

# PRE-SERVICE TEACHERS UNDERTAKING INTERNATIONAL RESEARCH: DEVELOPING SKILLS OF REFLECTION

Jane Medwell<sup>1</sup>, David Wray<sup>2</sup>

<sup>1</sup>University of Nottingham (UNITED KINGDOM)

<sup>2</sup>University of Warwick (UNITED KINGDOM)

Published as: Medwell, J. & Wray, D. (2021) "Pre-service teachers undertaking international research: developing skills of reflection". In Gómez Chova, L., López Martínez, A. & Candel Torres, I. (Eds) *Proceedings of the 14th International Conference of Education, Research and Innovation (ICERI2021)*, ISBN: 978-84-09-34549-6, Valencia: IATED Academy, pp. 346-354.

## Abstract

The study analyzed the reflectiveness of ten trainee teachers participating in a shared research project in Shanghai and English primary schools. The study asked what kind of reflective learning about research could be identified through content analysis of transcripts of research planning and review meetings and of individual written reflective reports by each participant. The findings of the study are that that undertaking a shared research project was a significant learning event in these pre-service teachers' paths towards becoming a teacher. Through reflection on their research, these students analyzed their experiences as researchers, the nature of research, their learning during the research process and developed criticality about research. The paper considers what this reflection on the practice of teacher research can offer to the education of teachers in the current school-based UK training context.

Keywords: pre-service teachers, teacher education curriculum, teacher research, reflective practice, student teachers, primary homework

## 1 INTRODUCTION

### 1.1 Context

The participation of pre-service teachers in education research can be constructed in a number of ways. Since Stenhouse [1] asserted that to engage *with* research, teachers need to engage *in* it, studies have emphasized the benefits of engaging in research for pre-service teachers, rather than simply reading it [2] [3]. At its most basic, it is argued that doing research can link theory and practice for pre-service teachers [4] and provide a context for the content knowledge of curriculum studies programmes. It can provide an authentic way for student teachers to develop their understanding of issues related to the curriculum [5]. Maaranen and Krokfors [6] have suggested that the success of Finnish education is built upon a research-based approach to teacher education that emphasises enquiry into pedagogy in order to develop 'pedagogical thinking'. On this basis, the authors have, elsewhere [7], explored how pre-service teachers can participate in research as part of their teacher education). In this study we sought to offer trainee teachers the opportunity to inquire into issues of curriculum, rather than the, more usual, inquiry into their own teaching activities, and followed the argument that:

*'How will teachers ever be able to envisage and implement alternative practices if they seldom see any? Seeing that something can be completely different is one of the most effective ways of opening eyes to the ubiquity of cultural practices and creating the circumstances for change.'* [8] (p.27)

Pre-service teachers in England face significant challenges to participation in research despite the international phenomenon of demand for research-based practice in education, and there has been in-depth exploration of what this might mean for UK education [9], [10]. The transfer of power (and money) for educational research to around 700 teaching schools, and the conceptualization of research as a school improvement mechanism, has meant that support for teacher participation in research is patchy in England [11]. It has been found [12] that participation in research remains the

least of the six priorities of the teaching schools or Teaching School Alliances (TSAs) gifted with the power to lead education research in England. Moreover, research in schools focuses on the “technical” aspects of “what works” to address narrow performative goals relating to school-improvement [13]. Whether these schools have the capacity to teach beginning teachers to research remains questionable.

At the same time that teaching schools and TSAs have been given this greater responsibility for education research, a large proportion of pre-service teacher education has been transferred into schools as part of school-led teacher training [14]. The postgraduate pre-service teachers in this study spent 164 days in school and only 32 days in the university during their pre-service year of training. This is in marked contrast to the direction taken by other European countries [15], who have committed to University-based teacher training routes lasting a number of years. One of the effects of this “turn to the practical” has been to increase pre-service teachers’ focus on the quotidian and to reduce their interaction with, and opportunities for participation in, education research.

In this context, school-based pre-service teachers in the UK are rarely in a position to undertake “traditional” induction into educational research through research methods courses or prolonged consideration of research in University settings such as those common in other European settings [16]. This paper explores students’ experience of education research as a subject for reflection and development of “pedagogical thinking”. At a time when the UK government has been criticized for somewhat uncritical attempts to transfer policy and practices from high performing Asian countries [17] this study offered students an opportunity to reflect both upon research and the practices in Shanghai they were researching.

