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Learning thoughtful reflection in teacher education

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The notion of reflection has become an object of attention in education, but the research on this topic is often reduced to mere reflective practice. A relevant part of educational literature portrays reflection as a wholly beneficial practice for practitioners, but also for researchers. In the nursing field, in particular, reflection is largely practised and deeply examined. Reflection is specifically encouraged in teacher education, where ‘how-to’ manuals are widely used to explain strategies for turning teachers into reflective practitioners. In some cases, a specific kind of reflective approach is proposed, such as critical reflection. From the analysis of this technical literature, I observe that a wide range of approaches for fostering reflection have been applied, but little research evidence shows how effective these approaches are. Taking this problem into account, this article presents a research study on reflection. It first introduces a specific and unusual concept of reflection – that of phenomenological conception – and then goes on to develop an empirical investigation that enacts a phenomenological method of inquiry and is aimed at exploring the potential of the use of journal writing as a tool for enhancing reflection, and documents the data that emerged. The research was developed in a university context where the student teachers were asked to ‘reflect on the life of the mind’, in order to learn how to take a reflective stance. The student teachers wrote entries in a reflective journal in which they were requested to describe the lived experiences of the mind as they came to their reflective attention. The data emerging from the experience were made sense of through a qualitative method of analysis. The findings of the research are useful for designing an effective method for enhancing reflective practice.

Keywords: reflective practice; student teachers; phenomenological approach; qualitative analysis

1. Introduction

Reflection plays a relevant role in professional life; in fact, it is considered a necessary condition for acquiring expertise. Specifically, reflection is conceived of as a mental practice that allows practitioners to transition from the role of technicians to that of competent professionals. For a long time, practitioners have been conceived of as implementers of knowledge in instrumental decisions, as mere consumers of knowledge produced by theorists who are not directly involved in the educative setting. In the frame of technical rationality, they are considered as ‘instrumental problem solvers’ (Schön, 1987, p. 3), merely responsible for selecting technical

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means to achieve goals established by others. On the contrary, we find today a movement that looks at the practitioner as an expert professional, capable of drawing knowledge from his/her experience (Zeichner & Liston, 1996). Professional expertise should be conceived of as the ability to construct experiential knowledge on the basis of a reflection on experience. A necessary condition for the creation of an experiential professional knowledge is the activation, by the subject, of the mental discipline of reflection on his/her experience. This reflection should be continuous and regular through time. To this end, practitioners need to be given preparatory experiences specifically aimed at increasing their reflective capacities, so that they can learn to think not only about what they are doing, but also about what they are thinking.

If reflection plays a crucial role in improving professional expertise for teachers, and if reflection is not a natural ability but has to be enhanced through education, it is clear that educating to practise reflection must be a main topic for teacher education.

2. Perspectives on reflection

Since the 1980s, the term 'reflection' has increasingly appeared in the pedagogical debate and has been considered a central tool in experience-based learning (Boud, Keogh, & Walker, 2000). Reflection is fostered both in school-learning and in adult education (Mezirow, 1990).

A relevant part of educational literature portrays reflection as a wholly beneficial practice for practitioners (Gould & Taylor, 1996; Johns & Freshwater, 1998; Mayes, 2001; Smith, 1992) and also for researchers (Steier, 1995; Dahlberg, Drew, & Nyström, 2002). In the nursing field, in particular, reflection is largely practised and deeply examined (Benner, 1984). Reflection is specifically encouraged in teacher education, where 'how-to' manuals are widely used to explain strategies for transforming teachers into reflective practitioners (Korthagen & Kessels, 1999; Loughran, 1996). In some cases, a specific kind of reflective approach is proposed, such as critical reflection (Brookfield, 1995).

In the technical literature, studies can be found that present and discuss tools and strategies that can be implemented for increasing reflection. After defining what it means to become critically reflective, Brookfield (1995) introduces various techniques for improving reflective learning. In particular, he examines the value of writing autobiographically, inquiring into critical incidents and conversing with others in order to solve problems collaboratively. Mezirow (1990), after explaining the use of techniques such as composing education biographies, journal writing and performing the action/reason-thematic procedure, takes into account some reflective strategies such as the feminist 'consciousness raising' and the 'therapeutic learning programme', in the perspective of an emancipatory concept of the practitioners' preparation. Pallascio and Lafourtune (2000) debate the relation between reflection and critical-creative thinking. Moreover, they investigate what kind of experiences can be developed in order to promote reflective thinking in teacher education. Zeichner and Liston (1996) point out that little has been done in order to make the teaching of reflection an effective strategy for teacher development and criticize the restrictive ways in which reflection is often implemented in teacher education (p. 74). They describe distinct orientations about reflection, which they call 'traditions of reflective teaching'. These include: 'generic tradition', which simply

emphasizes thinking about what we are doing without attention to the quality of thinking; ‘academic tradition’, which stresses reflection on subject matter with a view to promoting student understanding; ‘social efficiency tradition’, which encourages teachers to apply teaching strategies suggested by educational research; ‘developmentalist tradition’, which considers reflecting on students, to determine what they should be taught and, lastly, ‘social-reconstructionist tradition’, which stresses reflection about the social and political context of schooling (1996, pp. 51–62).

From the analysis of this technical literature, it is evident that a wide range of approaches for fostering reflection have been applied, but little research evidence shows how effective they are (Hatton & Smith, 1995, p. 36). Many techniques are used – oral interviews, writing journals and autobiographies – all of which are experienced in different learning environments. These strategies have the potential to facilitate reflection, but little research evidence testifies to their real effectiveness. Because it is not sufficient to present a model of reflective preparation and explain how a technique is applied, this research study investigates, through rigorous analysis of empirical data, the specific areas involved in the process of learning reflection.

