

Bridging the school placement gap with peer micro-teaching lesson study

Abstract

Purpose

An adapted version of lesson study (peer micro-teaching lesson study: PMLS) was used in a one-year initial teacher education (ITE) programme for prospective secondary school teachers of geography, history, citizenship and social science in England. The aim was to support student-teachers through an opportunity to share knowledge, skills and practice from their first teaching placements.

Design/methodology/approach

In cross-curricular groups (of 3 or 4), student-teachers co-designed lessons that focused on developing thinking skills when teaching Advanced level content. Two “research lessons” were designed following the use of an initial questionnaire. Feedback from student-teachers was sought through a post-PMLS questionnaire. Participants’ discussions were recorded between the two “research lessons” to capture references to subject knowledge, placement experiences and exploratory talk.

Findings

Principal findings to emerge from the project were: cross-curricular PMLS helped to support student-teachers’ development between their two school environments. The collaborative process allowed them to build on their first school experiences by sharing and reflecting on their placements, learning from each other’s pedagogical practice and by improving subject knowledge both within and outside of their own specialism.

Originality/value

The work is the first known use of PMLS in ITE in the United Kingdom, demonstrating that it can be used as a bridge between the first and second school placements. It elaborates a cross-curricular collaborative vision for the use of modified forms of LS in the preparation of new teachers in programmes that are now largely school-led.

Key words: peer microteaching; lesson study, initial teacher education, collaboration; England.

Article classification: Research paper

Introduction

It is perhaps surprising that lesson study is still rarely used in ITE contexts, despite its reported benefits to student-teachers in a number of studies (Fernandez, 2005a; Myers, 2013; Sims and Walsh, 2009). In this paper, the experience of a teacher educator working with a mixed group of secondary school student-teachers (in a one year postgraduate programme) is reported. The student-teachers worked together as a ‘Humanities’ group, but were training to specialize in several subjects: history, geography, social science and citizenship.

An adapted version of lesson study (peer micro-teaching lesson study: PMLS) was used with student-teachers in the one-year Postgraduate Certificate of Education (PGCE) programme for prospective secondary school teachers. The PMLS project took place between the first and second block teaching placements, when the student-teachers return to the University for the second half of their methods course before taking up their second and final teaching practice.

What is Peer Microteaching Lesson Study?

To explain PMLS, we must first define microteaching. Microteaching has a long history as a tool for use in teacher training (Allen and Eve, 1968). Arsal (2014:453) cites Allen and Eve (1968) when he defines microteaching as “a system of controlled practice that makes it possible to concentrate on specified teaching behaviour and to practise teaching under controlled conditions”. Research suggests that microteaching can benefit trainee teachers and give them insights in to their role through engaging them in dialogue, increasing feelings of self-awareness and confidence, promoting reflexivity and having a positive impact on developing teacher identity and self-efficacy (Arsal, 2014; Donnelly and Fitmaurice, 2011; Merghler and Tangen, 2010; l’Anson, Rodriquez and Wilson, 2003). It is, however, difficult to come to any firm conclusions about its impact when reviewing the literature due to the wide range of ways that microteaching has been implemented and the associated variety of foci of different pieces of research.

The combination of microteaching and lesson study during ITE is a recent development and studies are still few in number (Fernandez, 2005a; Carrier, 2011; Cohan and Honigsfeld, 2007). This paper joins this small group. Lesson study originated in Japan and can be defined as “a systematic inquiry into teaching practice....which happens to be carried out through the examination of lessons” (Fernandez 2002:394). Research suggests that lesson study can have a positive impact on the practice of initial teacher trainees: providing a link between the theoretical academic nature of university and the practice of school placements (Fernandez, 2005a); greater understanding of subject knowledge (Fernandez, 2005b); increased ability to observe learning in the classroom; increased confidence (Lamb, 2015); development of reflective abilities (Sims and Walsh 2009), an improved ability to discuss issues in depth, an increased willingness to share ideas and take risks (Gunnarsdottir and Palsdottir, 2011) and a more developed sense of professional identity.