## **1.2 Research, reflection and pre-service teachers**

Calls for the involvement of pre-service teachers in research activities have stressed the importance of teachers as producers, and not just consumers, of research. Key theorists have seen enquiry and reflection as leading to the development of a ‘reflective practitioner’ [18], [19]. The nature of reflection and its potential for changing practices have been treated critically [20], [21] but also explored in depth. Reflective thinking is neither linear nor simple- it can take place at different levels of action, object theory and meta-theory [22]. Pedagogical thinking is seen as a reflective process that is part of a decision-making cycle. However, it may be that pragmatic thinking, theoretical thinking and practice cannot be separated, but exist in a reciprocal relationship, all being aspects of “pedagogical thinking”, to which an inter-personal dimension can be added [6].

This study is rooted in the notion of reflection as meaning making through interaction between individuals. The study involved an analysis of reflections, some shared through discussion, some as individual written reflections, about shared research by a group of pre-service teachers.

### *1.2.1 Models of reflection*

Despite the different descriptions of reflection by different authors, most models place teacher development and the learning it involves at the heart of the reflection process [23] and focus on reflection as a process that, ultimately, generates evidence of new understanding. The normal starting place is to identify the issue to be reflected upon, followed by the collection and organization of information about that issue, leading to some sort of action. Finally, there is some kind of data gathering, analyzed to show that changes have taken place in thinking [24], [18].

In seeking a model of reflection as a basis for the analysis of pre-service teachers’ discussions and reflections in this study, some of the earliest models seem the most attractive and explanatory. This is because such models are the basis of newer, but domain-specific approaches, which have become refined to particular areas of reflection, such as leadership, or curriculum. The analysis applied by Maaranen and Krokfors [6] to reflections in trainee teachers’ dissertations is based on some of the common features of reflection earlier identified [25] and referred to as ‘presence of experience, description of experience, analysis of experience and intelligent action/experimentation’ (p. 851). The model starts with experience, in this case of research, then description of this experience, then reflection that results in learning from experience, and finally being critical of the experience and changing it based on reflection. Other studies [26] have attempted to identify ways to measure levels of reflectiveness although reliability and robustness across studies is uncertain [27], and this sort of leveling remains contentious. For this reason, and because we are looking for evidence of reflection, rather than quantifying progress in reflection, this study does not attempt to ‘level’ the reflections of these pre-service teachers.

Most authors writing about reflection [28], [29] recommend that pre-service teachers should have the opportunity to engage in a structured research activity which gives a scaffold to begin to develop reflection skills. The work described in this paper was based on an original group inquiry into the purposes and mechanisms of homework in Shanghai and England. The idea was initially sparked by a radio broadcast in which the commentator referred to the “almost zero impact rating” of primary homework and the need, not to abandon it, but to do it better. This issue was of interest to the schools and mentors training the pre-service teachers in this study and the ten pre-service teachers selected this topic from a jointly-compiled list of proposed topics.

The project provided an opportunity for these ten pre-service teachers to engage with all the main aspects of a research process: they identified a problem of interest to their school group; built a conceptual framework; planned data collection interviews; analysed data; and presented the findings to the sponsors, their training schools and fellow pre-service teachers. Moreover, by engaging in a research project about a shared topic, they were able not only to participate in and learn about research processes, but to work together to share reflections and to support each other in reflecting.

## 2 METHODOLOGY

This paper examines the ways in which engaging in a collective, international research project stimulated ten student teachers’ reflective capacities. The research questions about the reflections of these pre-service teachers were:

- (1) What kinds of reflective learning could be found in student teachers’ reflections about the research processes they undertook?
- (2) How did these student teachers view their development as researchers and teachers during the research process?

Between October 2018 and June 2019, the pre-service teachers attended several lectures about: the Shanghai school system; the significance of PISA results; the Shanghai maths project; and basic qualitative research methods. They met on four occasions to share and discuss associated materials. As a group they were given the task of identifying a topic and planning the research together, with guidance from their tutors as they required.

