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Maria A. Impedovo  
*Aix-Marseille Université, ENS Lyon, ADEF EA4671, 13248, Marseille, France*

Sufiana Khatoon Malik  
*Aix-Marseille Université, ENS Lyon, ADEF EA4671, 13248, Marseille, France*

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Becoming a Reflective In-Service Teacher: 
The Role of Research Attitude

Maria Antonietta Impedovo
Sufiana Khatoon Malik
Aix-Marseille Université, ENS Lyon, ADEF EA4671, 13248, Marseille, France

Abstract: In this article we consider the importance of reflective practice and research attitude for the professional development of in-service teachers. Nine teachers engaged in an international master’s course (in a Belgium and French university) were interviewed to obtain self-narratives. The two year full-time master’s course aims to develop skills in educational science research. The interview was conducted at the end of the master’s course to explore students’ reflective practices and to evaluate the impact of the research attitude developed during the course on their reflective practices. From the results we can see that reflective practice differs among the teachers interviewed, especially between those of varying seniority. The research activities learned in the master’s course enabled the teachers to develop and expand their reflective practice through analysis of their experience. The study highlights the need for regular and more guided support in improving reflective practice, especially for junior teachers.

Keywords: Reflective practice; In-service teacher; Research attitude; Teaching training; Self-narratives.

Introduction

Today the teacher’s role is widely discussed in educational literature. It is characterised to be more complex than it was in the past and teachers are tasked with forming the citizens of tomorrow (Jennings & Greenberg, 2009; Vloet & Van Swet, 2010). It is necessary that future teachers are prepared not only with knowledge in their discipline but also with the ability to assume multiple roles in a multi-cultural society (Shulman, 1987) and to become an actor of change in their community. Reflective practice is part of the competence required to be a good teacher (see, for example, Korthagen, 2004; Tateo, 2012). Teachers who are able to use critical reflections to improve instruction are called reflective practitioners. Reflection is considered an ability for continual self-renewal (Mitchell & Weber, 1999) and is a combination of critical inquiry, conscious consideration of the ethical implications and consequences of teaching practice and deep examination of personal beliefs and assumptions about human potential and learning (Larrivee, 2012). In this way, the reflective practice approach is helpful for teachers in identifying weaknesses and strengths and improving their practice (Ahmed & Al-Khalili, 2013).
So, the objective of reflective practice in teaching is to ensure a more precise and meaningful understanding of a situation and to provide effective, applicable actions for strengthening performance.

Reflective practices are widely discussed in educational literature for teacher professional development (Adler, 1991; Avalos, 2011; Cooper & Olson, 1996; Kerby, 1991). Considering the ongoing topic of professionalisation of teacher education and the integration of research in teacher training, the purpose of this paper is to highlight the role of reflective practice and research attitude in professional development. In particular, we emphasise how involvement in research can be a strategy for improving reflective practice (Pring, 2003; Roulston, Legette, Deloach, & Pitman, 2005). To meet the aims of this research, we interviewed nine in-service teachers with different levels of seniority (young, intermediate and senior) about reflective practices. At the time, all participants were involved in a master’s course aimed at developing research skills.

In the first part of the paper, we review the concept of reflective practice, and then we consider the influence of research attitude on supporting reflective practice for professional development. Finally, we present the data results with a qualitative analysis. This paper aims to contribute to the discussion about the professionalisation of teacher education and the integration of research in teacher training.

**Reflective Practice for In-service Teachers**

The concept of reflective teaching stems from Dewey (1933). He considered that reflective activity occurs when a person faces a perplexing, troubling or confusing situation. Schön (1987) defines reflective practice as the ability of professionals to think about what they are doing while they are doing it. As he suggests, the reflective practitioner:

- Allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation (Schön, 1983, p. 68).

From this perspective, teachers should take time to reflect on their observations, knowledge and experience so that they can effectively contribute to their students’ learning. There are three dimensions for reflection (Hatton & Smith, 1995; Schön, 1983):

- For-action involves the teacher reflecting proactively about teaching prior to or while preparing for practice;
- In-action involves the teacher reflecting during their practice;
- On-action involves the teacher analysing the successes and failures of their past practice.

