Enhancing student teachers' epistemology of reflective practice while still at the university: Evidence from a sheltered reflective practicum

Íris Susana Pires Pereira, Tom Russell & Xosé Antón González Riaño

Published online: 22 Mar 2023.

Submit your article to this journal ↗

Article views: 2027

View related articles ↗

View Crossmark data ↗

Enhancing student teachers' epistemology of reflective practice while still at the university: Evidence from a sheltered reflective practicum

Íris Susana Pires Pereira [a], Tom Russell[b] and Xosé Antón González Riaño[c]

[a]Institute of Education, University of Minho, Braga, Portugal; [b]Queen's University, Kingston, Ontario, Canada; [c]University of Oviedo, Oviedo, Spain

ABSTRACT

This article reports research evidence of the enhancement of student teachers' epistemology of reflective practice through their participation in a formative strategy developed in the context of the Bologna Process in Portugal. Building on Schön's conceptualisation of the education of the reflective practitioner, articulated with concepts such as pedagogical content knowledge, approximations to core teaching practices, epistemology of reflective practice, and assessment for and as learning, the strategy was designed to be a sheltered reflective practicum to learn about language and literacy education while still at the university, before moving into real class practicums. Data collected through individual reflective writing, developed at the beginning and revisited at the end of the practicum, were subjected to qualitative analysis. The results evidence students' awareness of their limited initial and rich final understandings as well as of critical features of the learning process, expressing positive feelings and acknowledging the relevance of their learning for future practice. The discussion argues for the relevance of offering a sheltered reflective practicum approach while still at university in the design of teacher education.

Introduction

As in several European countries, becoming an early years teacher in Portugal is currently framed by the Bologna Process, which has brought along the adoption of a *concurrent model* for class teacher education, determining that professional qualification for teaching requires the completion of a three-year degree in Basic Education followed by a master programme in teaching (Decree Law 2007). The curriculum of the first degree offers students education in several academic areas as well as professional education in the corresponding didactics and first observations of practice. Master courses complement the first degree by deepening specific didactics and offering students the formal initiation to professional practice during the practicum periods in the final semester or school year.

Working as a degree and master teacher on language and literacy education as well as a practicum supervisor, the first author has been involved in the different stages of future pre-school and elementary school teachers' education. In her approach, she aims: to support student teachers to construct a comprehensive theoretical approach to language and literacy education during her two-semester courses in the third year of the degree; to support them in using theoretical principles to design practice in the course she teaches in the first year of the master programme; and, finally, to supervise the enactment of students' reflective field experiences during their practicum periods in the final year.

The teacher educator's initial efforts to enact this plan revealed daunting results. Despite ascertaining to have constructed relevant knowledge when finishing the first degree, first-year master students invariably revealed an erosion of knowledge when asked to apply it to envision practice. Having been the teacher of important theories (Korthagen 2017) of language and literacy education in the degree, she assumed that the same students would be able to apply previously acquired knowledge in the design of practical situations. Her readings about teacher education led to realising that she was facing the theory-practice divide that has long characterised teacher education (Korthagen, Loughran, and Russell 2006; Flores 2018). She eventually understood that she had been assuming – and enacting – a technicist view (Schön 1983, 1987) of the development of student teachers' professionalism. With these insights, she radically transformed her approach. She designed a new formative strategy that can be characterised as a *sheltered reflective practicum* (occurring before the real-world reflective practicum). As explained in the text that follows, key theoretical tenets about professional education and teacher education have converged in the design of the sheltered practicum as a space and time for enhancing the student teachers' professional knowledge for language and literacy education.

The study reported in this article, focusing on the enhancement of student teachers' epistemology of reflective practice while still at university, is situated in the research that the teacher has been developing about this formative strategy, now arguing for the relevance of offering sheltered reflective practicums in the design of teacher education preceding field-based experiences.

The article is organised as follows: Firstly, we introduce the theoretical framework underpinning the design of the strategy, explaining its aims and procedures in order to characterise it as a sheltered reflective practicum. The study is then presented, detailing the main research question and sub-questions, the research methodology, the data collection and analytical procedures. The most significant findings are presented and afterwards discussed with reference to extant theory and research. Finally, implications, limitations and avenues for future work are presented as well as the most relevant conclusion.

Theoretical framework

The development of the formative strategy was underpinned by Schön's (1983, 1987) conceptualisation of the reflective practicum, complemented with key tenets coming from scholarship on initial teacher education.

The education of the reflective practitioner

The concept of the 'reflective practitioner' is likely one of Schön's (1983, 1987) most influential, scrutinised and controversial contributions for the theorisation of professional education, including teaching (e.g. Eraut 1995; Gilroy 1993; Newman 1999). For Schön, reflective practitioners constantly come up with situated answers to new problematic situations, leading to the development of their own professional knowledge in use (Schön 1983, 287). In Schön's conception, the continual learning from practice is driven by reflection, involving both reflection-in-action as well as reflection-on-action. While the former, which Schön considers the most important kind of thinking in the construction of practitioner's knowledge, has been the target of much critical scrutiny, reflection-on-action has been considered as Schön's most consensual 'contribution to a theory of metacognition' (Eraut 1995, 9) in (teacher's) professional education.