The bulk of the fieldwork took place when a group of Shanghai pre-service teachers visited the “home” schools of the English students and in schools in Shanghai during a two week visit arranged by colleagues at Shanghai Normal University. The pre-service teachers met four times to review their progress and these meetings were videotaped, although high levels of contact and discussion were maintained through the very intense nature of the exchange experience. The research involved pre-service teachers in:

- Negotiating a research topic and applying for funding from the Cascade grants system.
- Interviewing a teacher and group of pupils about homework in their “home” School Direct school. The interview schedule was designed by the pre-service teachers.
- Auditing homework practice in their ‘home’ training school for three weeks.
- Interviewing a teacher and group of pupils about homework in a Shanghai school, using an interview schedule designed collaboratively and piloted with the exchange student teachers.
- Observing homework and marking in a Shanghai school.
- Meeting to manage and “clean” data for analysis.
- Conducting a whole group analysis of interview transcripts.
- Planning and writing a final report for the funding body and school sponsors.
- Presenting their findings to the school groups who had sponsored their activity, to their own school staff and to the larger group of School Direct students who had not participated in the research.

The aim of the project was for the student teachers to understand the practices of homework in Shanghai and England and to understand the views of the children and teachers who participated in it. Shanghai children undertake more homework than other countries involved in PISA and considerably more than English primary children. It was hoped that, by understanding the role of this work in learning and teaching, positive suggestions for its use in English schools could be identified. Ethical approval was given for the study by the University of Nottingham School of Education research ethics committee. Written consent to participate in the project was obtained from all teachers (In China and England) and for the English children, and from the school principals for the Chinese children. Ethical

approval by the committee applied also to the participating pre-service teachers, whose participation was voluntary and not subject to any assessment as part of their training course.

The results presented in this study are based upon analysis of:

- Pre-research reflections by the 10 pre-service teachers about their experience and expectations of education research. Total: 10 written reflections.
- Video recordings of the four review and reflection meetings (one hour each) held during fieldwork during the visit of the Shanghai teachers and the visit to Shanghai. This included all ten pre-service teachers. Total: 4 hours discussion video.
- A written reflection about the project submitted by each pre-service teacher (of a maximum length of 2000 words). These reports were not assessed work for the training course. Total: 10 reports.
- The presentations created by the pre-service teachers for colleagues and sponsor schools.

Reflection is likely to be individual but can also be collaborative. Although the team set the agenda for research meetings, each meeting included a “standing item” prompt asking the pre-service teachers to ‘Reflect on your research process and your development as a researcher’. The recordings showed that they felt a very strong accountability to the group, took the task of reflecting seriously, and also that a good deal of discussion was undertaken during informal meetings during the research process, including Whatsapp and Wechat groups.

To identify the key issues that arose in this discussion, the data was approached analytically and holistically [30]. Content analysis was used to explore the material in video files and written documents. The coding included inductive and deductive approaches using the NVivo 11 analysis software to examine the video files directly and transcribe tagged notes. These were identified in response to the two research questions, with nodes created for each emerging category of data segment. Four steps of reflection based on analysis of the steps of reflection [25] were used as categories for analysis, to identify the types of reflective processes in which the pre-service teachers engaged. These categories were:

- the research experience
- describing the research experience
- analysing the experience
- reflecting on the analysis

To address the second of the research questions - about the pre-service teachers’ professional and personal development, the data were analysed into six categories [6] [27].

### **3 RESULTS**

The results are presented below in two sections, ‘Reflective learning processes of pre-service teachers’ and ‘Pre-service teacher professional and personal development during the research process’. Table 1 shows the numbers of data units and categories (spoken or written) produced in each category of the analysis.

#### **3.1 The research experiences**

The way these pre-service teachers engaged in reflection was shaped by the medium of those reflections. In addition to the individual reflections in the written essays, the analysis included video of group discussion. As the pre-service teachers had a good deal of shared understanding of the actual experiences, they tended to discuss problematic experiences or experiences they had in common with others. One feature of the shared discussion on the video materials, which was also a feature in our previous paper [7] was that discussions under the heading of research experiences were not attributable to one individual but were described by a number of pre-service teachers/researchers collectively, as they interjected, finished each other’s sentences and spoke in unison.

