinking as scaffolding (Wood et al., 1976), without replacing it.

2. Materials and Methods

The study adopts a descriptive mixed-methods design that integrates quantitative and qualitative data collected through a single instrument. Participants were 56 coordinating tutors involved, in the academic year 2025/26, in the practicum of the 60-ECTS initial teacher education pathways at Università Telematica Pegaso. The DPCM of 4 August 2023 entrusts coordinating tutors with the examination of the documentation produced during the indirect practicum (art. 10); they therefore read trainees' journals and e-portfolios, follow their development in group meetings and are responsible for their validation. Consistent with a collaborative research model (Perla & Vinci, 2021), their perspective is treated not as an object of evaluation but as a source of indications for design.

The questionnaire, developed ad hoc by the authors on the basis of the documentary structure of the practicum, was administered via Google Forms at the end of the year's activities. Participation was voluntary and the questionnaire collected no personally identifiable data. The 56 responses were collected on 7 and 8 July 2026. The section considered in this contribution concerned the four practicum documents, namely the training plan, the hours log, the practicum journal and the e-portfolio. For each document, tutors rated on 1–5 scales the clarity of structure and purpose as perceived by trainees (from "not at all clear" to "very clear and intuitive") and the document's capacity to stimulate genuine reflection (from "purely bureaucratic" to "highly reflective and formative"). They also rated the document's impact on their own workload for reading, supervision and validation (from "minimal and entirely sustainable" to "excessive and burdensome"). For each of the four documents, two open-ended questions addressed the difficulties encountered and proposals for improvement. The present contribution analyses the four

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questions concerning the journal and the e-portfolio. There were no missing responses in the quantitative items or in the open-ended questions considered here.

Closed-ended responses, which are ordinal in nature, were analysed with descriptive statistics (mean, standard deviation and percentage of responses in the two highest levels of the scale) and with non-parametric tests. The Friedman test was used to compare the reflective value attributed to the four documents; the Wilcoxon signed-rank test to compare the journal and the e-portfolio, excluding pairs with zero difference from the computation of the statistic, as the procedure requires; and Spearman's coefficient (ϱ) to estimate associations between ratings. For the Wilcoxon test, effect size was calculated as $r = |Z|/\sqrt{N}$, using the total number of rating pairs as the denominator ($N = 56$). Open-ended responses on the journal and the e-portfolio were subjected to thematic analysis following the phases outlined by Braun and Clarke (2006), which comprise reading the entire corpus, initial coding, generating themes, reviewing them and defining them. The categories, counts and assignments to individual responses were checked by the authors against the original texts. A single response could be assigned to more than one category; frequencies therefore indicate the number of tutors who referred to each theme and cannot be summed. Consistent with the focus of the contribution, the themes relating to reflective writing are considered, and they are reported as a thematic synthesis.

3. Results

The journal and the e-portfolio are the documents to which tutors attribute the greatest capacity to stimulate genuine reflection (Table 1). Differences among the four documents are marked (Friedman, $\chi^2(3) = 74.37$, $p < .001$). The training plan and the hours log, which have a predominantly organisational function, are perceived to a greater extent as administrative requirements ($M = 2.45$ and $M = 2.82$, respectively), whereas the e-portfolio obtains the highest mean ($M = 3.98$), with 70% of tutors placing it in the two highest levels of the scale. The journal follows ($M = 3.57$; 54%) with the widest dispersion of all the values recorded ($SD = 1.19$), since alongside 30 tutors who consider it reflective or highly reflective there are 12 who place it in the two lowest levels. The direct comparison confirms that the e-portfolio is judged more reflective than the journal (Wilcoxon, $Z = -3.27$, $p = .001$), with 21 tutors giving it a higher score, 5 a lower score and 30 the same score. Calculated over all 56 pairs, the effect size is $r = .44$; if only the 26 pairs with a non-zero difference were considered, the value would be higher ($r = .64$).

Table 1. Clarity, stimulus to reflection and workload of the practicum documents according to coordinating tutors.