Taking this problem into account, the study presents research on reflection, which first introduces a specific and unusual concept of reflection – that of phenomenological conception. It then goes on to develop an empirical investigation aimed at exploring the potential of the use of journal writing as a tool for enhancing reflection, and documents the data that emerged.

Consequently, the text is articulated in two parts. The first part devotes attention to the phenomenological conception, since this is scarcely analysed in the technical literature, but could represent a valid framework for the implementation of significant reflective education. The second part presents empirical research, which focuses on the experiences of reflective education for student teachers. More precisely, it investigates a way of applying the phenomenological perspective in a learning environment. Subsequently, the findings resulting from this qualitative investigation are reported.

3. The phenomenological approach

Given this background, it is possible to assume the Husserlian phenomenological theory of reflection as an approach to be implemented in the educative preparation of reflection, in order to verify what kind of reflective outcomes it allows us to gain. Before dealing with the topic of phenomenological reflection, it is necessary to clarify that Husserl was interested in attaining a rigorous science, which takes the life of consciousness as its object of inquiry, and more precisely the *mental processes* of consciousness with the aim of finding a method that makes it possible to investigate them in a rigorous way (Husserl, 1982, vol. I, § 33, pp. 65–68).

The cognitive act allowing the subject to grasp the lived experience of consciousness is reflection. In phenomenology, reflecting means keeping the gaze firmly turned on the life of consciousness in order to understand what occurs in it. The task of phenomenological reflection should be seizing the essence of the stream of consciousness. Carrying out a phenomenological reflection means to activate introspection in order to seize upon the unreflective mental experience and voice it, thus understanding its essence (Varela, Thompson, & Rosch, 1991, p. 19).

As understood by phenomenologists, reflection is a way for cognition to analyse itself, a thinking that thinks through the life of the mind, precisely while it flows. In other words, it is the practice of a rigorous self-examination (Moran, 2000, p. 61).

The cognitive act that characterizes the phenomenological reflection is ‘paying attention’. There is an *external attention*, which is turned on the world that is at the root of the generation of meaning regarding experience. There is also an *internal attention*, which consists in “having the mind’s eye on” a particular aspect (Husserl, 1982, vol. I, § 37, p. 77). This internal eye keeps the stream of thoughts under its gaze and originates the ‘reflective turning of regard’ (Husserl, 1982, vol. I, § 38, p. 78). Thus, reflection results in a cognitive act, different from the thinking. The acts of thinking assume as intentional objects phenomena that are part of the world (they examine a practical problem, evaluate an event and investigate a philosophical question), whereas the reflective acts have the thinking acts themselves as their object. Reflection is the thinking that thinks on itself. Because reflective acts belong to the same substance as the acts of thinking, they can become, in turn, the object of new reflections. Husserl defines these reflections as being of ‘a higher level’ (Husserl, 1982, vol. I, § 77, p. 177); these are meta-reflective acts.

What is interesting from a pedagogical standpoint is that Husserl indicates the method whereby the mind can reflect on itself for self-understanding: it is the method of describing. Husserl characterized his approach as ‘descriptive phenomenology’ (Moran, 2000, p. 66).

In order to grasp the essence of a phenomenon, description had to be inspired by the principle of faithfulness, which is the first methodological principle of phenomenology. Describing faithfully means to name the phenomena in the manner of their appearing. Thus, reflection turns the internal gaze on the acts of the mind and description analytically scrutinizes them in order to seize upon their original essence and to formulate its essence in ‘faithful conceptual expressions’ (Husserl, 1982, vol. I, § 65, p. 150). In organizing education for reflection, it is necessary to keep in mind that from a phenomenological perspective there are two errors: lack of attention and misdescription (Moran, 2000, p. 131)

After identifying the object and the method of reflection, it is necessary to individuate the posture the mind should keep. Cognitive scientists such as Francisco Varela, Evan Thompson and Eleanor Rosch – who assume a phenomenological framework from the perspective of Merleau-Ponty’s phenomenology – suggest that we should encompass the Buddhist method of examining experience called ‘mindfulness meditation’ (Varela, Thompson, & Rosch, 1991, p. 21). Applying the method of mindfulness means keeping the mind present in its experience while it happens; the purpose of this practice ‘is to become mindful, to experience what one’s mind is doing as it does it, to be present with one’s mind’ (p. 23). Learning the method of mindfulness means ‘to render the mind able to be present with itself long enough to gain insight into its own nature and functioning’ (p. 24). To be mindful means to pay attention to the ‘right here, right now’ and to infuse the present moment with full concentration.

The premise behind this study is that the mindfulness practice is relevant not only in the field of philosophy and cognitive sciences, but also in educative contexts. This is because, through learning the mindfulness method, a person can develop the capability of being present to him/herself and thus reflect on his/her life of the mind.

Where the literature on teaching and teacher thinking is concerned, the concept of 'presence' has been explored by several authors, who have highlighted different aspects and meanings of it. Tremmel (1993, p. 438) refers to the Buddhist philosophies when he points out that 'mindfulness' requires the teacher to pay full attention not only to the classroom situation he/she's living, but also to the self. In his perspective, this kind of awareness shares many characteristics of Schön's 'reflection in action' (1983).