Also controversial (Gilroy 1993) but apparently less researched has been Schön's (1987) conceptualisation of the *reflective practicum* as framing the initial education of the reflective practitioner. He offers the following definition:

> A practicum is a setting designed for the task of learning a practice. In a context that approximates a practice world, students learn by doing, although their doing usually falls short of real-world work. They learn by undertaking projects that simulate and simplify practice; or they take on real-world projects under close supervision. *(37)*

Being intentionally designed to support experiential learning, the practicum offers learners a virtual representation of the real world of practice, involving learners in challenging projects that approximate to their future work. There they are sheltered from the 'features of the real-world situation that might confound or disrupt' (77) reflection-in-action. They learn by doing and thinking 'as though' (76) they were already *there*, but being able to slow down to find solutions and to accelerate other dimensions in their experimentation, to correct mistakes and pay attention to what works or not. In these rehearsals, doing and knowing are 'inseparable' (78).

Despite the fundamental role played by reflection-in-action, since 'we may reflect in the midst of action without interrupting it' (26) with an 'immediate significance for action' (29), Schön also acknowledges that 'the practicum should become a place in which practitioners learn to reflect *on* their own tacit theories of the phenomena of practice' (321, emphasis added). Reflection-on-practice is a distanced thinking about learning, and it can occur 'after the fact, in tranquillity, or we may pause in the midst of action' (26). Schön acknowledges that such 'cognitive efforts' (119) create an opportunity for practitioners to 'appreciate and evaluate' (42), making public 'understandings and feelings usually kept private and tacit' (312). Although in such cases 'our reflection has no direct connection to present action' (26), Schön considers that reflection-on-action helps learners to 'reflect on their own processes of inquiry, examine their own shifting understandings' (323), thus becoming aware of their (new) implicit knowing-in-action or 'phenomenology of practice' (309) with the potential to 'indirectly shape . . . future action' (31).

In Schön's opinion, all the professions are dependent on such virtual learning worlds (77), in which the learner learns to act and think like a reflective practitioner, and he

advocates for situating the reflective practicum in the centre of the formative curriculum, functioning 'as a bridge between the worlds of university and practice' (309), linking theory and practice because students can 'try out ideas and methods they have learned in the classroom [in other courses]' (342).

In the practicum, a strong learning disposition is necessary to face the new, challenging simulations of practice, the learner being 'the essential self-educator' (84). But for Schön this does not mean that the personal learning is a lonely process. In effect, a key element for individual reflective learning is 'the guidance of a senior practitioner' (38), involving both the one-direction kind of exposition and description but, fundamentally, close interaction focused on the learner's action. The latter 'particular communicative enterprise, a dialogue of words and actions' (163), is absolutely essential to stir the learner's reflection-in-action in the indeterminate areas of her projects and finally achieve convergence of meaning between master and novices (20). Groups of students also play an important role in learning, acknowledging that 'sometimes they play the coach's role' (38).

The formative strategy as a sheltered reflective practicum

The formative strategy here presented and researched was intentionally designed to become an instance of Schön's reflective practicum for the development of student teachers' professional knowledge while still at university and before practicums in schools. Our practicum was designed as a setting 'safely' approximating language and literacy education. But because Schön's ideas were not developed in terms of the
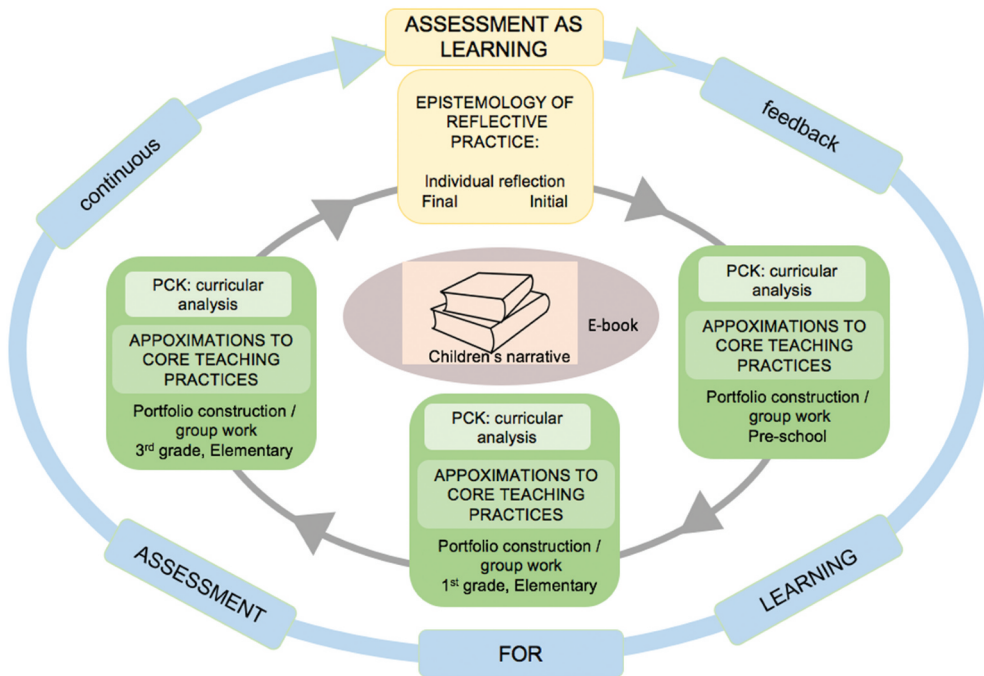

Figure 1. The design of the formative strategy.

specificities of teachers' education, the practicum was also designed with close reference to the four assumptions about initial teacher education that we describe next. The strategy, which is schematised in Figure 1, will be detailed concurrently.