The type of microteaching used in this research, where trainees plan and teach “lessons” to their peers at university, does have its critics who accuse it of inauthenticity (Spelman and St. John Brooks 1972; He and Yan, 2011; Bell, 2007). This type of microteaching has been said to, “resemble “performance” or “classroom task”” rather than teaching (Bell, 2007: 24). Although there is an understandable question mark over how “real” the experience is this does not necessarily mean that it cannot be a useful and beneficial task for student-teachers to engage in. If a supportive group dynamic has been encouraged and realized, microteaching can be a very safe environment to trial new ideas or activities in an ethical way that does not put children’s learning at risk (Allen and Eve, 1968). In addition and critically, lesson study is a collaborative and scaffolded opportunity to explore pedagogy through planning, teaching and evaluation. Student-teachers may not be planning to teach to children during a PMLS activity, but they are still planning to teach, and having to carry that out with an audience, rather than just planning hypothetical lessons. Moreover, school based teacher education, despite its popularity with the current UK government (DfE, 2010), can have a limiting effect on the range of practice student-teachers are exposed to, leading to Fernandez’s (2005a:37) suggestion that, “School based experience is not the panacea to teacher education that some expect”. If PMLS is used after the completion of their first teaching placements, as in this case, a university setting can give student-teachers the opportunity to share practices from a wide range of different school based environments.

Fernandez (2005a:38) has argued that the limitations of microteaching can be overcome by combining it with lesson study. Microteaching lesson study can “shift from developing discrete skills to providing prospective teachers with experiences that build bridges between theory and practice, fostering collaboration and reflection among teachers....(in order) for prospective teachers to learn from one another”. In this research where the activity follows the first school placement, student-teachers are not only learning from each other but learning from each other’s particular school experiences as well. The advantages of the MLS tool over a simple microteaching activity, is the opportunity to not only “reflect on action” (Schon, 1983) but also to implement the findings of that reflection in to the next stage of teaching; a skill that simulates effective practice and what we would ideally like student-teachers to be doing in schools.

Another benefit is that the process of peer microteaching lesson study offers student teachers opportunities to work on collaborative tasks to solve and learn from a teaching problem whilst engaging with theory. Both microteaching and lesson study involve student-teachers engaging in collaborative talk throughout the process, discussing the planning of

lessons and their evaluation jointly. Research on the benefits of collaborative learning through dialogue has demonstrated the benefits of this to student-teachers, “the dia- of dialogue allows participants to have thoughts they could not have had on their own” (Game and Metcalfe 2009: 45). This approach is grounded in social constructivism where knowledge is created subjectively by individuals through their social interactions with each other. Theoretically, the paper draws on Mercer (1996) and Barnes (1999) for the coding of interactions between meetings.

Procedure

The aim of this research is to consider how PMLS can contribute to the development of student teachers in between their school placements, through the sharing of experience gained from those placements.

The research questions were:

What is the impact of the activity on student-teachers and their practice, specifically:

- To what extent does PMLS allow student-teachers to share and learn from their developing practice following their first school placements?
- To what extent can PMLS help to build student-teachers’ confidence to teach subjects outside of their specialism?

PMLS was chosen as a collaborative vehicle to provide a practical way for student-teachers to explore both theory and practice through peer teaching. As a group they experienced a wide range of practice in very different school placements. By situating PMLS after the completion of one school placement, the task allowed student-teachers to access a diverse range of practice from different contexts via their discussions with each other.

A post placement predominantly closed questionnaire completed by 28 student-teachers found that 82% of respondents had taught lessons outside of their curriculum specialism in their first teaching placement. To facilitate a sharing of practice across subjects and from individual school placements, student-teachers in cross curricular groups (of 3 or 4) were asked to take part in PMLS over three weeks during their university methods course. This involved collaboratively planning a lesson, teaching it, observing the learning, questioning the “peer pupils” about their learning, evaluating the lesson, identifying targets to work on and then continuing the process again to address these targets (see Figure 1). To support the PMLS activity, as suggested by Fernandez (2005a), student-teachers took part in some initial preparation activities; this included the discussion of a piece of literature on thinking skills (Cotton, 1991) as well as observing some teaching strategies used in Advanced level courses to help to develop thinking skills.

The PMLS cycle used in this study is described in Figure 1 below.