Teachers should think about what they have learned from their teaching experiences, and re-evaluate these experiences in order to see them in new ways that might suggest new practices (Russell, 1999). Indeed, reflective practice is a way of looking back on an experience and making sense of it to identify what to do in the future (Drew & Bingham, 2001; Farrell, 2007). So, the reflective processes have to take place before, during and after the professional action (Vloet, 2009); be made with openness and responsiveness to external situations; and involve
personal feeling. As summarised by Farrell (2008), three attributes of reflective practitioners are:
• Open-mindedness (the need to listen to more than one side of an issue and give consideration to alternative views);
• Responsibility (vigilant consideration of the outcomes of reflective practice);
• Wholeheartedness (the ability to overcome fears and uncertainties to evaluate practice and make meaningful change).

Gibbs (1988) proposes a circular model comprised of five steps: description, feelings, evaluation, conclusion and action. This reflective cycle model is useful for making sense of and learning from everyday situations.

The process of reflection, with a basis of self-perception, is useful for enhancing skills and for constructing and negotiating meaning. The same importance is also given to the social dimension, with a consideration for the points of view of others embedded into the process (Gillespie, 2007). Teachers who are aware of the interests and needs of their own students could produce quite a significant impact on their class (Korthagen & Vasalos, 2005). Similarly, Rodgers and Raider-Roth (2006) assert that giving consideration to the basic aspects of the classroom environment, such as taking care of the feelings and emotions of students and focusing on the communications between students and teachers, is essential to quality teaching.

In the next section we go deeper into outlining reflective practices for in-service teachers and the role of research attitude and skills in teachers’ professional development.

Practices for a Reflective In-service Teacher

To be a reflective practitioner, a teacher can implement different strategies. They could, for example, analyse and question happenings within the teaching–learning context; show consideration for feelings and behaviours; keep a regular or daily record of significant events; share stories about students’ learning; ask colleagues and students’ families for their insights; or read professional literature to learn more about changing the environment and materials to support students’ learning. At the same time, they can reflect, rely upon or critically accept curriculum and official content (Harrison, 2012). Neville and Smith (1995) perceive that effective reflection requires not only time but also meta-teaching and metacognitive skills, considered as self-ideas which intentionally guide a teacher’s thinking (Chen, 2013). Cunliffe (2004) offers three examples of ways to stimulate critically reflexive practice: an exercise to help students think about the socially constructed nature of reality; a map to help stimulate reflective and reflexive practice; and a description and examples of critically reflexive journaling. To become a reflective practitioner, “must involve a willingness to be an active participant in a perpetual growth process…The more they question, the more they access new realms of possibility” (Larivee, 2000, p. 306).

Reflective practice should be promoted in the educational system, as suggested by professional standards and accreditation bodies that highlight its value (for example, LLUK Professional Standards for teachers, tutors and trainers in the UK). This implementation is the responsibility of all teacher educators, both in universities and schools (Brockbank & Gill, 2007, Walkington, 2005). Korthagen and Vasalos (2005) argue that the process of reflection is crucial and should be done with the support of an expert as well as being connected to a specific activity and in recollection of past actions. In this way, it is possible to develop awareness of and facilitate the creation of alternative strategies. In addition, this learning becomes effective if is
supported by collaborative practices, professional dialogue and effective tools for the continuing development of knowledge and practice (Simoncini, Lasen, & Rocco, 2014). It is therefore necessary for the reflection process that teachers establish a balanced relationship between professional identity, aspirations and enthusiasm for the profession. At the same time, it is necessary to connect personal and professional aspirations in order to form goals that go beyond individual development (Meijer, Korthagen, & Vasalos, 2009) and connect with the goals of the educational institution.