Pedagogical content knowledge

One of the key assumptions was Shulman's (1987) conceptualisation of pedagogical content knowledge (PCK). In this article, we follow Grossman's (1990) reorganisation of PCK, including knowledge of the aims of teaching; knowledge of the curricular framework; knowledge about students; and knowledge of pedagogical strategies.

The formative strategy was designed to offer pre-service teachers an opportunity to enhance their PCK of language and literacy education in the early years. It involved the collaborative construction of a practical portfolio developed in three major iterations, each focusing on a distinct educational grade (namely, the last year of pre-school education, and the first and third grades of elementary education), intentionally chosen due to the singularities of these future teachers' work. Each iteration, represented in green in Figure 1, began with the close inspection of relevant curricula in each of the grades (in light green). This implied a first application of the theoretical knowledge about language and literacy education that had been learned in the degree, allowing students to acknowledge oral communication, language awareness and emergent literacy as curricular contents for pre-school education; initial learning of reading and writing as curricular contents for the first grade of elementary education; and, finally, text comprehension, text writing and grammar learning as contents for the third grade of elementary education.

Approximations to core teaching practices

Another fundamental assumption sustaining the design of the strategy was Grossman's (2018) argument for the enactment of a practice-based approach in teacher education, involving approximations to core teaching practices 'in settings of reduced complexity' (190). Core practices are 'identifiable components of teaching that teachers enact to support learning. These components include instructional strategies and the subcomponents of routines and moves. Core practices can include both general and content-specific practices' (184). Grossman's (2018; cf. Grossman, Hammerness, and MacDonald 2009) conceives of approximations to practice as rehearsals or simulations in which pre-service teachers perform the actions of a teacher, enacting what they had planned in front of their peers, who act as students. In our formative strategy, students approximated several core teaching practices, such as the 'design' of sequences of learning situations and the construction of learning materials, themselves involving several other core practices for their future teaching, most notably group discussions (Grossman and Pupik Dean 2019) in the form of dialogic reading (Wilkinson and Nelson Hattie 2019), but they did not enact them, as described next.

In each iteration of portfolio construction, after students were aware of what was curricularly expected for each grade, they collaboratively designed core teaching practices and learning materials to promote oral communication, language awareness games, emergent literacy games and situations for pre-school (first iteration); (ii) language awareness and explicit teaching of initial reading and writing for the first grade (second iteration); (iii) the teaching of reading comprehension and the inductive learning of

grammar for the third grade (third iteration). These are represented by the intermediate shade of green in Figure 1. In each case, their pedagogic designs were situated upon the dialogic reading of a children's narrative, which remained constant in the three iterations (in coral in Figure 1), so that student teachers' attention could be directed to the necessary transformations in the strategies needed for their action. Throughout, student teachers' work was developed with reference to an e-book comprising a selection of good examples from previous editions of the formative strategy and serving as representations of practice (Grossman 2018), offering illustration and quality criteria for their expected new designs (in light burgundy in Figure 1).

By creating the opportunities for 'pre-service teachers to practice such thinking before entering the classroom' (Ticknor 2015, 384), taking up 'more agentic roles in their professional learning and decision-making' (385), the aim was to enhance the construction of pre-service teachers' PCK, thus cultivating professional knowledge while offering them opportunities to use such knowledge to develop a sense of how to act purposefully and strategically in the future.

Assessment for and as learning

The strategy was furthermore designed with close reference to the concepts of assessment for learning and assessment as learning (Earl 2013; NFETLHE 2017). Both concepts assume that learners should become active and responsible in assessment, though differing in their specific aims, actions, time and tools.

In the formative strategy, *assessment for learning* was developed through the teacher educator's constant feedback to each group's work (Hattie and Timperley 2007; Deneen et al. 2019; Pereira, Fernandes, and Flores 2023), represented in blue in Figure 1. The feedback was offered either orally in class, as the teacher coached each group, or after each portfolio iteration was finished, as the teacher extensively appraised and commented on it, offering written suggestions for improvement. With her feedback, she intended to help 'novices distinguish features of a complex practice that may be difficult to fully appreciate until one tries to enact the practice' (Grossman, Hammerness, and MacDonald 2009, 285), to further support the quality of the PCK that students were constructing.

Assessment as learning, aiming to enhance students' critical self-directed learning and regulation (Bergh, Ros, and Beijaard 2015; McKay and Dunn 2020), was performed through the construction of initial and final individual reflections, described next.

The epistemology of reflective practice

The concept of the epistemology of reflective practice (Korthagen, Loughran, and Russell 2006; Russell and Martin 2017) assumes the importance of the enactment of a metacognitive stance to promote the monitoring of the reconstructions taking place in teachers' practical theories through reflection-on-action (Korthagen 2017; Loughran 2019; Russell and Martin 2016, 2017). Accordingly, formal knowledge, which enables teachers' reflection on action, is only instrumental in, rather than equivalent to, the construction of teachers' practical learning. Our formative strategy encompassed the opportunity for pre-service teachers to *reflect on* the learning that they constructed from their rehearsed practice through the writing of individual reflection at the beginning and at the end of the process. This dimension, captured in yellow in Figure 1, is the focus of this article and will be further detailed below.