Van Manen's (1995) results of a phenomenological exploration of teachers' practice led to elaborate the concept of 'pedagogical tact' as the teacher's capacity to be fully connected with the lived situation and with him/herself in order to adequately respond to the different situations of classroom life and to the pupils' needs. Rodgers and Raider-Roth (2006, p. 265–266) consider 'presence' as a fundamental property of teaching and define it as 'a state of alert awareness, receptivity and connectedness,' refusing the actual tendency to reduce reflective teaching to a series of behaviours or skills. In their theorizing, an important aspect of presence is 'connection to self' (2006, p. 271), which plays an important role in teaching. In a state of 'connection to self,' the teacher is able to observe his/her thinking processes, beliefs and prejudices in action and to critically deconstruct them, facilitating pupils in doing the same with theirs.

All these studies on mindfulness, presence, reflection in teaching affirm that, even if reflexivity is not a set of predefined procedures, it is important for teachers to become familiar with some form of 'connection to self' as a condition to improve their effectiveness and their capacity to be respondent to pupils' needs. The phenomenological laboratory examined in this article aims to develop this connection by focusing on the capacity to be present to our life of the mind.

In this work, it is understood that phenomenological reflection is a basic cognitive exercise to practise in order to develop the capability of interrogating our mind deeply; in other words, to make a radical reflection. This kind of reflection is what allows practitioners to perform a real *reflective practice* and not a mere *thinking about practice* (Parker, 1997, p. 30). Given this assumption, it is important to do empirical research aimed at investigating the educative potentialities of the phenomenological conception of reflection. This article presents research conducted from this perspective. The research is qualitative and conceived from a phenomenological which differs from the positivist paradigm.

4. Empirical research study on reflection

In the field of empirical inquiry in education there are two kinds of research: (a) research directed to understanding a phenomenon as it develops in the educative environment, without introducing any change and (b) research aimed at introducing a new phenomenon into the context in order to study its educative potentialities. In this second kind of research, the researcher organizes an educative experience, which should be innovative, and creates all the conditions for a rigorous investigation into that experience. The first kind of research can be called *observing-noticing*, while the second may be called *experiential-transformative*. In education, both kinds are necessary, but if we consider the practical quality of the pedagogical discourse (which should be able to give effective and wise orientation to the practice), the experiential-transformative research is obviously of primary value.

On the basis of this assumption, this research study is of an experiential-transformative kind. The first section describes the educative experience that was carried out in order to become the object of inquiry and the second section expounds the organizational structure of the inquiry process.

4.1. A training experience on reflection

In order to begin an educational journey towards cultivating phenomenological reflection within the university course, 'Educational Research', for future teachers, I created a 'laboratory of reflective practice'. The 'Educational Research' course is part of the Italian teacher education programme, which is based on a four-year University degree and provides lectures, seminars, laboratories and training in the educational field starting from the second year of the programme. This particular laboratory activity was an addition to the institutional course for students attending the second year of teacher education; the participation was on a voluntary basis and, given the experimental character of the experience, it was reserved to a limited number of students. The laboratory was embedded in a course on phenomenological research methods in education, where great attention was paid to self-reflexivity and mindfulness. The educative aim of the laboratory was to involve the students in reflective activities in order to develop the capability of performing reflection in a phenomenological way, that is, to promote cognitions about cognition (Yzerbyt, Lories, & Benoit, 1998, p. 1).

The participants in the reflective laboratory were 20 student teachers who attended the 'Educational Research' course. The group consisted of 19 females and one male student. The reflective experience developed in the laboratory assumed a phenomenological perspective. Within this theoretical frame, the students participated in two kinds of reflective tasks: (a) first, an introspective activity and (b) second, a writing activity that followed.

4.1.1. Introspection

The first task required the participants to reflect on their mental life after every lesson of the course. The aim was to describe the cognitive dynamics experienced and to grasp the quality of the mental life when involved in a learning activity. The task was asked students to *pay attention to the life of thinking while we were involved in a classroom activity*.

When the laboratory of reflective practice began, the students were required to carry out the reflective practice in each phase of the learning process. The learning activities came in the form of traditional lectures, group work and individual exercises.

4.1.2. Writing the life of thinking

The second task required students to keep a reflective journal in which they had to record the outcomes of their reflection. Keeping a reflective journal, where they would regularly write the results of the inward describing activity, is important because writing increases the analytic ability of the thinking. Writing on the life of the mind means to describe the mental processes one perceived through the

reflection, or put into words the lived cognitive experience happening in formal learning contexts.

Specifically, the first task of this educative experience developed a propensity toward mindfulness, which is the mental presence to the thinking in flow. The second task, by asking the participants to write down the outcomes of the mindful presence, required the activation of a retrospective reflection in order to observe again the mental acts they focused on during the mental presence to themselves, by writing these outcomes in the journal. Clearly, these two tasks comprised a rather complex educative experience.

The laboratory lasted two months. During the first meeting with the students I clarified what the laboratory activity consisted of and explained the educative meaning of reflective practice. I did not give precise operative instructions since predefining the introspection mode would have impeded any original self-analysis. I devoted time to explaining the concept of mindful presence in the frame of phenomenology.

After the first two-week phase, a 'discussion meeting' was held in order to reflect together on the lived experience. It was important to understand: (i) what kind of mental awareness was emerging and (ii) what difficulties the reflective experience implied. The group conversation was audiotaped and transcribed verbatim by analysing the data that emerged from the discussion, the need for further clarification of the concept of 'mental presence' emerged. Taking into account this request, after two weeks we held a second meeting to focus in a more analytical way on the concept of 'mental presence'. In order to facilitate the comprehension of the practice of mental presence, the students were given a short text in which this practice was described; we read the text together and then analysed it. The students were then asked to read the text repeatedly and regularly to become familiar with the concept of 'mental presence'.