#### **3.2 Describing the experience**

The initial phase of reflection has been called ‘revisiting the experience’ [18] and ‘looking back on the action’ [31]. This section comprised detailed discussion of the research activities undertaken and the ways individuals had shared with group members including:

- negotiating the topic with school mentors and the others in the group,
- planning interviews and audits,
- practical issues in data collection (such as use of consent forms, recording, transcription and analysis activities)

*Table 1. Categories of reflections identified from group discussions and written reflections by pre-service teachers/researchers in the study*

Category of reflective learning process	Meaning units (text or utterance) in this category	Category of development during the research process	Meaning units (text or utterance) in this category
Experience of research (1-E)	throughout	Personal growth (2-PG)	20
Description of experience (1-DE)	42	Developing research skills (2-RS)	21
Analysis of Experience (1-AE)	39	Developing new knowledge (2-NK)	22
Reflection on the analysis (1-RA)	49	Understanding research processes (2-PR)	16
		Learning from what has been done (2-LD)	30
		Being valued by colleagues / self-worth (2-DD)	15
		Examining the implications of the research results for future practice (2-FP)	18

### 3.3 Analysing the experience

The discussion in this section included a good deal of revisiting practical aspects of analysis of interview data and fieldnotes and the reviewing of notes and records. The other focus topics were unexpected teacher and pupil interview content and teacher activity about homework, planning and teaching. Rather than focus on difficulties (cf [6]), the pre-service teachers focused on cultural and practical differences (contrasts with their home experience) and how these were likely to affect their research. They were also very concerned with relationships and intercultural communication.

*‘So what’s the effect of an interpreter? Well ... I said “kids in England don’t do much homework in primary” and one of the group, Li, yes, I think, says “So when do they have time to learn?” and I really wanted to follow it up but there is He (the teacher interpreting for the student) and I don’t feel I can. I mean... a totally different mindset.’*

The time taken to analyze material and unexpected results of this were a focus in the final two meetings.

*“I thought I knew what I’d get- the results. So it was a bit of, well. You know. At first I wasn’t sure whether to go with it not being what I expected. No, not at all.”*

*“I was surprised to review the amount of time it took to go through what didn’t seem a huge project at the start; it was massive.”*

The analysis phase of the research was a new experience for all the pre-service teachers, so they focused on not having enough time, and the practical issues like planning for analysis time in their visits and after. The final phase of the research was a source of discussion but also satisfaction in completing something that had, in the words of one student “got huge and really kind of got away from us”.

*'My experience has made me notice research. I wonder about how they did it, and how long it took. Our project was really small but it took a good deal of time. .... Although I never noticed research results before, this experience means I will now, and I will wonder what they did.'*

In reflecting on the outcomes, the pre-service teachers shared their feelings repeatedly (pride in their achievement, pressure on their time, success in completing "steps" in the process). Many discussions of feelings were linked to a particular experience, rather than being general feelings about the research. Overall feelings were usually expressed in terms of personal development (see below). The opportunity to work with other members of the research group was important.

*'I couldn't have done research myself, even with the lectures and seminars. Together we have done well and the others. The role. I felt, um, accountable. Yes, that's it- we genuinely worked together and helped get each other through and kept positive. I think it helped that everyone was serious. I mean not, no laughs serious. But up for it. Totally.'*

All the pre-service teachers were thoughtful about the scale of the research in the context of bigger projects and the shadow of PISA. There were many comments like: "I know it's small scale..." and "though it's a tiny drop of knowledge..." , or 'even though it is just us ten..'. However, seven of the students discussed the ways they would like to have sought out more information- in both countries.

*"I should have been more probing with my own class teacher. I was a bit.. close. I thought I knew what she was saying and now, I wish I'd taken more of a "researcher" stance. I was too much a colleague."*

### **3.4 Reflecting on the analysis**

The pre-service teachers discussed what they had personally gained from doing research. Though a good many comments were unrelated to research and dealt with intercultural understandings [32], other comments about personal gain included confidence, new ways of thinking about research and a more critical attitude.