Document	Clarity *M* (*SD*)	% 4–5	Stimulus to reflection *M* (*SD*)	% 4–5	Workload for the tutor *M* (*SD*)	% 4–5
Training plan	3.34 (0.98)	45	2.45 (1.01)	18	1.93 (1.01)	7
Hours log	3.48 (0.91)	50	2.82 (0.99)	23	3.25 (1.03)	45
Practicum journal	3.46 (1.01)	45	3.57 (1.19)	54	2.82 (1.13)	29
E-portfolio	3.46 (0.93)	52	3.98 (1.04)	70	3.73 (1.10)	66

Note. $N = 56$. Scales from 1 to 5. The % 4–5 column reports the percentage of tutors who chose the two highest levels. For workload, higher values indicate a heavier load.

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Perceived clarity is intermediate and similar across all documents (*M* between 3.34 and 3.48), so much so that for the journal and the e-portfolio only about half of the tutors consider their structure and purpose to be clear to trainees. Workload, by contrast, distinguishes the two reflective tools. The e-portfolio is the most demanding document to read and validate ($M = 3.73$; 66% in the two highest levels), whereas the journal, which is not subject to formal submission, has a lower impact ($M = 2.82$).

The associations between ratings add three elements. For all documents, reflective value increases with perceived clarity, and the link is strongest precisely for the journal ($\varrho = .60$, $p < .001$, compared with $\varrho = .37$, $p = .005$, for the e-portfolio). Tutors who attribute greater reflective value to the journal thus tend to perceive its function as clearer. Ratings of the reflective value of the journal and the e-portfolio are also closely associated ($\varrho = .74$, $p < .001$), as those who recognise the potential of one tend to recognise that of the other. Finally, no statistically significant associations emerge in the sample between reflective value and workload for any document (ϱ between .00 and .12; $p > .39$).

The open-ended responses help to interpret this picture (Table 2). For the journal, the difficulties concern both the status of the tool within the pathway and the ways in which it is completed. The most frequent theme, mentioned by 14 tutors, is a poorly understood formative function, as a result of which the journal is experienced as an administrative requirement. Twelve tutors attribute this perception to the fact that the journal is not a document to be submitted, and 10 report that it appears disconnected from the e-portfolio, almost a duplicate of it rather than its documentary basis. When the journal is written, the difficulty shifts to the quality of the writing. Eight tutors describe chronicle-like accounts of activities, difficulty in distinguishing facts from interpretations and the use of reassuring formulas when faced with complex situations, while another 10 refer to time and continuity, pointing to concentrated deadlines, discontinuous attendance, retrospective writing and, in some cases, the omission of critical issues for fear of being assessed. Alongside these aspects, some responses call for reducing the number of fields in the template and expanding the space for writing. The picture also contains encouraging signs, as 7 tutors report no critical issues and 5 observe that initial resistance diminishes within a few meetings when the tool is supported.

Table 2. Themes relating to reflective writing emerging from coordinating tutors' open-ended responses.

Theme	*n*
Stumbling blocks in the practicum journal	
Poorly understood formative function; journal experienced as an administrative requirement	14
Perception that the journal is optional (document not subject to submission)	12
Disconnection from or overlap with the e-portfolio	10
Timing, discontinuous attendance, retrospective writing	10
Descriptive or stereotyped writing and confusion between facts and interpretations	8
Initial resistance that diminishes with support	5
No significant critical issues	7
Proposals for the practicum journal	

Theme	*n*
Short guiding questions and targeted prompts	11
Explicit integration with the e-portfolio	10
Tutor support, workshops, making the purpose explicit	9
Writing based on significant episodes or critical cases	4
Making the journal mandatory or requiring its upload	3
Final assessment of the journal	1
Elimination of the journal	2
Stumbling blocks in reflective writing in the e-portfolio	
Connecting experience with competence areas and dimensions	12
Generic reflection, not anchored in concrete episodes	9
Standardised texts or texts written with generative AI	3
Completion concentrated at the end of the pathway	3
Proposals for reflective writing in the e-portfolio	
Examples and guiding questions	8
Anchoring in concrete experiences and narrative writing	6
Tutor support	4
Explicit link to the journal	2

Note. $N = 56$. Frequencies indicate the number of tutors whose response was assigned to the theme. A single response may fall under more than one theme.