Together, PCK, approximations to core teaching practices, assessment and the epistemology of reflective practice were fundamental in designing our specific strategy of teacher education as an instance of Schön's *sheltered reflective practicum*: It was designed to approximate student teachers to core practices in language and literacy education in the early years; it was deeply articulated with the courses in the degree about language and literacy education, recalling and complementing them with curricular knowledge; it engaged student teachers in learning by *doing* open-ended projects that simulated core practices, involving group work and the close coaching of the teacher educator, stimulating reflection-in-action; it further engaged them in tasks in which learned by *thinking* about their experience, therefore stimulating reflection-on-action. As such, our sheltered reflective practicum radically differed from the former 'technical' approach to learning, which challenged student teachers to imagine practical situations and develop their reflection-on-action by applying their known theory about language and literacy education without any further support.

The practicum was implemented during the fifteen weeks that are allocated for the teaching of a master's course.

The study

The study presented in this article is part of an evaluative case study (Stake 1995) begun by the first author to research the effectiveness of the practicum in promoting pre-service professional learning. Despite the self-study character of the research, the case study went well beyond a personal and subjective study (Loughran et al. 2004; Marcondes and Assunção Flores 2014) because it was situated within a historical, institutional and political context, to the improvement of which it aimed to contribute by enhancing the students' learning. In addition, it is theoretically sustained and comprised several sub-studies, each targeting specific dimensions and collecting different sets of data, which have been analysed together with other researchers (Pereira, Fernandes, and Flores 2021; Pereira et al. 2023), as in the present case.

Questions, data collection and analysis

The study reported here aimed to answer the following research question: *To what extent did the formative strategy enhance students' epistemology of reflective practice, if at all?* Data were collected through the two-staged reflective writing already mentioned. In the first seminar, students role-played their answers to a job interview focusing on the aims, content, and strategies for language and literacy education in the three different grades (last year of pre-school education, 1st grade, 3rd grade). They developed their practical projects in the following 14 weeks. When the process of imagining practice was complete, students were asked to revisit their initial answers and to answer the following new questions:

- What do you think about your initial answers?
- What did you learn about the didactics of language and literacy in pre-school and elementary education during the course?

Table 1. Dimensions/Topics of reflection.

Dimensions/topics of reflection			
Initial understandings	**Achieved understandings**	**Learning process**	**Feelings**
contents, aims and strategies for language and literacy education in the three grades			

- What was most significant for your integrated learning as a pre-school and elementary school teacher?

These prompts required that student teachers reflected *on* their PCK, making it explicit (Loughran 2019), which we reasoned would help them enhance their professional learning for themselves from this experience and, thus, learn how to do it in future (Loughran 2019; Russell and Martin 2017).

Students wrote their initial reflection on 19th February 2021 and shared their final reflection by the end of June. Twenty-five students were enrolled in the course and they all completed the reflective cycle (comprising initial and final reflection). They were women (aged 21 to 26, most being 22), 6 coming from another university. No institutional approval was requested because the collected data were part of the students' learning tasks, but students were informed about the research aims, about the confidentiality of data use and about the research process, including the possibility to withdraw their reflective writing from the study, in the first seminar. They all signed an informed consent for their participation.

For the purpose of this study, only the final reflective texts were analysed and student teachers were identified anonymously as ST1, ST2, etc. The written texts were translated into English. We asked of the data the following *sub-questions*, with which we aimed to answer the main research question:

(1) To what extent did the students reflect on their previous and new *understandings*, if at all?
(2) To what extent did students reflect on the *learning process*, if at all?
(3) To what extent did students express their *feelings* regarding their understandings and learning process, if at all?

The data were subjected to content and discourse analysis. The former implied the use of the following analytical categories focusing on the *topics of reflection* (see Table 1), the structure of which we deduced from the theory supporting the study:

The sequences of text containing topics of reflection became our main units of analysis. We then inductively developed a second analytical grid to be able to identify what the student teachers did with language in such reflective instances (reflective skills). We began by performing a discourse analysis of each reflective unit of the written text that we intuitively identified as the best reflective piece (ST12), allowing the identification of three major *reflective skills: identification, evaluation and elaboration*. We came up with these skills from Schön's (1987) considerations and Eraut's (1995, 20) brief allusion to *analysis and judgement* as essential in enacting reflection-on-action. *Identification* came up as naming; *evaluation* came up in the form of the expression of qualities (e.g. correct,

Table 2. Main reflective skills.

Reflective skills					
IDENTIFICATION	EVALUATION		ELABORATION		
	Qualities	Processes	Justification	Explanation	Illustration

incorrect, incomplete, elementary/embryonic, confused, wrong) or learning processes (e.g. remember, deepen, construct new, amplify, deepen, specify). *Elaborations* came up as justifications (e.g. give reasons), explanations (e.g. of concepts and theories) and illustrations (e.g. examples). We developed the following analytical grid (see Table 2), which, to varying extents, was then validated by the analysis of the remaining cases.

Finally, the analytical units were subjected to thematic analysis.