*'asked my colleagues in school? No. I'd never have imagined anyone would see homework so totally differently. It's shocked me, how... predictable I am. Like, it's that I am a product of the school and I think like the rest of us. Obviously, the place made a difference, but actually doing the research too. It is more than a quick look'.*

*'It has been huge work. But we did it well, I think. I am going to ..to hold on to the knowledge that. Um. If I can learn so much from six weeks of focused work- what else could I learn if I researched my own teaching...or other peoples?'*

### **3.5 Development during the research process**

Comments that showed aspects of student's self-perceived development during the process of research are important, because they suggest that the views of these pre-service teachers towards research may be affected by their experiences beyond their training year and into their teaching careers. These comments could suggest that the pre-service teachers are one step closer to being self-sustaining enquirers in their future professional lives.

The pre-service teachers all discussed their development as a result of actually doing research from the first reflection meeting. They were proud of being involved in something 'different' and of the overseas aspects, but right from the first meeting, and in the individual reflections, there was a strong focus on the importance of doing something that their school colleagues would value, respect and be interested in and this was hard to separate from comments about self-worth.

*D: Did you hear (my mentor)? She was really into it. They all were.*

*F: Yeah, I know what..*

*D: ...a new idea- perspective. Yeah.*

*F: It gave them something to think about and they were really interested. It's usually the other way round.*

*T: I know...*

This was a key motivator, although the interest of fellow students was also discussed. These pre-service teachers discussed research as a way of unraveling the meanings of different aspects of society. They commented repeatedly about the different factors underpinning the actions and decisions of teachers. They also discussed the over-simplification of policy borrowing, in a novel way,

unaware of the literature in this area. Each pre-service teacher emphasized different aspects of personal development related to research, but the main categories were:

- Growing feelings of agency or self-efficacy, in particular in making decisions, were discussed by eight of the ten participants
- New insights into the relationships between parents, schools and values, at home, as well as in Shanghai
- A more critical view of research as “a view” not “the truth”.

### 3.6 Reflections about the results of the student research

This paper is about the types of reflection about research which pre-service teachers can generate. Since the advent of school-led teacher education in England these beginning teachers have been cast in government publications as key vectors of school improvement and will be major contributors to a school led research system. Therefore, we believe it is important to note not only the processes but also the results of the students' research, because these were significant to the researchers and were linked with many of their reflective comments. This summary is based on the presentation given by the whole research team to the invited School Direct School Staff conference and also to their fellow School Direct students. The results of the study that appeared in all their presentations to their schools, school groups and peers included:

- All the Shanghai teachers (of Chinese, Maths and English) set more homework per day for children over 8 than English teachers set in a week, for each subject.
- No Shanghai teacher set homework for children under 8, though this is expected in England, and although parents still seek such homework.
- Reading with parents from school-owned books is the characteristic English homework practice. In Shanghai workbooks are the characteristic practice.
- Teachers in England set homework to please parents but do not use it diagnostically to inform planning. Teachers in Shanghai set homework to see whether children can do the lesson activity- and please parents.
- Different purposes for homework mean it is treated differently. In Shanghai marking informs the next lesson. In England marking is focused on rewarding effort. Both countries mark for parents.
- Teacher workload in Shanghai includes large amounts of marking time. In England no marking time is included.
- Transfer of practices from Shanghai to England would demand changes in the educational values and the expectations of parents, children and teachers and a change to the practices and workload of teachers.
- The Shanghai focus on using homework to inform teaching decisions is highly desirable

The written reflections showed that outcomes of this project were not predictable for at least seven of the ten students, and they felt surprise, disappointment or satisfaction about the findings. We have created a category of responses to the results because we believe that reflection is a cyclic process [6], but one which is not content free. The comments below underline that reflection is bound up in outcomes, potential activity and feelings.

*'This project has convinced me that homework, as I have been using it, is a waste of my children's time. To improve this situation, we cannot simply be like Shanghai, because we value different things in learning.'*

*"it's like in school. She (the tutor) could have told us a lot of this, right? But I have learnt so much more by doing it myself. It took more effort and time. I'm holding on to that in my teaching-when I think it is so much quicker to tell them"*

## 4 CONCLUSIONS

In this paper we argue that making sense of teaching involves critical reflection which can, and should, be developed by pre-service teachers through doing education research. Although some research may well be into the teacher's own practices, we argue that there is also need for research and reflection on the curriculum and practices of others and we see this as going beyond the “technical rationalities” of teaching [18]. This small study looks at how researching the experience of other educators in another culture can be a basis for reflections which extend beyond the immediate problem-solving of classroom life, to engage pre-service teachers with the complex web of culture,

policy and decision making that underpins the daily practices of the classroom. Reflecting on what makes education practices effective, and, indeed, what effective means in a different culture, can develop the “pedagogic thinking” that teachers need to operate critically in their classes and also raise their awareness of the role of research for teachers. This is especially important in a context like England where pre-service teachers have little research training but are likely to be the people leading education research in their schools in the very near future.