Developing Research Attitude and Skills

We believe the development of research attitude and skills during a teaching course can improve and affect reflective processes. Indeed, “the process of becoming a teacher-researcher is powerful because it challenges teachers core beliefs and values about themselves and the work they do, it forces them to confront who they are as teachers and who they want to be as professionals” (Girod & Pardales, 2001, p. 3). Being involved in a research process allows teachers to develop new skills, approaches and strategies, which can positively influence their reflective capacity. At the same time the research itself finds its starting point in a critical ability to see the world and knowledge of how to implement change strategies.

A popular strategy for educator practitioners is action research, also known as teacher research. Action research is defined as a methodology which takes action in the social reality (Lewin, 1946) as it involves drawing on real experiences to create new insights and relies on a dynamic relationship between theory and practice. It is designed to enable change within the field of investigation at the very moment in which it is implemented. The researcher involved in implementation of this methodology also becomes an agent of change and the research itself promotes social action. It is used by teachers for improving both their practice and their students’ learning outcomes, with the central goal of positive educational change (Mertler & Charles, 2008).

To observe the influence of a research skills learning course on the reflection process the present study was designed. In-service teachers were interviewed to obtain self-narratives. Because narration is a process that involves ‘reflection of’ the selected experiences and events in order to make them meaningful (Watson, 2006), reflective practice becomes an integrated process of construction in making meaning of experiences (Atkinson, 1998). For Wenger (1998), making meaning involves negotiation, and defines how we attribute meaning to the world and the role we occupy in it. The negotiated meaning is based on previous processes and continuous redefinitions, being historical and dynamic, contextual and unique, thereby creating new negotiations and meanings. It implies, therefore, a constantly renewed relationship and role with and within the world.
Study
Aims of the Study

The purpose of this paper is to investigate the role of reflective practices for in-service teachers involved in a training course aimed at developing research skills. The two research questions of this paper were:

- What are the reflective practice attitudes and strategies of in-service teachers with different levels of seniority?
- What impact do research attitudes and skills developed during a course have on reflective practices?

We consider in-service teacher involvement in research as a strategy to improve reflective practice. Because of this, we interviewed in-service teachers with different levels of seniority, involved in a master’s course aimed at developing research skills about reflective practices.

Participants

We interviewed nine in-service teachers (six male and three female) from high schools in Zimbabwe, Lesotho and Burkina Faso. All teachers were involved in a full-time international Master of Educational Research course. The two year full-time master’s course aims to develop skills in educational science research and supports a research attitude. The first part of the master’s course took place in a Belgian university and the second part in a French university. The main subjects were methodology of research, statistics, innovative educational approaches in sciences education and the use of educational technology in the classroom. It should be noted that we focused on the research attitude and skills developed in the master’s course and whether the in-service teachers transferred this knowledge to their own practice through reflection.

Eligible teachers were contacted at the end of the training course in France and agreed to be interviewed. The interviews were performed in English. The average age of the teachers was 39 years. The disciplines they taught were mainly biology, mathematics and physics. They had varying seniority of high school teaching service, classed by us as:

- Two junior teachers (less than 5 years teaching experience);
- Four intermediate teachers (between 10 and 15 years);
- Three senior teachers (more than 20 years).

Data Collection and Data Analysis

To collect narrative data we developed a semi-structured interview purposely designed to obtain a narrative account of teachers’ reflections in relation to the acquisition of research skills during the training course. The interview comprised four open questions (two for each topic):

- Reflection and reflective strategies in teaching practices:
  - How do you use reflection practices in your teaching?
  - Which strategies do you use to support these practices?
- Effects of the master’s course and research attitude on reflective practices:
  - Do you think that your reflective practices have changed after attending the master’s course?
  - Do you know what action research is?
Each participant was individually interviewed for an average of 30 minutes. The interviewer used the mirroring technique (Rogers, 1967). This reflective listening involves understanding a speaker's idea, then offers the idea back to the speaker to confirm the idea has been understood correctly without judgment or personal opinions. Hence, both the interviewee and the interviewer are engaged in a sense-making process (Bruner, 1990). The interviews were recorded and transcribed through the use of Jefferson’s (2004) annotation code. In accordance with the aims of the research, we decided to use a qualitative method for a thematic analysis of the answers. Below we present the results.