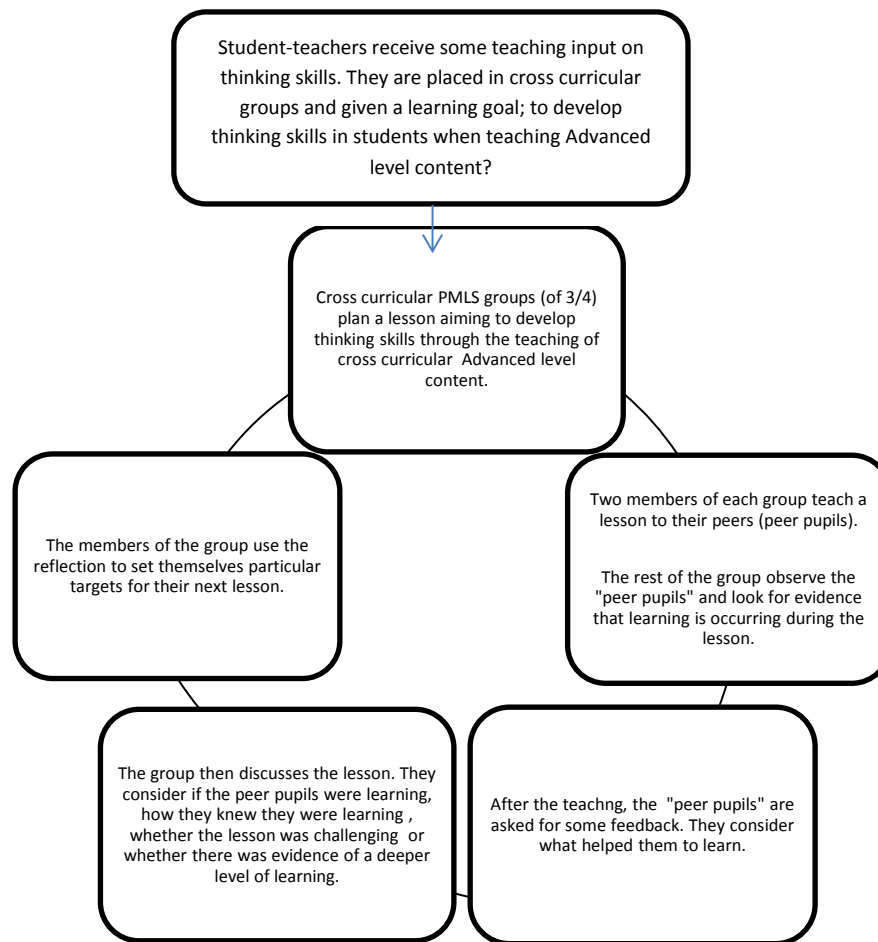


Figure 1 Peer microteaching lesson study (PMLS) cycle used in this study.

After the first research lesson had been taught the discussions of two groups (3 or 4 in each) were recorded as student-teachers reviewed the lesson, identified areas of practice to improve upon and began to plan their follow up lesson. Only two groups were recorded because they were physically situated on the edges of the classroom where the recording equipment was more likely to clearly capture the discussion in the relatively small room. These discussions were transcribed and analyzed in a variety of ways.

Firstly, explicit references to school placements (SP) during discussions were identified. These suggested that PMLS could be used as an opportunity for student-teachers to share practice from a range of school placements and therefore build the range of ideas they had access to. Secondly, references to specialist subject knowledge were sought (SK) to consider the role of PMLS in developing cross curricular confidence. Finally, transcripts were analyzed using a coding framework developed from the work of Mercer (1996) and Barnes (1999). This deductive method focused on identifying aspects of exploratory talk (ET): interaction and conversation that may indicate that new shared group knowledge was being formed. Examples include asking questions/hypothesizing, acknowledging uncertainty or confusion about something, suggesting and explaining an idea, offering a substantiated critique and finishing or building on each other's sentences and points. This is in contrast to other types of interaction (OI) that may not suggest that new shared knowledge had been formed such as off task conversation, presenting a statement with no explanation or follow up or dismissing a point with no attempt at justification or development. Quantitative data was also collected in relation to aspects of exploratory talk.

After the second research lesson had been taught and evaluated student teachers completed a questionnaire to capture their initial views about the PMLS activity. An open question questionnaire was completed by 28 student-teachers directly after the PMLS activity took place to gain immediate reactions and thoughts. Open questions were used to give

respondents the opportunity to describe their feelings about PMLS rather than be constrained by the researcher's choices of suggested answer. The questions asked were analyzed in an inductive way by identifying and grouping key words into themes used by the respondents e.g. gave me new ideas.

Results and Discussion

Group 1 in particular engaged in lively discussion and confirmed that PMLS allows student-teachers to share their individual school experiences with each other. Not all student-teachers had taught Advanced level courses in their school placements. In the discussion below, C uses her school placement experience to challenge the assumptions of B who believes that pupils at this level would be naturally more independent in their learning and so not need a high level of direction from their teachers. Challenging peers in this way has not always been evident in the lesson study literature (Parks, 2009).