For the e-portfolio, the themes relating to reflective writing mainly concern the connection between lived experience and the competence areas and dimensions within which it must be situated (12 tutors), and the difficulty of anchoring reflection in concrete episodes, which leaves room for general considerations about teaching or inclusion (9 tutors). Two tutors mention the use of AI in the question on difficulties, and a third points to its stereotyped wording in the proposals for improvement; these are perceptions about the authenticity of the texts, not determinations of their origin. One tutor also mentions the need to protect the confidentiality of the pupils described. Other responses report typos, redundancies, space limits and problems with the editability and accessibility of the template. Here, too, the link between the tools recurs, since where the journal has been kept regularly, writing the portfolio is easier, whereas where continuity is lacking, composition is concentrated at the end of the pathway.

As for proposals, tutors converge on three directions. The first is writing guided by a few short, meaningful questions (11 tutors for the journal, 8 for the e-portfolio), focusing for example on what was observed, what was learned and what one would do differently, with a separation, including a graphic one, between the fact and the problem. The second is integration between the journal and the e-portfolio (10 tutors), rethinking the former as a preparatory and reflective draft of the latter. The third is support (9 tutors), to be provided through workshop sessions devoted to journal writing and through examples and guidance that make its function explicit. Positions on the status of the journal differ: three tutors propose making it mandatory or requiring its upload, one suggests its final assessment and two call for its elimination. Only one upload proposal explicitly excludes assessment. For the e-portfolio, tutors also call for more explicit anchoring in experience and a more narrative form (6 tutors).

4. Discussion

The findings identify specific support needs for reflective writing. The journal and the e-portfolio are recognised as reflective tools, but their potential appears to be acknowledged rather than fully realised, and seems to depend on conditions currently left to the initiative of individual tutors or trainees. The reflective value attributed to the journal is associated with the perceived clarity of its function. Although it does not warrant causal interpretations, this finding suggests that attention should not be limited to the structure of the tools but should also extend to the support that makes their purpose understandable.

The four conditions identified in the introduction are reflected in the tutors' voices. Tutors' reports of chronicle-like writing and of the difficulty of separating facts from interpretations are consistent with the difficulties documented in the literature, which has observed the prevalence of descriptive reflection in prospective teachers' texts (Hatton & Smith, 1995; Mansvelder-Longayroux et al., 2007). The resistance that diminishes with support can be read in light of the liminal space described by Meyer and Land (2005), which invites us to interpret difficulty as a sign of learning in progress. The disconnection between the journal and the e-portfolio and retrospective writing suggest that the condition of time remains partly unmet. The association between the ratings of the two tools does not directly measure understanding of their connection, but it allows a possible interpretation, also supported by the open-ended responses, according to which the reflective potential of both is more readily recognised when the two tools are experienced as parts of the same process. Finally, the perception that the journal is optional and, conversely, the fear of being assessed recall the still unresolved tension between the formative and summative functions of the e-portfolio (Walland & Shaw, 2022). The tutors' proposals, which concern guiding questions, continuity between the tools and workshop-based support, describe the role of supporting reflection that the literature attributes to those who supervise the practicum (Clarke et al., 2014) and offer the starting point for the proposal that follows.

The needs emerging from the responses inform the proposal that follows; the choice to draw on generative AI stems from the authors' own elaboration and from the literature, and its effectiveness remains to be tested. AI could support these conditions provided that it operates as scaffolding. *Scaffolding* refers to support that enables learners to accomplish what they could not yet do on their own and that is to be gradually withdrawn (Collins et al., 1989; Wood et al., 1976). Its distinctive features are contingency, fading and the transfer of responsibility to the learner (van de Pol et al., 2010), and Mortari (2003) counts it among the competences of the reflective educator, warning that it does not work if reduced to a rigid procedure (p. 84). Generative AI, whose use appears in some of the tutors' reports, could make this support dialogic and adaptive, but it also risks becoming a shortcut. From this we derive a principle of *productive friction*, according to which the environment should reduce unproductive effort, made up of disorientation, the blank page and the absence of criteria, and leave intact productive effort, that is, the interpretive work that only the writer can carry out. For example, AI could ask which observed behaviours support the statement "the class was engaged", leaving the choice of evidence and its interpretation to the student teacher. The principle is articulated in three functions.