Results

This presentation of results is organised into two sections, one for each of the research topics: reflection and reflective strategies in teaching practices and effects of the master’s course and research attitude on reflective practices. Some extracts from the interviews of in-service teachers are reported to support the qualitative analysis. The extracts are expressed with a number as well as the gender and age of the respondent.

Reflection Practices and Reflective Strategies in Teaching Practices

In this section we explore how teachers consider and manage the reflective process in their teaching practices. Different approaches to and strategies for reflective practices are expressed, and are related to different levels of seniority in teaching (junior and senior in-service teachers). The two junior in-service teachers had a limited understanding of reflection practices, did not implement them in their teaching and did not feel prepared to implement them. Below are two extracts (E1 and E2) from interviews with junior in-service teachers.

- ‘Sometimes, not all the time, sometimes I use to reflect on my practices.’ (E1: female, age 31)
- ‘In college we learn about learning style but when you go in the class everything change. Let say, the reality comes. Something what you have learned in the course, you try to apply.’ (E2: male, age 30)

As shown, the two junior teachers have a shallow approach to reflection, viewing it as an activity to perform rarely (‘not all the time’, ‘sometimes’). In the second extract (E2) the male teacher highlights the difference between what is learned in theory and difficulties managing it effectively in the classroom (‘the reality comes’). The teacher takes a pragmatic, action-oriented approach (‘what you have learned you try to apply’). About the reflective strategies used to enact reflective practices, a junior in-service teacher says:

- ‘We have an evaluation of the lesson and the end of the week. We call them “skill book” or “plan skill” in which we write the topic of the week, a general comment and a comment for each student. In this we add also what I have done to help the student.’ (E3: female, age 31)

We can see how this young teacher uses strategies already established in her school and adapts to them. The teacher’s use of ‘we’ can be seen as she identifies with the team of teachers.
in her school who implement practices specific to that community (Wenger, 1998). Using the practice of the ‘skill book’, the teacher finds time to implement a process of meta-reflection systematically (every week).

The senior in-service teachers show a more structured approach towards reflections on educational practices. In E4, the senior teacher expresses her concern in relation to her practice as a teacher:

- ‘From my attitude, I am thinking that my teaching is so common. So common and I want to change, all the time I was thinking what is the best that I can do.’ (E4: female, age 49)

The teacher considers her teaching practice common, linked to a traditional approach that she considers no longer effective for student learning. This concern is expressed in her reflection on teaching practices that she implements and her attempt to change them (“I was thinking what is the best that I can do”). A second senior teacher specifically expresses her reflection in relation to the process of student learning:

- ‘Yes, most of the time, because what give me the satisfaction is that they understand, it is not only that they pass the exam, they realise what they learning and what can be useful… Yes, I try to reflect, especially when I was at home, especially for student that we have sacrificed so much time and they don’t perform. Then I asked to myself “what the problem is?” I thought now that even this opportunity to come here and improve teaching can really help me to improve the situation at home.’ (E5: female, age 50)

Here the teacher considers reflection a valuable tool for monitoring student learning and, consequently, for understanding if the actions she implemented were effective (‘what give me the satisfaction’). In E5 the teacher considered reflection as a tool to understand problematic situations (‘for student that we have sacrificed so much time and they don’t perform’) and finds solutions by asking questions of herself (‘Then I asked to myself “what the problem is?”’). From this extract emerges the image of a caring teacher as “caring consists of those emotions, actions and reflections that result from a teacher’s desire to motivate, help or inspire pupils and young students” (Tateo & Marsico, 2012, p.1).

Regarding strategies for implementing reflection practices, a senior teacher instead says:

- ‘Mainly I discuss with colleagues.’ (E6: female, age 50)

This teacher expresses a personal approach to reflective practices as she implements an active effort to create a shared repertoire with colleagues (Cohen, 2010). The relationships that are established in the school play a significant role in determining the organisational climate and the work context.