The pre-service teachers in this study were volunteers who chose to add this work to their, already pressured, school-based training year and, initially undertook to do so facing the significant cost of travel to China (though this was, eventually, funded by a grant from the University as a result of a bid by the group). This may be one reason why the members of this group were all very positive about their experiences of research, although critical in their discussions and reflections, in contrast to earlier studies [33].

The students in this study faced, and reflected upon, the change from a ‘tell me the answer’ perspective to researching their own, complex and sometimes frustrating answers, something earlier research has identified as problematic for pre-service teachers [3]. The results of this analysis of reflection suggest that the highly collaborative nature of this research experience was supportive for these pre-service teachers and that the collaboration extended beyond the immediate group of ten researchers. All the pre-service teachers required, and had, the active support of their schools and their University tutors to take part in the programme and they worked cooperatively over a sustained period with each other, their Chinese colleagues and their own school mentors on the project, as well as the University tutor organizing the programme. Studies suggest that high levels of collaboration across university, student and school and university promote the most successful outcomes of pre-service teacher research [34]. A project of this type can create communities of practice [35] which support high quality reflection and this community, whilst centred on the ten researchers themselves, also extended to the school staffs and wider student body, engaged by the illumination of a shared problem.

## REFERENCES

- [1] L. Stenhouse, “Using research means doing research” in *Spotlight on Educational Problems* (H. Dahl, A. Lysne, & P. Rand eds.), 71–82, Oslo: University of Oslo Press, 1979.
- [2] B.S. D’Ambrosio, “Using research as a stimulus for learning” in *Journal for Research in Mathematics Education: Qualitative research methods in mathematics education (Monograph number 9)*, (A.R. Teppo ed.), 144–55. Reston, VA: National Council for Teachers of Mathematics, 1998.
- [3] A.M. Quiocho, A.M.L., and S.H. Ulanoff. Developing inquiry questions: Encouraging reflective practice in a language and literacy methods course. *Action in Teacher Education*, vol. 25, no. 4, 1–8, 2004.
- [4] P. Palmer, *The courage to teach. Exploring the inner landscape of a teacher’s life*. San Francisco, CA: Wiley, 2007.
- [5] M. Eraut, J. Alderton, G. Cole and P. Senker, “Development of knowledge and skills at work”, in *Differing visions of a learning society: Research findings. Volume 1*, (F. Coffield ed.), 231–262, Bristol: Policy Press, 2000
- [6] K. Maaranen, and L. Krokfors, “Time to think? Primary school teacher students reflecting on their MA thesis research processes,” *Reflective Practice* vol. 8, no. 3, 359–373, 2007.
- [7] J. Medwell and D. Wray, Pre-service teachers undertaking classroom research: developing reflection and enquiry skills, *Journal of Education for Teaching*, vol. 40, no. 1, 65-77, 2014.
- [8] R. Gallimore & J. Stigler, “Closing the teaching gap: Assisting teachers adapt to changing standards and assessments”, in *Whither assessment?* (C. Richardson ed.), 25–36, London: Qualifications and Curriculum Authority, 2003.
- [9] M. Tatto and J. Furlong, Research and teacher education papers from the BERA-RSA Inquiry, *Oxford Review of Education*, vol. 41, no. 2, 145-153, 2015.
- [10] P. Cordingley, The contribution of research to teachers’ professional learning and development, *Oxford Review of Education*, vol., 41, no. 2, 234-252, 2015.