As the analysis unfolded, each student's reflective text proved to be unique. Some covered all the reflective topics while others did not; some evidenced the enactment of an ample array of reflective skills, while others were more limited. While we valued the diversity of meanings represented in the writings as indicative of students' truthfulness, we focused on seven reflective texts which demonstrated coverage of most of the reflective dimensions and reflective skills that we had anticipated. We find these reflective voices to be especially sound, unambiguous and detailed. In the next section, we only consider examples coming from these students' writings (ST1, ST3, ST10, ST11, ST12, ST21 and ST23), including one student coming from another university (ST3).

Findings

The findings revealed evidence that generates answers to each of the sub-questions presented above. We address each in turn.

(1) To what extent did the students reflect on their previous and new *understandings*, if at all?

Students became well aware of their initial and final conceptions. They *identified* many issues concerning language and literacy teaching – curricula, content, aims, strategies – in the three education grades. In each case, we found a pattern going from *critical appreciation* of initial conceptions to *positive appraisal* of achieved learning. Students often *elaborated* on their evaluations.

Reflection on initial understandings

All students named and evaluated their initial conceptions and they often elaborated their evaluations through justifications and explanations by using their knowledge from of language and literacy education and curricula. Three themes were recurrent in their writing: incompleteness (in which there was total agreement among student teachers), (in)correction and difficulty in applying theory to imagine practice.

- Incompleteness (and identification of missing dimensions):

By revisiting my initial reflection, I immediately concluded today that my answers could be characterised with a single word: incomplete. In fact, although they were not totally incorrect, I now see them as very vague and generic, which is the result of the fact that, at the time, my conceptions were embryonic. *(ST12)*

- (In)Correction:

When evaluating my answers …, I realise how confusing all that was for me back then. … I mentioned the importance of children understanding the relation between sound and letter and of memorising a large number of written words so that their reading can be more fluent. This … is true. However, what I pointed out is not a strategy, but something that we aim children to reach, that is, a learning objective. *(ST12)*

- Difficulty in applying theory to imagine practice:

I consider that, although I understood theory very well when it was taught in the degree, it was very complex to transpose it to practice when I wrote the first reflection. *(ST11)*

Reflection on achieved understandings

All students identified and evaluated their learning, as in the following excerpt: 'Now that I reflect about everything, it is curious to realise that … it was possible to go through a long way of highly significant and relevant learning' (ST23). They often elaborated their answers by explaining and illustrating their learning. Despite the heterogeneity of what was perceived to have been learned, there were some major recurring themes:

- Knowing and understanding the curricula:

The construction of this portfolio allowed me to … deeply know the Curricular Guidelines for pre-school education and the Program for the elementary education. Scanning them was essential to understand the content for each grade, helping me to understand which learning children should construct. *(ST21)*

- Knowing and understanding specific content and strategies (also illustrated in other quotations):

I understood that it is indispensable that … preschool educators establish systematic and situated interaction with children, leading to the use of oral language and the understanding of oral messages. In this logic, the use of narrative, shared reading and good conversations are strategies with enormous potential … these are learnings that I highlight and that I will do everything to put into practice in the future, since the acquisition of oral language has its critical period in pre-school education and, therefore, is the soul of children's development and the target of my work.*(ST12)*

- Understanding the potential of narrative texts to situate teaching:

I understood the role of narrative texts as a powerful engine in the development of children/students in all grades. It is possible to develop several competences related to narrative thinking, oral language, constructing informal knowledge about written language, phonemic awareness, the explicit teaching of letters, text genres, and grammar content … All this was an enormous discovery that I made. *(ST10)*

- Understanding the singularities of pre-school and elementary school teaching:

It was very interesting to understand that text comprehension begins by being oral in pre-school. In the 1st grade it begins to include written records about text comprehension, developing into the explicit teaching of reading comprehension in the 3rd grade. As such, the portfolio helped me to understand that my future pedagogical practice must be different in the different grades. *(ST10)*

- Critical perspective about traditional teaching:

I consider to have learned a lot about teaching strategies because I understood that most part of the practice that I knew [before] was developed in a traditional and non-situated way. The portfolio was essential to understand the importance of constructivist teaching through explicit and collaborative learning. *(ST11)*

- Learning to act, think and speak like a teacher:

We had to think like a pre-school/elementary school teacher, imagining practice as a pre-school/elementary school teacher; how she could guide children was a challenge, but it became one of the most significant learning outcomes. When doing so, I had a notion of how difficult it is to deconstruct a formal dialogue and to simplify questions or instructions so that discourse is accessible and understandable ... This became one of my significant insights: attending to the importance of a clear and perceptible discourse for successful learning.*(ST 3)*

- Learning for the future:

Everything that was constructed with the portfolio allowed an enormous self-reflection, awareness and essential knowledge construction for my future. *(ST11)*

(1) To what extent did students reflect on the *learning process*, if at all?

Students identified and evaluated several dimensions of the learning process, elaborating their evaluations and often intermingling them, which suggests that they were perceived as making up a coherent and inextricably bound whole. We identified three major themes: the doing, the coaching and the individual reflections.