The *dialogic* function would translate the guiding questions requested by the tutors into Socratic questioning about the text actually written. Mezirow's (1991) distinction between content, process and premise reflection would guide different questions about the same episode, without imposing a fixed sequence. AI could ask what happened and what elements document it, how one acted and with what alternatives, and which beliefs shaped one's reading of the situation. The starting point would remain the episode, consistent with Korthagen's (2010) realistic teacher education. Since language models tend towards sycophancy (Sharma et al., 2024), AI must be configured to problematise rather than approve, and its questions should be reduced as student teachers begin to ask them of themselves.

The *formative* function would come into play when writing remains descriptive. In this case, AI would propose a provisional distinction between descriptive and interpretive passages, asking the student teacher to verify or modify it, thus translating into dialogic form Mortari's (2003) margin and the levels of reflection of Kember et al. (2008). Feedback is effective only if recipients are able to understand it and translate it into action (Carless & Boud, 2018), and its outcome is the ability to judge the quality of one's own work (Tai et al., 2018). For this reason, it must not be reduced to a score, which would steer writing towards the indicator and feed precisely the fear of assessment reported by the tutors, and it must complement the feedback of the tutor and peers without replacing it (Sasanelli, 2024, p. 140).

The *longitudinal* function would respond to the condition of time. In a digital environment in which student teachers write the journal and compose the e-portfolio, AI could recall archived pages. It would bring back an episode weeks later so that it can be reread in light of what has happened in the meantime, flag possible recurrences across distant episodes and suggest the area of the portfolio in which a core idea from the journal could be developed, leaving the verification of these links to the student teacher and the tutor. Continuity between the journal and the e-portfolio, which tutors identify as a weak point, thus becomes part of the design of the pathway. If writing is placed along a recursive cycle of planning, monitoring and evaluation (Flower & Hayes, 1981; Schraw & Moshman, 1995; Zimmerman, 2002), it also becomes clear that the three functions change role and risk from one phase to the next (Table 3).

Table 3. The role of AI before, during and after writing the journal.

Phase and process	Function of AI	Example prompt	Risk to be managed
Before writing (planning)	Helps to define the focus of observation	"What could you observe tomorrow to test your hypothesis?"	Categories imposed by the system
During writing (monitoring)	Supports the distinction between observation and comment	"Is this what you saw or how you interpreted it?"	Writing delegated to AI
After writing (evaluation and self-reflection)	Proposes delayed rereading and criteria-based feedback	"After discussing it with the group and the tutor, do you still read the episode in the same way?"	Score-oriented writing

For AI to truly operate as scaffolding, its rules must be made explicit. It should ask only one question at a time, referring to specific words in the text, without attributing intentions or psychological states to the people described and without rewriting the student teacher's text. The distinctions proposed by AI between

description and interpretation must remain provisional and verifiable, without replacing the student teacher's professional interpretation or the discussion with the tutor. Its questions should be progressively reduced over the course of the practicum, and work must be carried out exclusively on anonymised texts, since journals contain information about minors, who are often vulnerable. This is a concern that tutors themselves raise and that international guidelines include among the conditions for a human-centred use of AI (Miao & Holmes, 2023). The rules also make the pathway consistent with the profile in Annex A. Teacher educators are called upon to practise what they preach (Swennen et al., 2008), and teachers who will have to educate about AI and with AI (Panciroli & Rivoltella, 2023) need to have experienced what it means to think with AI without delegating their thinking to it (Miao & Cukurova, 2024). For this reason, the rules can be co-constructed by student teachers and tutors, and transparency of use can itself become reflective writing, if student teachers note which question shifted their perspective and when they felt the temptation to delegate.