Student teacher C – They said (the pupil peers)that they would like it if we gave them more structure as in give them more instructions to say read out a card to the whole group and then decide rather than just giving everybody them.

Student teacher B – Yeah, I get that they said that but they are an Advanced level group so you'd kinda think they'd do that anyway.

C – Sometimes they need a lot of structure through at advanced level. I found the group that I had, they really needed that. I don't know.....it depends on the group doesn't it.

As the student teachers in Group 1 planned their follow up lesson there was also evidence that they were sharing subject knowledge, pedagogic practices within certain subject areas as well as practices they had experienced in their school placements. In the following extract student-teachers discuss the practices used in their placement schools when setting differentiated learning objectives and link this with their theoretical understanding of Bloom's Taxonomy (Krathwohl, 2002): **all** pupils will be able to "describe" as it is a lower level skill, **most** pupils will be able to "understand" and **some** will be able to "explain", a more challenging skill. Student teacher A shares that this terminology was used in the ways pupils were assessed in geography in her placement school whilst B adds that "justify" was used in her placement school to present a further challenge to pupils.

Student teacher C – So, all will be able to describe the key features of life in Mao's China, most is that ok, what did we say?

B – No, no. Definitely.

A – Understand is most and then some is explain, they are the geography descriptors, that's how the levels go up. I'm not saying I necessarily understand the difference between understand and explain, to be honest. If you understand it you should be able to explain it.

B – At XXXXX school (first placement), it was justify which is more or else the same as explain because then you are justifying.

A – They are the levels I'm used to working with.

Group 1 engaged fully in discussion displaying many of the aspects of exploratory talk adapted from Mercer (1996) and Barnes (1999). The discussion below demonstrates their collective reflection on a problem they had identified in their first research lesson. They battled to understand the varied responses to their teaching activity when some "peer pupils" failed to understand the work they had set. Student-teachers A and C in particular engaged critically with ideas; criticized the opinions of each other in a constructive manner, used evidence from the lesson they had taught and summarized their thoughts as a way of trying to find a solution to the problems discussed. Their sense of collective responsibility appears to have mobilized all members of the group in order to find the answer, "resulting in deep and meaningful practice by all" (Marble, 2006:94). The complexity of teaching and the need to learn "how to read the classroom" (Ainley and Luntley, 2007) are laid bare in such discussions.

Student-teacher C – So, was it pitched at the right level for Advanced level?

Student-teacher B – I think it was too hard for them.

C – Too hard?

Student teacher A – I don't know because this group.....if we'd made it easier this first group understood it and moved on to the extension so I don't think it was too hard but maybe didn't fit with everybody's style of learning because the majority of people got it but there were four or five who were confused.

B – Oh yeah.

C- I think the fact that we didn't give them a complete introduction first.....with them, that might have supported the ones that didn't.....(hesitates)

A – But then the group at the front said as well it was nice to make a judgement without prior knowledge so they weren't biased one way or another.

C- Maybe we should have set that up at the start then saying we want you to be a judge, use the evidence, don't worry too much about what the cultural revolution but think about does what you know about him make him good or bad.

A – We have two different groups, what one said was good and the other said was bad so it's interesting. It makes it harder for us.

Whilst Group 1 clearly reflected on their practice and struggled to come to an agreement about their lesson, there was evidence of different types of contributions from Group 2. This group came to a consensus very quickly about the lesson they were planning with each member making suggestions to build on the ideas of the others. Although there was clear collaboration taking place the quick agreement meant that ideas were rarely discussed or justified in any detail, possibly “shut(ing) down the possibility for careful deliberation” (Parks, 2009:95).

Student-teacher E – I think we should have a debate.

D – Have you got some ideas?

E – Bring it in to the modern day? A timeline and a starter and the main activity is whether XXXX City is multicultural enough. Maybe a discussion with different tables. Would that work? Historic migrants and the impact on society.

D – Instead of groups of two, have groups of four.

F – Whether XXXX City is multicultural. Shall we make them make a decision?

E – There is a map that shows who lives in different areas.

D – And a vote at the end and do the standing at different parts of the room.

F – Is this it? Ethnicity census.

D – Two arguments. Some argue it is and some isn't.

E – Give the higher level pupils, it isn't.

F – I've got a map of it.