- The doing:
    All students referred to the portfolio construction as having been the determining factor in their learning. Beyond explicit mentions already evidenced, there were also implicit references:

The practical dimension that we had the opportunity to explore was, with all certainty, what contributed the most to my education. Since the theoretical part had already been taught, what really made the difference was to be able to put what we had learned in action, to question such knowledge, discussing it with our colleagues and with the teacher. All this dynamic allowed a better comprehension and increased the knowledge than we had.*(ST23)*

Such *doing*:

- o was unusual:

When the course began and the teacher challenged us to imagine the didactics of language and literacy in pre-school and elementary education, ... I thought that this work would be identical to many others that I had done. *(ST12)*

- involved a connection between theory and practice:

As the process unfolded, I realised that this work had a dimension with which I had not contacted so intensely. Indeed, there was a game of articulation between theoretical knowledge and practice that cannot be omitted. *(ST12)*

- was challenging:

The construction of strategies was also very challenging. Although we had talked about the importance of shared reading, we had never prepared it. Therefore, to predict the conversation, to anticipate children's answers, to think about the unusual questions that might come up and how to guide children began by being weird and difficult. However, as one usually says, 'first it is strange, then it is ingrained', and that was exactly what happened. ... what began by being unusual, became an enjoyable and stimulating task. *(ST23)*

- was laborious and extensive:

Long learning path. (ST10)

It was through uncountable back and forths that our learning was constructed and consolidated.   *(ST23)*

- Coaching (from teacher, from colleagues and supporting resources):

With the first feedback from the teacher, my colleagues and I realised that ... we had not identified the learning objectives for the activities as well as we thought. ... However, the e-book shared by the teacher as well as the teacher's support were a precious help. *(ST3)*

- Individual reflection:

Once I revisited my initial conceptions, I consider that the work we did was fruitful. Otherwise, I would not be able to confront what I knew then and what I know now. ... I consider that this metacognitive exercise influences my learning in a very positive way, allowing that, in the near future, I can develop my role as a pre-school and elementary teacher in an expert way. *(ST12)*

(1) To what extent did students express their *feelings* regarding their understandings and learning process, if at all?

Although differing in extent and explicitness, students expressed their feelings about their learning experience and their initial and achieved understandings, in which case there was a frequent pattern from less positive to more positive feelings. Again,

justification and explanation intermingle with identification. In addition to the evidence already quoted, we add the following:

- From initial insecurity to confidence:

The truth is that I did not know how to design any practice for this context [elementary education], 1st grade being what left me the most insecure ... What I liked the most, which was of utmost relevance for me, was the worksheet for the explicit teaching of the reading and writing of the diphthong <ão>, because that was where I had more difficulty. I felt much more confident after doing that. *(ST1)*

- Satisfaction with the achievements:

Having the opportunity to 'get to work' and dive into new learning made me fall in love with this project, because its enactment really approximated us to the reality that is fast approaching and that we are willing to begin. *(ST23)*

To sum up, I am pleased to say that this was a laborious learning process, demanding commitment, dedication, organisation and reformulation. Nevertheless, I end this reflection in the same way that I have begun it. To do so, I also choose a word to describe this process: gratifying. *(ST12)*

Discussion

On the whole, our findings converge with the first author's previous research (Pereira, Fernandes, and Flores 2021; Pereira et al. 2023), which revealed students' positive appreciation of their learning and of the learning process after participating in the sheltered reflective practicum. While the former results came from the analysis of data collected through a final questionnaire, the results reported here extend that inquiry by specifically looking into the extent to which the strategy enhanced student teachers' epistemology of reflective practice, as captured in the research question.

The results evidenced that student teachers constructed new learning from their experience. They identified, evaluated and elaborated on a diversity of dimensions of *their learning*. In effect, the analysis revealed how aware students became about the limits of their initial understandings, how they positively appraised the new PCK they built about the curricula, aims and core strategies for language and literacy education. In their articulation of their learning, they used theory to make sense of their learning, their reasoning frequently being informed by known concepts and theories about language and literacy education. Their final texts showed that student teachers generated a new repertoire of practical knowledge, considering it to be *for* their profession (Loughran 2019, 530), suggesting that it enhanced the construction of their professional identity. As such, our results are consistent with Schön's (1983, 1987) assumptions about the role of reflection-on-action in developing practitioners' awareness of 'their own shifting understandings' (Schön 1987, 323), with Korthagen, Loughran, and Russell's (2006) and Russell and Martin's (2016, 2017) claims about the role of reflection in teachers' development.

The analysis further revealed that student teachers identified, appraised positively and elaborated on *the learning process* as well. They unanimously attributed their learning to the unusual learning process they experienced, in which the *doing* and the *coaching* were

perceived as especially important. Although only a few student teachers specifically referred to the process of reflection-on-action, acknowledging its metacognitive role, our results allow us to conclude that the use of initial and final verbal descriptions scaffolded them to identify their sophisticated new knowledge, appraise the process and express positive feelings. Without the written reflections, student teachers' thinking might have stayed invisible, inaccessible and perhaps unsystematised and incomplete. Therefore, our results suggest that the formative strategy enhanced students' development of their epistemology of reflective practice.

These findings converge with extant research on the education of the reflective practitioner. Our sheltered reflective practicum seems to instantiate Freeman (1989) conceptualisation of teacher education as involving both training and development. In his view, while a teacher training strategy targets the learning of specific knowledge, skills and attitudes, the teacher development strategy is holistic and integrated, aiming at enhancing each (student) teacher's awareness of their individual (and ongoing) learning.

Our findings are also consistent with Loughran's (2019) call for the opportunities and time for teachers to articulate their sophisticated professional knowledge, in our case involving pre-service teachers. Additionally, while our findings corroborate the importance of *doing, coaching and reflection on practice* in teacher education, our case offers a somewhat different version of what might be considered a 'realistic model to teacher education' (Korthagen 2017) due to the role played by the already known theory and approximations to practice while still at university and before real practicums occur.