After six weeks, another meeting was called so they could reflect together once more on the experience in progress. In order to promote a good discussion, where every student could express his/her thoughts and feelings, the students were divided into two smaller groups.

4.2. *The research design*

4.2.1. *Research question*

The question posed by the research study must be consistent with the nature of the inquiry; since the reflective practice improved through this educative experience is of the phenomenological kind, and phenomenology is a method directed to *describing the essence of a phenomenon*, the research question must be formulated in a descriptive way.

Since the idea at the basis of the research is to understand the educative potentialities of this kind of experience, which are evaluated on the basis of the quality of the cognitive acts improved by the phenomenological task, the research question was formulated as follows: *what reflective acts are promoted by a phenomenological reflection?* The epistemic assumption was that it is possible to answer this question by analysing the reflective entries in the students'. This assumption is rooted in phenomenological thought, which considers first-person perspective as a source of knowledge because phenomenological research is interested in phenomena as they present themselves to the consciousness and studies mental events, which are always

experienced by a human subject. This is why phenomenological comprehension can never avoid dealing with subjective experience (Gallagher & Zahavi, 2008, p. 31). At the same time, even if it searches for subjects' descriptions coming from everyday being-in-the world, phenomenology is not interested in mere psychological introspection. On the contrary, this approach refuses the idea of an 'inner' world (accessible through introspection) opposed to the 'outside' world (accessible through other means). Furthermore, it postulates a strong relation between subjective lived experiences and phenomenal objects, aiming to discover the structures of human experience rather than to collect singular, subjective accounts (Giorgi, 1985).

4.2.1. Data collection

In order to realize rigorous pedagogical research on an educative activity it is necessary to gather an adequate amount of data, which must be distributed along each phase of the experience. To this end: (I) the group discussions were tape-recorded and transcribed verbatim according to the criteria of conversational analysis; (II) once the laboratory ended, the students gave me a copy of their journal, and all the journal entries recorded were transcribed verbatim; (III) after analysing their journals, I interviewed each student in order to present and discuss with them the processes I identified in the content analysis I conducted on their journals. The interviews allowed me to establish a dialogue which helped me to better understand their reflective processes and to put into practice a form of member checking of the labels and categories I used, aiming to realize the phenomenological principle of fidelity to participants' voices (Moustakas, 1994).

4.2.3. Method of analysis

The method employed in the study in order to answer the research question took the form of a qualitative analysis which assumes as its frame of reference the phenomenological approach (Giorgi, 1985; Moustakas, 1994). Working out categories that are 'faithful' to the data is a fundamental epistemic principle of phenomenology. In fact, data should not be forced or selected to fit preconceived or pre-existing categories, but they must faithfully describe the object of inquiry.

In order to be consistent with the epistemological quality of the research, it is important for the researcher to assume an epistemic posture of a phenomenological kind, which requires him/her to bracket his/her preconceptions of the object of the analysis. The researcher should perform 'epoké'. This aspiration was problematic because it is impossible for the mind to escape, if only temporarily, from its preconceptions. However, the epistemic move of epoké, which consists of trying to bracket one's preconceptions, must be assumed not as an aim that can be gained completely, but rather as a regulating principle aimed at keeping the mind open and sensitive to the data. The methodic principle of epoké is consistent with the grounded theory mandate which asks one 'to remain open to what is actually happening' (Glaser, 1978, p. 3). This task requires the mind to work on itself in order to free itself of predefined ways of interpreting data.

To facilitate the emergence of the openness of the mind during the analysis, I kept a journal where I recorded the cognitive acts I was performing in the process of coding. Writing aids in the awareness of some of the filters the mind tends to use. There is no doubt that many other filters remain tacit and obscured, while

continuing to inform the process of coding. Nevertheless, the continuous practice of self-analysis demands critical vigilance over one's process of interpretation and construction of theory.

4.3. Findings

In their journals, the future teachers were expected to describe the life of the mind just as it became revealed through reflective introspection. By analysing these texts, we found not only mental acts that can be called reflections, which pay attention to the thinking and analyse its quality, but also meta-reflective acts, cognitive acts that pay attention to the reflective acts and analyse their quality. The second kind of findings was unforeseen and, since these cognitive moves involve high cognitive skills, they attest to the fecundity of the phenomenological way of interpreting the culture of reflection.

4.3.1. The kinds of 'reflective moves'

Eight categories were formulated, accounting for most of the descriptions of the mind's life in the journals (see Table 1 and Table 2). Each category is codified with 'r' when it indicates a reflection, that is, a thought on the thinking, and 'mr' when it indicates a 'second reflection', that is, a reflection about the act of reflecting. Credibility of the 'fit' of the categories was maintained by supporting interpretations of data with excerpts from the journals (the number following each excerpt identifies the journal).

4.3.2. Reflective acts

(r1) Identifying the essence of one's thinking

Through reflection the students analyse the peculiar quality of one's thinking. They discovered many properties of their thinking. One is the tendency to take one's mind off what is happening around us:

Table 1. Reflective acts.

(r1) Identifying the essence of one's thinking
(r2) Identifying the different mental stances in relation with different learning environments
(r3) Understanding the role played by emotions

Table 2. Meta-reflective acts.