The level of exploratory talk in each group is summarized in Table 1 below. Clearly Group 1 engaged more readily in the discussions and demonstrated that PMLS could be used to build new shared group knowledge. There were some examples of this type of interaction in Group 2's discussion but these were less frequent. This disparity of engagement has also been found in the existing literature: lack of justification or reasoning behind the ideas presented by student-teachers was found by Parks (2008) and a superficial level of reflection was found by Myers (2013).

Aspect of exploratory talk	Group 1	Group 2
Asking questions/hypothesizing	36	14
Acknowledging uncertainty or confusion	7	0
Building on the points of others	29	6
Explaining a point of view or giving evidence to support it.	11	2
Critiquing an idea or practice	7	3
Making suggestions/giving possible ideas	27	18

Table 1: Aspects of exploratory talk

These differences could be due to a variety of factors; being recorded may have influenced student-teachers, making them self-conscious and preventing them from full participation. The emotional aspects of working collaboratively particularly with relatively inexperienced practitioners has been acknowledged (Barnes, 2008; Carrier, 2011; Moon, 1999). In Group 1 for instance, it was noted that there were more instances of student-teachers praising each other and their ideas. This may have had an impact on its members allowing them to critique each other and their practice more comfortably. It may of course mean that the members of Group 1 already possessed a good level of reflective skill and so were more able to engage with the task at a deeper level. On reflection, more direction and scaffold could be provided to help all participants develop a more justified response, highlighting what Parks (2008:1202) describes as the “challenges involved in supporting genuine collaborations or in guiding teachers towards substantive conclusions”.

At the end of the PMLS activity student-teacher feedback was overwhelmingly positive: 93% of respondents felt that working collaboratively via PMLS had benefitted them in a range of ways. The most popular responses related to how the activity had helped them to learn from each other to build on their ideas about the process of teaching but some also valued the opportunity to work in teams and the increased confidence that this brought as supported by Desforges cited in Dudley (2015) and Donnelly and Fitzmaurice (2011).

One of the main aims of this PMLS activity was to allow student-teachers to have access to a wider range of practice than the one school experience they had had so far during their course. This was shown by one respondent who said, “(We) batted ideas off each other or adapted ideas to make them better”. Student-teachers appeared to be knowledge building through their interaction with others, as suggested by Game and Metcalfe (2009) reflecting a constructivist view of group work. PMLS helped student-teachers bring together all of their experiences and develop a shared group understanding that was bigger and better than their individual contributions. More specifically, some respondents identified that they were not just learning from the ideas of their peers but from their practical school based experience: “...having not taught A level (Advanced level courses) in (my school placement), I was able to learn from the experience of my peers who had done it”. This viewpoint is supported by the extract used from Group 1 discussed earlier.

Student-teachers also reported that PMLS had helped them to reflect on their school based experiences during their first teaching placement. One respondent felt a tension when teaching Advanced level classes between giving information to her pupils and developing the skills needed to pass the exam. “[When teaching Advanced level courses] I worry too much about prescriptive content and [PMLS] has helped me overcome this problem.....I want my students to think more deeply about my subjects....I will give students more responsibility with their learning”. Sharing practical experiences whilst engaging with the thinking skills literature had clearly helped this student-teacher refine her understanding of how to encourage pupil learning. It had bridged the gap between her two placements by giving her the time and space to thoroughly reflect on her first school experience and learn from it. In contrast to Parks (2009:90), student- teachers in this research did not just use “simplistic systems....present in placement schools”, PMLS helped them to reflect and critique the practice they had experienced in school. One respondent commented that,“(I will) make sure I consider options other than a typical lecture style which is common in the Sixth Form (Advanced level courses in UK)”. Sharing school placement experiences with her peers had clearly encouraged this student-teacher to challenge her ideas about good practice. University based PMLS situated after the first teaching placement can therefore go some way towards addressing the limitations of school based training by encouraging a critical response to all forms of practice.