In this section we have explored the role of reflection practices and reflective strategies expressed by the teachers interviewed. There are two main positions expressed about reflection practices and are related to level of seniority. The junior in-service teachers have a limited consideration of reflection practices, accepting the practices already used in their community as a starting point for developing active metacognitive skills (Neville & Smith, 1995). The senior in-service teachers express a more structured approach towards reflections on educational practices, negotiating these practices with colleagues and maintaining a dialogical position which aims for improving ‘learning and taking care of the feelings and emotions of students’ (Rodgers & Raider-Roth, 2006).
Effect of the Master’s Course and Research Attitude on Reflective Practices

In this second section we explore the effect of the master’s course, which is oriented to the development of research skills and a research attitude, on reflective practices. From the interviews we can identify some differences based on the levels of seniority of the teachers.

The two junior teachers consider the learning implemented in the course in relation to the possibility of introducing new strategies in their repertoires (E7 and E8).

- ‘I find useful to better organise myself.’ (E7: female, age 31)
- ‘I never hear about self-evaluation. I do my best but now I think that the method that I used I have to evaluate the consequences. This can help me to use any effective delivery method, so the transfer of information can be more effective.’ (E8: male, age 30)

In the first extract, the teacher expresses that the change made is qualitative (‘to better organise myself’). In the second extract, the teacher expresses the novelty of the concept of self-evaluation in his career and recognition of the usefulness of reflective practice (‘This can help me’), especially in its potential to be efficient. From the extracts E7 and E8 emerges a still rigid approach towards reflection, not fully assimilated in the practices of daily teaching.

The two intermediate teachers have implemented changes in relation to tools and strategies:

- ‘Yes, it change my experience, my attitude is more patient with student.’ (E9: male, age 34)
- ‘In fact I came to learn new theoretical theory and finding of research, and come to deal with research in school. In the same time also I learn about the use of new tools and statistical software. Yes, I thinking it change my way of teaching and teaching method as well.’ (E10: male, age 37)

In E9 the teacher stresses an improvement in his relationships with the students (‘my attitude is more patient with student’). In E10, the teacher reports that he enriched his theoretical knowledge and research skills through the use of tools. This learning allows him to see the impact on his teaching practices (‘it change my way of teaching’).

Finally, we note that a more argumentative and global approach is implemented by senior in-service teachers. In fact, as we can read from the two excerpts (E11 and E12), they have a clearer perception of reflection after the master’s course.

- ‘Before I used to reflect when the student failed some examinations. So only then I pondered what was wrong. After, during this time in the research, my attitude is different, my attitude is now as I can consider the best, what is the best that I can bring to they, what change I have to make. Before I can’t think on me, so much I am improved.’ (E11: female, age 49)
- ‘Yes, look what I have done, looking what I have to do, so I use my skills that I have developed.’ (E12: female, age 50)

In the extract E11, the teacher says she only used to reflect after a failure in the students’ learning (‘only then I pondered what was wrong’). The course has enabled her to consider the reflective process as on-going and to be more focused on her role (‘what is the best that I can bring to them’). This circular process of reflection is also implemented by the second teacher (E12), who clearly expresses the ongoing process of reflection to be more effective as it expands...
the space and time available for reflection for, in and on action (Hatton & Smith, 1995; Schön, 1983).

Finally, none of the teachers said they knew the practice of action research. Only one senior teacher claims to know of this methodology, stating:

- ‘Yes, I am familiar of that. It is more evaluable of the same experimentation. Only it is take so much time, I like it. I tried it when I was at home but now I will try to use it again.’

(E13: female, age 43)

After participation in the master’s course, she values this methodology more highly and considers reintroducing it in her practice.

In this section we have explored the change on reflective practices after participation in the master’s course. The teachers express this change in relation to the possibility of introducing new tools and strategies in their repertoires (young and intermediate in-service teachers) or in a more general way of redefining their teaching approach (senior teachers). In the first case, the main change after the course was enriched knowledge and skills, rather than an assimilation of reflection practices as foundations for new practices (Russell, 1999) or professional development (Avalos, 2011; Cooper & Olson, 1996). In the second case, the teachers stressed the value of reflection in its potential to be a continuous process for action before, during and after professional practice (Vloet, 2009), thereby suggesting new practice for the future (Drew & Bingham, 2001; Farrell, 2007).