(mr4) Evaluating the consequences of doing reflection	(mr4.1) <i>To bilocalize</i> (mr4.2) <i>Non-stop reflection</i> (mr4.3) <i>To intensify a thoughtful thinking</i> (mr4.4) <i>Critically interrogating the reflective activity</i>
(mr5) Gaining awareness of the effects produced by writing	
(mr6) Realizing that mindfulness has become an attitude	
(mr7) Noticing the cognitive gains of the reflective practice	
(mr8) Noticing difficulties implied in the reflective practice	

My mind wandered a lot. (13)

Doing this reflective journal maybe I was more worried because I was in front of this evidence: I did not control my mind during the lesson, it wandered, I associated ideas in a non-logical way and I dug out images and emotions hidden in my past that I thought I had forgotten. (10)

By observing their mind, the student teachers realized not only the non-linear nature of thinking:

hardly finish the thought before another concept booms into my head but also how unexpected thoughts can slip into the cognitive stream. (11)

I have judged. I have passed judgments on someone else, and this bears witness to the scarce sovereignty we have over our thought. (11)

Through reflection, the thoughtful research participants became aware that mental life is not limited and circumscribable:

Reflection revealed that my thoughts don't begin and finish in the space of a lesson, but make journeys that are not limited in time, since they continue to cross my mind for a good while afterwards. (13)

Reflecting, indeed, helps us to gain awareness of how difficult it is to have mastery over the life of the mind:

I found myself weaker than I thought. (13)

It also demonstrates how difficult it is to break off the flow of thoughts:

These thoughts came out of my mind continuously, one thought following the other. I could not stop them. (1)

(r2) Identifying the different mental stances in relation with different learning environments

The activities of learning provided in the university course were of different kinds: teacher-centred lectures where a receptive kind of learning prevails, individual exercises and work groups requiring a more active kind of learning. Nearly every student discovered through consciousness that the quality of thinking changes in relation to the kind of learning one is involved in. The participants realized that when one is involved in an active and invigorating task of learning, that mindful presence is impossible to maintain:

Surprisingly, during the group work the mind did not get easily distracted and remained so nearly all the time. (1)

On the whole, during the group work I realized that I digressed less than in teacher-centered lectures and my mind kept to the point of what we were doing. (4)

After the work group, when I must write my diary, I encountered a lot of difficulties. It seems I cannot think of anything. (4)

It is difficult to remember what I have thought ... because the work group required more active participation and so much concentration. (10)

When I play a leading role in the lessons, it is not easy to remember my thoughts ... it is easier in a frontal lecture. (11)

I have realised I have more difficulties in abandoning myself to observe my thoughts when I work in a group, maybe because in that moment I must be more involved with my thoughts. (18)

The group work proved to be a very absorbing activity on the cognitive level, since the mind was completely engrossed in the interaction with the other students, and thus there was no space for the reflection in action:

It is not very easy to talk about what you are thinking when you are working in a group. (11)

During the individual exercise too one had no space for reflective activity:

Doing such a personal task I did not have the time to think of other things, I was much too concentrated. (12)

It is not easy to write everything your mind has lived, maybe because I was too involved, emotionally as well. (15)

Reflection implies the ability to distance oneself from what one thinks and this condition is perceived as a difficult task because the mental experience the mind is living is too involved. On the other hand, during the lecture, it is difficult to keep the mind on the lecture itself:

We are nearly at the end of the lecture and I stop observing my thoughts; they were present throughout the whole lecture, concentrated on the explanation. I think it is a miracle!!! (11)

The participants not only realized that, within the lecture settings, the mind shows the tendency to interrupt the mental presence to the lesson and follow its own thoughts, but they also understood the kinds of lessons in which the wandering of the mind happens more frequently and what cognitive acts are activated by the mind in these cases.

The wandering phenomenon tends to happen when the teacher examines educational questions with meaningful existential implication and also when, in the discourse of the teacher, the mind identifies concepts perceived as having a relationship with one's lived experiences. In the first case, the mind reveals the tendency (I.i) to go further into the issue (raising doubts), (I.ii) to think of one's lived experience (remembering) and (I.iii) to imagine the future experience (anticipating). In the second case, the reflections find the following mental act: (II.i) to reconstruct the connection between the past experience and the present one, (II.ii) to bury the reconstruction of the scenario of the past experience and (II.iii) to complete the act of memory with critical evaluations.

In some cases, the cognitive experience of the thinking–remembering–imagining is described as spread over a long time, and that implies a break of the mental presence within the lesson in course. In relation to this experience, two students conceptualized this experience as ‘making movies in their minds’. In other cases, the experience of distraction is described as a brief event, and as such it has been perceived as a lived process which, albeit intense, did not interrupt the mental presence to the lesson. With respect to this experience, some students spoke of a ‘double presence of the mind’: to the external world and to the interior world.

(r3) Understanding the role played by emotions

Reflections about the emotional side of cognition were frequent. Students noticed that when one is engrossed in one’s emotions, it is difficult for the thinking to remain anchored to the present:

I realize that a part of my brain follows the lesson correctly, in fact I am making detailed notes ... while another part thinks about what happens inside me. (5)

And when emotions are too strong it is difficult to clarify the cognitive acts:

Despite forcing myself to express my reflection (on the lived anxiety) in the clearest possible way, I don’t think I have succeeded. (3)

4.3.3. *Meta-reflective acts*

The most interesting findings resulting from data analysis were the meta-reflective acts, which abounded in the journals. The main characteristic of the meta-reflective acts the increased awareness of the effects through the involvement in the reflective experience.

(mr4) *Evaluating the consequences of doing reflection*

In some meta-reflective acts the participants explained how they discovered that reflective practice complicates the cognitive process.