- [11] M. Bell, P. Cordingley, C. Isham, & R. Davis, *Report of professional practitioner use of research review: Practitioner engagement in and/or with research*, Coventry: CUREE, 2010.
- [12] Q. Gu, S. Rea, R. Hill, L. Smethem & J. Dunford), *The Teaching Schools Evaluation: Emerging Issues from the Early Development of Case Study Teaching Schools Alliances*. Nottingham: National College for Teaching and Leadership, 2015.
- [13] M. Bailey and P. Sorensen, Reclaiming the ground of Master's education for teachers: lessons to be learned from a case study of the East Midlands Masters in Teaching and Learning, *Journal of Education for Teaching: International Research and Pedagogy*, vol. 39, no. 1, 39-59, 2013.
- [14] Department for Education (DfE), *Training the next Generation of Outstanding teachers: an improvement strategy* Ref: DFE-00054-2011. London: The Stationery Office, 2011.
- [15] J. Furlong, *Education - An anatomy of the discipline*. London: Routledge, 2013.
- [16] D. Kotsopoulos, J. Mueller, & D. Buzza, Pre-service teacher research: an early acculturation into a research disposition, *Journal of Education for Teaching*, vol. 38, no. 1, 21-36, 2012.
- [17] R. Alexander, Moral Panic, Miracle Cures and Educational Policy: what can we really learn from international comparison?, *Scottish Educational Review*, vol. 44, no. 1, 4-21, 2012.
- [18] D.A. Schön, *The reflective practitioner*. London: Random House, 1983.
- [19] A. Pollard, *Reflective teaching: Effective and evidence-informed professional practice*. London: Continuum, 2002.
- [20] C. Day, Reflection: A necessary but not sufficient condition for professional development, *British Educational Research Journal*, vol. 19, 83-93, 1993.
- [21] P. Gilroy, "Reflections on Schön: An epistemological critique and a practical alternative", in *International analyses of teacher education*, (P. Gilroy and M. Smith, eds.) 125-142, Abingdon: Carfax, 1993.
- [22] P. Kansanen, K. Tirri, M. Meri, L. Krokfors, J. Husu, and R. Jyrhämä. *Teachers' pedagogical thinking: theoretical landscapes, practical challenges*. New York, Peter Lang, 2000.
- [23] M. Huberman, "Teacher development and instructional mastery," in *Understanding teacher development*, (A. Hargreaves and M. G. Fullan eds), 122-142, New York: Teachers College Press, 1992.
- [24] G. Bolton, *Reflective practice. Writing and professional development*. Thousand Oaks, CA: Sage, 2005.
- [25] R. Rogers, Reflection in higher education: A concept analysis, *Innovative Higher Education*, vol. 26, 37-57, 2001.
- [26] D. Kember, A. Jones, A. Loke, J. McKay, K. Sinclair, H. Tse, C. Webb, F. Wong, M. Wong and E. Yeung, Determining the level of reflective thinking from students: written journals using a coding scheme based on the work of Mezirow, *International Journal of Lifelong Education*, vol. 18, no. 1, 18-30, 1999.
- [27] J. Lambe, Developing pre-service teachers' reflective capacity through engagement with classroom based research, *Reflective Practice* vol. 12, no. 1, 87-100, 2011.
- [28] N. Hatton and D. Smith, Reflection in teacher education: towards definition and implementation, *Teaching and Teacher Education*, vol. 11, no. 1, 33-49, 1995.
- [29] K. Zeichner, Changing directions in the practicum: Looking ahead to the 1990s, *Journal of Education for Teaching: International research and pedagogy*, vol. 16, no. 2, 105-132, 1990.
- [30] R. Stake, "Case studies," in *Handbook of qualitative research*, (N. K. Denzin and Y. S. Lincoln eds.), 435-454, London: Sage, 2000.
- [31] F. Korthagen, How teacher education can make a difference, *Journal of Education for Teaching*, vol. 36, no 4, 407-423, 2010.
- [32] S. Scoffham & J. Barnes, Transformational experiences and deep learning: the impact of an intercultural study visit to India on UK initial teacher education students, *Journal of Education for Teaching*, vol. 35, no. 3, 257-270, 2009.

[33] H. Borko, P. Michalec, M. Timmons, and J. Siddle, "Student teaching portfolios: a tool for promoting reflective practice", *Journal of Teacher Education*, vol. 48, no. 5, 345–357, 1997.

[34] M. Crocco, B. Faitfull, and S. Schwarz, Inquiry minds want to know. Action research at New York City professional development school, *Journal of Teacher Education*, vol. 54, no. 1, 19–30, 2004.

[35] E. Wenger, *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press, 1998.