**Discussion and Conclusion**

In this article we explored reflective practice and research attitudes in relation to teachers’ professional development. Nine in-service teachers engaged in an international master’s course were interviewed to explore their reflective practices and to evaluate the impact of the master’s course and their research attitude on their reflective practices.

Regarding the first research question, we consider that reflection is seen differently by the teachers interviewed and in general we can see commonalities of approach based on the level of seniority in teaching. In particular, a comparison is possible between the youngest and more senior teachers. The younger teachers are more conditioned from the teacher training they received and by the practices of the work environment in which they teach. Their reflective practice is conducted in a non-systematic way and is not an integral part of everyday practice. The senior teachers have a more problematic and critical attitude to reflection. In fact, they ask themselves questions about the effectiveness of their own teaching methods, with attempts to change and improve them. All their efforts are oriented on improving the performance of the students, especially in problematic situations. In this case, reflection is seen as a tool to activate a desired change and is not seen as a solitary process, but as one shared with others, mainly colleagues.

Regarding the second research question about the impact of research attitudes and skills on reflective practices, the master’s course made an expansion of skills and approaches possible. In fact, the younger teachers extended their repertoire of possible practices to implement in the classroom, while still not fully assimilating these into their daily teaching practices. Intermediate teachers emphasised a renewal in their relationship with students and the tools to be used in
practice. Finally, senior teachers had a more critical approach, considering reflection with a more holistic perspective.

From all the interviews, we can see that the reflective practice does not dawn spontaneously, especially for junior teachers who need to be introduced to reflection practices during training courses (for example, doing activities which stimulate critically reflexive practice as proposed by Cunlliffe, 2004) and be more supported by educational systems (Brockbank & Gill, 2007). In this way, junior in-service teachers can be aware of the potential of reflection practices and improve their metacognitive skills (Neville & Smith, 1995). At the same time, the others teachers, although capable of a greater reflection ability due to their experience, only use spontaneous strategies without a specific criterion, oriented mainly to ensure students’ learning (Larrivee, 2012) and emotions (Rodgers & Raider-Roth, 2006). This highlights the need for regular and more guided support to improve reflective practice (Korthagen & Vasalos, 2005), especially circular processes for reflection before, during and after teaching activities (Drew & Bingham, 2001; Farrell, 2007).

Research attitudes and skills developed during the master’s course have enabled the teachers to develop and expand their reflective practices, improve the chances of them developing new practices (Russell, 1999) and made possible a self-renewal (Mitchell & Weber, 1999). Their involvement in research has made it possible for them to make slight improvements in their reflective practice (Pring, 2003; Roulstona, Legettea, Deloacha, & Pitmana, 2005) and to start to think about how to renew their teaching (Ahmed & Al-Khalili, 2013). Becoming a teacher-researcher can be powerful (Girod & Pardales, 2001), significantly impacting on the class and effecting positive educational change (Korthagen & Vasalos, 2005; Mertler & Charles, 2008). At the same time, it highlights the need to better explain to teachers the importance of methodologies such as action research which is based on reflection on educational issues.

Finally, the reflective process is a continuous one of learning from experience; teachers who engage in reflective practices remain life-long learners throughout their careers (Larivee, 2000). The relationship between research and teacher education is fruitful because it allows teachers to be involved in the process of knowledge production, enables more targeted research on teaching practices and leads to enhanced reflections based on experience analysis.

To conclude, this paper used self-narratives from in-service teachers’ interviews to consider the importance of research attitudes, developed through a course on research methodology, on reflective practice. This approach and the subsequent qualitative analysis were appropriate to outline a perspective on teachers’ construction of the meaning (Atkinson, 1998; Watson, 2006) of reflection practices. Important aspects to consider in future research concern the emotional component that emerges in the teachers ‘reflections as well as the roles of negotiation of experiences, collaborative practices and professional dialogue in supporting reflective practices.
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