(mr4.1) *To bilocalize*

Activating the discipline of ‘mental presence’ complicates cognition, in the sense that cognitive activity results as bi-localized:

While I was formulating these thoughts, I reflected on the fact that I had to write this reflective journal, and knowing this task keeps my mind distracted from the lesson of the teacher, in the sense that, rather than simply thinking about the theme of the lesson, a part of my attention was constantly focused on the thoughts my mind produces. (10)

Another participant, who noticed having the mental gaze bi-localized on the object of learning and on the cognitive act, outlines that having this cognitive experience is a tiring task:

What tires me most is doing two things at the same time: listening to the lesson and reflecting on the cognitive acts my mind is performing ... When I notice that the mind wanders too much I try to bring it back to the right level of attention and this makes

me feel a little agitated, but at the same time I enjoy it because it is something I have never done before. (11)

(mr4.2) Non-stop reflection

As a consequence of the practice of reflection, the cognitive life is made more complex by the tendency of the mind to be continuously reflective. The author of journal 15, which is thick in meta-reflective moves, focused on the implications of the reflective activity, and became aware that since she knew she had the task of developing a retrospective reflection on the cognitive acts and of writing them in the journal, she conceived of herself as obliged to keep her mind uninterruptedly present to itself. In other words, a retrospective reflection requires the subject to carry out a non-stop reflection in the midst of cognition and makes this bilocalization of the cognition explicit as a consequence of the task of writing:

How strange! I'm aware that besides following the professor I am devoting my attention to each thought and reaction of my mind during the lesson! It is as if I am constructing a small 'pro-memoria' for the journal I have to write afterwards. (15)

(mr4.3) To intensify a thoughtful thinking

The students reported that there was a difference between the mental activity developed before the educative experience of phenomenological reflection and the mental activity that develops after participating in this kind of training: the commitment to reflective acts has the effect of enhancing the capacity of the mind to raise questions that provoke a deeper self-analysis:

I was seized by a great doubt: had I gone deep enough in analysing my thinking? I find it difficult to decide by what 'threads of a spider-web' my mind is entrapped. I feel emotions from which certain thoughts originate, but I find it difficult to understand whether these emotions are modified by other deeper, concealed emotions I am not conscious of; therefore: is it emotions that provoke certain thoughts or else is it thoughts that make me feel these emotions? (9)

The consequence is that the essence of mental life changes: from the natural attitude of remaining on the surface, or as Merleau-Ponty states, of having a thinking which 'flies over', to the tendency of following a vertical trend which digs into our own thoughts:

Perhaps up till now I have only skimmed across the surface with my mind and I haven't thought in a vertical (that is, deep) way. (18)

(mr4.4) Critically interrogating the reflective activity

In some cases, students interrogated themselves about what kind of posture of mind would be preferable:

But while we stop in order to listen to ourselves and understand, time passes, everything goes on, and we have more and more thoughts to reflect upon. (12)

Is it necessary to guide our thoughts? ... if we keep our thoughts under control don't we oppress them a little? Perhaps, when they are kept under control are they deprived of their creative capability? (18)

Here, awareness shows that reflection must not bound the investigation of the object; rather, it should consist of letting one's gaze wander around it (Moran, 2000, p. 97), because the true act of inquiring is allowing the object to enact an "adequate self-presentation" (Husserl, 1970, p. 6).

(mr5) Gaining awareness of the effects produced by writing

The students seemed to discover that writing the life of the mind empowers the reflective capability of the mind:

Knowing that I had to write down and describe everything made me feel as if I had to think them (the thoughts) more intensely. (10)

For two students, writing was also a pleasure:

When I am writing I feel good; I am relaxed. (3)

Writing my thoughts relaxes me a lot ... it is beautiful because I am able to let myself go. (18)

(mr6) Realizing that mindfulness has become an attitude

The student teacher participants realized that the self-reflective practice had become a posture of the mind, activated almost spontaneously in many different contexts of learning:

I realize it is increasingly becoming an inner style. (12)

From the moment I began the reflective laboratory, it felt like I had begun an education of the mind: my manner of thinking has vastly changed. Starting from the tenth reflection, I find that my thoughts remain attached to the lesson and show that I pay a lot of attention to what the teacher says. This does not occur only in the university environment, but the capability of keeping the mind present to the experience of the mind and of the body is carried out with extreme facility, without my being aware of it, in all the areas of my life (work, housework, relationships, and friendships). The journey my mind is helping me greatly at work, because my thoughts remain here in a simple manner without forcing. (11)

During the lesson I became aware that I had started to enlarge my reflections on my thoughts and this also occurs in other courses or in other situations of everyday life. (14)

As a consequence of being involved in the practice of reflection in the laboratory, the mind happens to perceive the need to reflect in the ordinary activity too, and in this case, reflection interrupts the ordinary activity of the mind

The reflection [caused] an overwhelming interruption, and my thinking broke down. (12)

A student clarified her tendency to expand the disposition to mental presence by establishing intercourse discourse between this disposition and the emerging of a new mental posture: to be able to let her thoughts occur without expecting to be able to change their course:

I think that happens because I accept more quietly and with consciousness the fact that I can also allow myself to be distracted. ... Before, I didn't accept this. If, for any reason, I took my mind off what was happening, then I felt distressed, I tried to control my thoughts, I got angry, and that hampered the free flow of my mental life. (11)

(mr7) Noticing the cognitive gains of the reflective practice

Some students focused with precision on the gains of the reflective practice. Above all, the mind becomes capable of keeping the thinking under the 'internal attention':

It is beautiful to see how, little by little, my thoughts become clearer and clearer and I think that all my doubts, all my questions, emerge in my mind precisely as a consequence of my reflective acts, which are not only a way of 'thinking on' but also an interrogating oneself ... I am learning more about myself, in the sense that I am understanding my thoughts better ... I keep them more present to my gaze, instead of suppressing them!" (7)

It was highlighted that being asked to be mindful engenders a more attentive posture in the learning environments:

Being involved in the reflective practice contributed to strengthening my participation in the course, and to feeling more responsible and responsive. (11)

Generally, though students voiced a sense of fatigue in performing self-analysis; only one student expressed a sense of satisfaction:

I am aware of the attention that I pay and I am happy with that. (11)

Perhaps it is not unusual that the person who follows is the only one to have experienced a kind of 'relaxation of the mind' (*Gelassenheit* in Heideggerian terms), which is the logic of distension rather than the logic of prehension:

For me, this experience of reflection has been extremely useful, it has been a period dedicated to the education of the mind. At the beginning, one doesn't realize that, because the interior changes happen so gradually and naturally that the mind doesn't notice them.