Particularly relevant to interpret our results was the consideration of current criticisms and challenges about the education of reflective student teachers reviewed by Beauchamp (2015). Among the quite extensive list of research results that Beauchamp discusses, she highlights the urge for the explicit teaching of 'competencies for reflection and to select an appropriate reflective process for monitoring them' (136) in teacher education. Our results support Beauchamp's contention that the 'handing over of some of the control over reflection' (136) may empower students to 'have the confidence in their own experiences as a basis for their own learning and their understanding of their own practice, and not rely solely on the dictates of those establishing the parameters of their reflections' (135). Auhl and Daniel's (2014) further illuminated our thinking. While both Auhl and Daniel's and our studies converge into the relevance of providing spaces for reflective learning within teachers' professional preparation 'prior to their first placements in schools' (378), their study focused on the explicit learning of collaborative reflection and critique in the context of rehearsals of core teaching practices, helping us realise that in our reflective learning was situated, scaffolded and practiced yet relatively less explicitly discussed as such with student teachers themselves, which may explain their limited reference to the metacognitive of their learning.

Implications

The most relevant implication of our study lies in its contribution to the understanding of the education of the reflective teacher while still at university and before real practicums begin, pointing into the role of reflection-on-action in enhancing student teachers' epistemology of reflective practice. It also suggests the complexity of the process underpinning this achievement, since it was situated

(though in need a stronger explicit teaching) in the context of a *sheltered reflective practicum*, the construction of which implied the convergence of Schön's (1987) ideas about the reflective practicum with recent key tenets in the field of teacher education. Our study may be of particular relevance for designing educational possibilities within the formative contexts configured by the Bologna Process, as discussed in the introduction.

Limitations

Our results are not generalisable due its case study nature. It now calls for future research following up on student teachers' real-world practicums to inquire into the influence of their enhanced refection on their practice. Additionally, the theoretical conception of the sheltered reflective practicum, which is well beyond the scope of this article, needs further research. Ethnographic studies are now necessary to understand how the convergence of meaning between student teachers and the teacher educator is communicatively achieved (Gilroy 1993; Newman 1999), which has been identified as a key critical dimension in our practicum (Pereira, Fernandes, and Flores 2021; Pereira et al. 2023). And replications of the strategy in other contexts are essential to considering our sheltered reflective practicum as a valid model for the education of the reflective teacher.

Conclusion

We have presented and discussed evidence of the enhancement of student teachers' epistemology of reflective practice through the participation in a sheltered reflective practicum while still at university. The strategy involves approximations to core practices of language and literacy education in the early years, theory application, coaching as formative assessment, and, crucially, reflection-on-action.

The concept of the sheltered reflective practicum is an alternative and auspicious contribution to maximising the understanding of student teachers' professional learning through reflection-on-action before practicum periods, while also reducing the theory-practice divide in teacher education.

Disclosure statement

Funding

ORCID

Íris Susana Pires Pereira http://orcid.org/0000-0003-0647-2319

References

Auhl, Greg, and Graham R. Daniel. 2014. "Preparing Pre-Service Teachers for the Profession: Creating Spaces for Transformative Practice"." *Journal of Education for Teaching* 40 (4): 377–390. doi:10.1080/02607476.2014.924649.

Beauchamp, Catherine. 2015. "Reflection in Teacher Education: Issues Emerging from a Review of Current Literature." *Reflective Practice* 16 (1): 123–141. doi:10.1080/14623943.2014.982525.

Bergh, Linda van den, Anje Ros, and Douwe Beijaard. 2015. "Teacher Learning in the Context of a Continuing Professional Development Programme: A Case Study." *Teaching and Teacher Education* 47: 142–150. doi:10.1016/j.tate.2015.01.002.

Decree Law 43. 2007. 22nd February. *Diário da República 1.ª Série*, 38, 1320–1328.

Deneen, Christopher C., Gavin W. Fulmer, Gavin T.L. Brown, Kelvin Tan, Wei Shin Leong, and Hui Yong Tay. 2019. "Value, Practice and Proficiency: Teachers' Complex Relationship with Assessment for Learning." *Teaching and Teacher Education* 80: 39–47. doi:10.1016/j.tate.2018.12.022.

Earl, Lorna M. 2013. *Assessment as Learning: Using Classroom Assessment to Maximize Student Learning*. Thousand Oaks, CA: Corwin Press Inc.

Eraut, Michael. 1995. "Schön Shock: A Case for Reframing Reflection-In-Action?" *Teachers and Teaching* 1 (1): 9–22. doi:10.1080/1354060950010102.

Flores, Maria Assunção. 2018. "Linking Teaching and Research in Initial Teacher Education: Knowledge Mobilisation and Research-Informed Practice." *Journal of Education for Teaching* 44 (5): 621–636. doi:10.1080/02607476.2018.1516351.

Freeman, Donald. 1989. "Teacher Training, Development, and Decision Making: A Model of Teaching and Related Strategies for Language Teacher Education." *TESOL Quarterly* 23 (1): 27–45. doi:10.2307/3587506.

Gilroy, Peter. 1993. "Reflections on Schön: An Epistemological Critique and a Practical Alternative." *Journal of Education for Teaching* 19 (4): 125–142. doi:10.1080/0260747930190413.