The pathway does not entrust reflection to dialogue with AI, but places it within the circularity of writing, reading and discussion overseen by the tutors, who lead the reflection groups and encourage discussion of the documentation produced (Sasanelli, 2024, pp. 183–184). This is the condition that Mansvelder-Longayroux et al. (2007) identify as necessary for the portfolio to produce reflection and not merely memory, and the tutor's function remains that of "raising questions and then keeping them open" (Mortari, 2003, p. 80). Looking ahead, the same logic could extend to the reading of documents, which the data indicate as particularly demanding in the case of the e-portfolio. A system capable of flagging the most promising reflective cores could lighten the most repetitive part of supervision and give time back to discussion, outlining a dual ecology of AI for writing and AI for reading.

4.1. Limitations of the Study

The study has some limitations that circumscribe its scope. The data reflect tutors' perceptions rather than an analysis of the texts produced by trainees, and the reflective value attributed to the tools does not coincide with the reflective depth actually achieved in journals and e-portfolios, which should be assessed with established coding schemes. Moreover, trainees' voices have yet to be collected. The data concern a single university and a single cycle of the 60-ECTS pathways, and were collected at the end of the year, when recollection of difficulties may be simplified.

The ad hoc questionnaire was not subjected to validation procedures, and the single-item scales do not allow their reliability to be estimated. The associations observed are correlational and do not warrant causal inferences, while the categories of the thematic analysis are indicative and their frequencies should not be read as estimates of how widespread the phenomena are. Finally, the proposal concerning AI is a design hypothesis whose effectiveness was not tested by the study.

5. Conclusions

The study set out to understand how the metacognitive reflection that the journal and the e-portfolio are meant to elicit can be activated more consistently, taking the perspective of coordinating tutors as its source. In response to the first

research question, tutors attribute to the two tools the greatest capacity to stimulate reflection among the practicum documents, and the reflective value attributed to the journal is associated with the perceived clarity of its function and with the rating of the e-portfolio. In response to the second, tutors identify the points at which the potential of the tools risks being lost, namely the status of the journal, perceived as optional or as an administrative requirement, the connection between the two tools, the descriptive quality of writing, and time, often compressed close to deadlines.

The findings were discussed with the coordinating tutors and contributed to the design of a new practicum model, currently being launched. The model reworks the critical issues that emerged from the study and includes an ethical and informed use of AI. The study supports its design choices, while its effects on reflective writing will need to be verified during implementation.

Several implications for practicum design follow, concerning both the revision of templates and the support for their use. The first concerns the advisability of making the formative function of the journal explicit from the very first meetings, since in the data this is the dimension most strongly associated with the reflective value attributed to the tool. The second consists in designing continuity between the journal and the e-portfolio, making the former the documentary basis of the latter. The third calls for supporting writing with short guiding questions and workshop sessions, and with feedback that is not reduced to a grade, so that reflection on critical issues is not held back by the fear of being assessed. These are indications that the tutors themselves formulate and, in part, already put into practice.

Within this framework, the contribution advances a proposal, yet to be tested, in which AI does not write in place of the student teacher but questions them, returns to them the distinction between facts and interpretations and brings them back to their own texts over time, within explicit rules and within the relationship with the tutor. A proposal of this kind is situated within a vision of AI in education that attends to pedagogical functions rather than technological promises (Holmes & Tuomi, 2022) and requires teacher educators to exercise the capacity for ethical and critical judgement that European guidelines identify as an emerging competence of teachers (European Commission, 2022). Such mediation could foster the participation of trainees with diverse needs, provided that it includes accessible tools, flexible modes of interaction and opportunities for support even without AI, in line with Universal Design for Learning (CAST, 2024). The protection of anonymity and attention to the language used to describe pupils remain conditions of the entire pathway.

The resulting lines of future work include a pilot study, in which the rules of use are co-constructed with tutors and trainees and the reflective depth of journals is analysed with established schemes (Kember et al., 2008), comparing groups that use the environment with groups that do not; listening to trainees; and a shared revision of the tools that takes into account the tutors' indications. In all cases the condition remains the same: AI will be able to support reflection only if it remains scaffolding, designed to be progressively removed.

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