Gradually, I learned to accept my thoughts and to allow them to flow freely. If my thoughts wander, I don't get upset anymore; in fact, I do not even try to control them. (11)

(mr8) Noticing difficulties implied in the reflective practice

The greatest challenge was posed during the writing:

It is difficult to separate the thoughts that floated to the surface in the midst of the lesson from those emerging while I am writing the journal. (11).

It is difficult to understand if the described emotions and thoughts are those already lived (and perceived through the reflection-in-cognition) or others, emerging in the present (during the reflection-on-cognition).

The greatest difficulty I found was being able to discern the thoughts and emotions that emerged during the lesson without confusing them with what the mind lived while writing the journal. (15)

But this difficulty of discernment lessens as the reflective practice progresses:

But this difficulty decreased along the reflective journey, and I noticed that also through the growing richness of thoughts that I was remembering and noting down on the journal. (15)

Reflection is perceived as a very tiring activity:

It is a real enterprise: I must listen to the lesson and at the same time pay attention to my thoughts. (11)

The difficulty is felt in particular by those who are living in a difficult existential condition:

I am not capable of thinking certain things because they make me feel too bad. (6)

But the greatest difficulty presents itself when the subject is involved in the re-reading of the journal:

The greatest fear is re-reading my thoughts ... in the sense that I noticed that re-reading what one has felt is more painful, because thinking things is one thing and re-reading them is another, when you become aware of what occurred. (6)

4.3.4. The different profiles of the journal

Different profiles of the journals emerged from the analysis. I categorized the different typologies of the journals on the basis of: (a) the level of description of their cognitive life and (b) the number of metacognitive moves present in the journals:

Level a: The student teacher participant reconstructed only some fragments of his /her cognitive life in the journal and develops only some personal reflections, without formulating metacognitive moves:

This level of reflection characterized two journals: numbers 19 and 20.

Level b: The student teacher participant analytically reconstructed his/her cognitive life in the different contexts of learning, but she/he did not formulate metacognitive moves:

This level of reflection characterized two journals: numbers 2 and 16. These two journals described in detail the thoughts that crowded the mind and listed the questions that emerged during the writing phase.

Level c: The student teacher participant analytically reconstructed his/her cognitive life in the different contexts of learning and elaborated metacognitive moves.

This level of reflection characterized 13 journals. Journals 1, 4, 5 and 6 presented two metacognitive moves, journals 7, 9, 10 and 18 presented three metacognitive moves and journals 8, 13 and 14 presented four metacognitive moves.

Level d: The student teacher participant analytically reconstructed the life of the mind in the different contexts of learning and resulted as dense in metacognitive moves:

This level of reflection characterizes three journals: numbers 3, 11 and 15.

4.3.5. Summative findings

The quality of reflection that emerged during this phenomenological experience is extremely rich and nuanced. This evaluation is based on evidence because from the analysis of the journals not only many different kinds of reflective moves, but also involved different qualities. Indeed, we can find both a first level of reflection, i.e. reflection on thinking, and a second level of reflection or meta-reflection, i.e. reflections on reflective acts.

In the first kind of reflective move, the participants focused on the properties of their thinking: a thinking that tends to digress, to lead the mind elsewhere from the learning context, and this wandering is something that happens without any possibility of being controlled. This kind of reflection helped the students gain awareness of how the mind tends to remain possessed by the thoughts and how difficult it is to have mastery of the life of the mind.

With the second kind of reflection, the participants worked through the awareness that the quality of thinking changes in relation to the kind of learning in which one is involved. When one is engaged in active learning, the mindful presence is almost impossible, and once the learning activity is ended, it is arduous to realize what stream of mental lived experiences has occurred. In the group work, for instance, the relations with the other learners absorbed most of the attention, while in the individual exercise the mind was engrossed in the task to be completed. That means that mindfulness is a very difficult cognitive activity, requiring a process of learning in order to distance oneself from the actions in which the mind is engrossed. However, during the teacher-centred lessons, thinking tends to wander, but it is also easier to practise mindfulness.

Students realized that being in an intensive emotional condition makes it difficult to practise the mindful presence to oneself. But the emotions are only named, never described; this can indicate that when we think of 'the life of the mind' we mean 'the intellectual life'. This reflection suggests we should re-conceptualize the way of presenting the reflective task of the laboratory by requiring students to monitor the emotional side of the internal experiences as well.

But the most interesting finding is represented by the meta-reflective acts abounding in the journals. We can state that the main characteristic of meta-reflective acts is to gain awareness of the effects produced by the involvement in the reflective experience.