Grossman, Pam. 1990. *The Making of a Teacher: Teacher Knowledge and Teacher Education*. New York: Teachers College Press.

Grossman, Pam, edited by. 2018. *Teaching Core Practices in Teacher Education*. Cambridge, MA: Harvard Education Press.

Grossman, Pam, Karen Hammerness, and Morva MacDonald. 2009. "Redefining Teaching, Re-Imagining Teacher Education." *Teachers and Teaching* 15 (2): 273–289. doi:10.1080/13540600902875340.

Grossman, Pam, and Christopher G. Pupik Dean. 2019. "Negotiating a Common Language and Shared Understanding About Core Practices: The Case of Discussion." *Teaching and Teacher Education* 80: 157–166. doi:10.1016/j.tate.2019.01.009.

Hattie, John, and Helen Timperley. 2007. "The Power of Feedback." *Review of Educational Research* 77 (1): 81–112. doi:10.3102/003465430298487.

Korthagen, Fred. 2017. "A Foundation for Effective Teacher Education: Teacher Education Pedagogy Based on Situated Learning." In *The SAGE Handbook of Research on Teacher Education*, edited by D. Jean Clandinin and Jukka Husu, 528–544. Vol. 2. London: SAGE Publications Ltd. doi:10.4135/9781529716627.

Korthagen, F., J. Loughran, and T. Russell. 2006. "Developing Fundamental Principles for Teacher Education Programs and Practices." *Teaching and Teacher Education* 22 (8): 1020–1041. doi:10.1016/j.tate.2006.04.022.

Loughran, John. 2019. "Pedagogical Reasoning: The Foundation of the Professional Knowledge of Teaching." *Teachers and Teaching* 25 (5): 523–535. doi:10.1080/13540602.2019.1633294.

Loughran, J. John, Mary Lynn Hamilton, Vicki K. LaBoskey, and Tom Russell. eds. 2004. *International Handbook of Self-Study of Teaching and Teacher Education Practices*. Dordrecht: Kluwer Press.

Marcondes, Maria Inês, and Maria Assunção Flores. 2014. ""O Auto-Estudo E as Abordagens Narrativo-Biográficas Na Formação de Professores" [Self-Study and Narrative-Biographical Approaches in Teacher Education]." *Educação PUCRS* 37 (2): 297–306. URL. http://hdl.handle.net/1822/31204 .

McKay, Loraine, and Julie Dunn. 2020. "Critical Consciousness as a Response to Student Disengagement: An Initial Teacher Education Case Study." *Teaching Education* 31 (2): 162–176. doi:10.1080/10476210.2018.1512093.

Newman, Stephen. 1999. "Constructing and Critiquing Reflective Practice 1." *Educational Action Research* 7 (1): 145–163. doi:10.1080/09650799900200081.

NFETLHE (National Forum for the Enhancement of Teaching and Learning in Higher Education). 2017. "Expanding Our Understanding of Assessment and Feedback in Irish Higher Education." In teachingandlearning.ie. Acesssed on April 8 2022. https://www.teachingandlearning.ie/publication/expanding-our-understanding-of-assessment-and-feedback-in-irish-higher-education/

Pereira, Í. S. P., E. Fernandes, A. C. Braga, and M. A. Flores. 2023. "Initial Teacher Education After the Bologna process"." *European Journal of Teacher Education* 46 (1): 6–34. doi:10.1080/02619768.2020.1867977.

Pereira, Í. S. P., E. L. Fernandes, and M. A. Flores. 2021. "Teacher Education During the COVID-19 Lockdown: Insights from a Formative Intervention Approach Involving Online Feedback." *Education Sciences* 11 (8): 400. doi:10.3390/educsci11080400.

Russell, T., and A. Martin. 2016. "Exploring the Complex Concept of Quality in Teacher Education." In *International Handbook of Teacher education*, In edited by J. Loughran and M.L. Hamilton, 143–180. Singapore: Springer.

Russell, T., and A. Martin. 2017. "Teacher Education Needs an Epistemology of Practice." In *Search and Research: Teacher Education for Contemporary Contexts*, edited by J. Mena, A. García-Valcárcel, F. J. G. Peñalvo, and M. M. Del Pozo, 111–118. Salamanca: Ediciones Universidad Salamanca.

Schön, Donald A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.

Schön, Donald A. 1987. *Educating the Reflective Practitioner. Towards a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey Bass.

Shulman, Lee S. 1987. "Knowledge and Teaching: Foundations of a New Reform." *Harvard Educational Review* 57 (1): 1–22. doi:10.17763/haer.57.1.j463w79r56455411.

Stake, Robert E. 1995. *The Art of Case Study Research*. Thousand Oaks, CA: Sage Publications.

Ticknor, Anne S. 2015. "Critical Considerations in Becoming Literacy Educators: Pre-Service Teachers Rehearsing Agency and Negotiating Risk." *Teaching Education* 26 (4): 383–399. doi:10.1080/10476210.2015.1034678.

Wilkinson, Ian A. G., and Kathryn Nelson Hattie. 2019. "Role of Discussion in Reading Comprehension." In *Visible Learning Guide to Student Achievement: Schools Edition*, edited by John Hattie and Eric M. Anderman, 231–237, London: Routledge.