There are meta-reflective acts in which the participants explain how they discovered that reflective practice complicates the cognitive process. It seems that the invitation to activate the discipline of the 'mental presence to oneself' often enhances the bilocalization of the mind; indeed, it leads most often to thinking of the learning activity and reflecting on the quality of these thoughts. Besides, as a consequence

to the practice of reflection, the mind tends to be continuously reflective, because knowing one will be asked to describe the reflective acts at the end of the learning activity forces the mind to put itself under a reflective gaze. However, as a consequence of the exercise practised in the 'reflective laboratory', the mind tends to be reflective in ordinary life too. Through a meta-reflection, for instance, the participants discovered that the mind also assumes a reflective stance in everyday activities. Besides, practising a phenomenological reflection has another effect: the commitment to reflective acts has the effect of enhancing the capacity of mind to raise questions that provoke a deeper self-analysis. The consequence is that the essence of mental life changes: from the natural attitude to remain absorbed in our thoughts, to the tendency to interrogate any thought, up to the point of leaving nothing unexamined.

The task of keeping the stream of thoughts under the inner gaze induces the students to interrogate themselves about the kind of mind posture that should be preferred: to be in control of one's mind or to have a more passive posture? Our culture emphasizes the value of comprehension over things; on the contrary, practising a close description of the internal experience for a long time raises the awareness that a relaxed posture, wherein one lets thinking flow, is more effective. To assume a reflective posture requires what Heidegger defines as 'Gelesenheit', that is, a state of relaxation.

At the basis of this educative experience, the assumption is that writing increases reflectivity. This assumption is confirmed by the meta-reflections students make on the exercise of writing, which attest that written reflections empower the reflective capability of the mind.

From an educational standpoint, it is very interesting to notice that the student teacher participants realized that mindfulness became a continuous posture which tends to be activated in the everyday experience. Some students pointed out the benefits of this kind of experience with precision. Being involved in reflective practice contributed to the development of the habit of raising questions, of making their thoughts clearer, to strengthen their participation in the process of learning and increase a more responsible and responsive attitude; also, to stay in contact with their thoughts.

The difficulties of this cognitive practice were also taken into account. Above all, reflection was felt as a tiring activity, because it induces continuous, rigorous self-evaluation which is not easy to sustain. Furthermore, discriminating, whether by reflecting on thinking thoughts remain the same while under the reflective gaze or whether they change, is perceived as an arduous task. Meta-reflection is not an easily sustainable task also because it also implies a continuous self-evaluation. Nevertheless, it is relevant that the difficulties diminish over the course of the educative experience.

4.3.6. Critical observations

The characteristic task of a phenomenological research is to describe a phenomenon, and in this case the description was made through the formulation of the categories of analysis, presented with the support of excerpts from the journals. This will allow other researchers to analyse the data and eventually work out a different research in order to discuss the data.

Currently it is impossible to make detailed evaluations on the findings, because there are no similar research studies with which comparison can be made. However, a few epistemic considerations can be shared.

First-person perspective. The research presented is based upon the participants' accounts on their thinking processes. As stated earlier in this article, phenomenological approach considers first-person perspective as a source of evidence. Mental events, such as thinking and reflecting, are always experienced by a human subject. Knowing and understanding 'phenomena' is something that happens neither in one's mind (in Husserl's thought, phenomenology is not psychology) nor somewhere outside, employing neutral, objective tools (phenomenology criticizes the positivistic attitude, too). According to the premises of phenomenology, the subjects' lived experience is the only possible ground for knowing phenomena, not because they are somehow 'constructed' by our minds, but because they always involve the human ways of experiencing the world, the invariant structures of experience (Giorgi, 1985, p.26). In order for this knowledge to be valid, phenomenology has established some epistemic conditions, which include several aspects that have been considered essential in this research: *epoché* or suspension of the natural, taking for granted attitude; the exploration of the subjective side of mental processes and the search for the structures of the experience through *intersubjective corroboration*, which requires to pay attention to the shared properties of the experience rather than to singular aspects (Gallagher & Zahavi, 2008, p. 47). Intersubjective corroboration has been practised also through the participants' interview discussing my analysis of their journals. From an ethical point of view this act of member checking is necessary in order to avoid an instrumental inquiry approach, and to allow the participants to become the real subjects of the research process (Cho & Trent, 2006). From an epistemological point of view, it allows the researcher to validate the research in a phenomenological perspective, since it compels him/her to abandon the monological interpretation of both the process and the data, and to become closer and closer to the participants' experience (*fidelity to phenomena*).

Reflection at the end. Before concluding the experience it would be necessary to foresee a reflective phase where all the subjects involved in the research would think about the metacognitive experience. This reflection-after-experience could occur between the teacher-researcher and a single student or in groups because a critical reflection about the experience would be able to potentiate the analytic capabilities of the mind.

Sharing the results of discussion meetings. I used the verbatim transcriptions of the discussion meetings only as data for research. I think this material could also have been utilized as educative material for students. In fact, it could have been given to the students to read, since the possibility of reading what the group had elaborated might have increased reflective practice.

4.3.7. Implications for teacher education

Educating teachers as expert professionals, capable of drawing knowledge on their experience, requires paying attention to all those activities that can promote a reflective attitude. In Italy, even if the professionals in the last decades have become more and more sensitive to reflective practice, the teacher education programmes

still seem to be too little interested to the mental activities related to the act of teaching, to the process of knowledge building in practice and to the connections between practice and mindfulness.

Workshops on these topics could allow practitioners to abandon the role of technicians or consumers of knowledge for that of competent professionals. This research study showed that the activation of the mental discipline of reflection on experience requires a continuous and regular time, and that practitioners need to be given training experiences specifically aimed at increasing their reflective and meta-reflective abilities. The great amount of meta-reflective acts promoted by the use of journal writing emerging from the research shows that different levels of thought are involved in reflective work and that a specific training on mental life has a key role to play in improving this kind of teachers' expertise.

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