In relation to cross curricular teaching, 82% of student teachers felt that they had benefitted in a number of ways of working in cross curricular groups: feeling more confident teaching non specialist subjects, being more prepared for their first teaching roles where they may need to teach non specialist subjects but PMLS also helped them to understand the links between the different humanities subject areas:

“I think it has opened [our] eyes to the links and relevance of teaching these subjects in the future”

“ I have a desire to teach [other subjects in the future] and so this has been beneficial”

“History, Citizenship and Social Science have more interrelated links than previously acknowledged”

PMLS can therefore provide a vehicle for supporting students’ non specialist development and confidence. Unexpectedly, some responses showed that the cross-curricular context had helped student-teachers to understand more about their own subject specialism as demonstrated by this comment from a geography specialist, “....seeing the historical context and citizenship perspectives on migration helped my own wider understanding of a typically “geography” topic”. By focusing on a topic that is relevant to all humanities specialisms such as migration, this student-teacher’s own specialist subject understanding and teaching was enhanced. Similarly, seeing how non specialist peers struggled with a history task helped one respondent to understand the pupil perspective a little more and consider how this may impact on her practice.

In line with existing research student-teachers identified a number of ways that their thinking had changed during this activity and how they expected that their future practice would be affected, particularly in relation to a less teacher centred approach (Cajkler, Wood, Norton and Pedder, 2014):

“I will focus more on being a facilitator instead of having me do most of the talking/work.”

“I will let the students do a lot more of the work.....make them think.”

“It has made me think about the balance between making things accessible and stretching students.”

“ I have learnt that you can stretch pupils easily without making knowledge or activities particularly complex.”

Student-teachers were developing a more nuanced understanding of the complexity of the role of an effective teacher, highlighting the need for an interactive and experiential approach which provided challenging opportunities for their pupils.

In contrast, there were some negative comments from two respondents in particular who felt that PMLS was not a beneficial exercise. Both mentioned the composition of their group as a factor stating that they were working with student-teachers from their own specialism or had planned lessons purely from their subject point of view and therefore had not learned anything. As in the existing literature (Chassels and Melville, 2009) responses were contradictory as these respondents also felt that “it was good to see topics in other subjects being taught” and “[it was] good to experience (as a student) how different tasks play out”. This last point demonstrates an interesting aspect of PMLS in that student-teachers are placed in the shoes of their pupils enabling them to consider learning through a different lens of reflection (Brookfield, 1998). The group learning context was also criticized by one respondent who felt that it wasn’t clearly relevant to the real experience of a teacher in school when she reported: “I feel that teaching is largely an independent practice, therefore teaching in teams has not been useful”. This viewpoint contrasts significantly with the reviewed literature where working collaboratively was found to be a source of support for student-teachers (Cajkler and Wood, 2016). This comment may be due to the inauthenticity of the PMLS task (He and Yan, 2011) but it could also be a comment on the kinds of support and training student-teachers receive in school placements. If a “persistent individualistic culture of teaching” is experienced in schools where there is not a collaborative approach to supporting professional learning, it may be perfectly reasonable for student-teachers to find PMLS a false situation with little relevance to real classrooms (Chassels and Melville, 2009: 744).

Conclusion

PMLS can act as a bridge between school placements for student-teachers, allowing them to share and learn from each other’s developing practice and first placement experiences. It can give participants the time and space to reflect on their school based practice through collaboration with peers, address some of the limitations of school based training and can build cross curricular confidence when devised in mixed subject specialist groups. Feedback supports the findings from existing literature that student-teachers feel PMLS can help them to develop their subject knowledge, pedagogy, and

begin to see lessons from a pupil's perspective. It can help to restructure their initial views about the role of the teacher and what learning looks like.

However, the findings must be viewed with caution: only two discussion groups and just one evaluation/planning meeting from each were recorded and transcribed. Recording and analyzing all groups of participants, as well as all three of their planning and evaluation meetings might give a very different picture of collaboration and learning. Further investigation is needed in to the impact of PMLS on student-teachers' second school placements. This is a relatively under-researched use of lesson study, which would benefit from more attention by researchers.

References

- Ainley, J. and Luntley, M. (2007), "The role of attention in expert classroom practice", *Journal of Mathematics Teacher Education*, Vol. 10, No. 1, pp.3-22.
- Allen, D. W. and Eve, A. W. (1968), "Microteaching", *Theory into Practice*, Vol. 7, No. 5 pp. 181-185.
- Arsal, Z. (2014), "Microteaching and pre-service teachers' sense of self-efficacy in teaching", *European Journal of Teacher Education*, Vol. 37, No. 4, pp. 453-464.
- Barnes, M. (1999), "Cumulative and exploratory talk in a collaborative learning classroom". In *Proceedings of the 22nd Conference of the Mathematics Education Research Group of Australasia*, pp. 53-59.
- Barnes, M. (2008), "Exploratory talk for learning", in Mercer, N. and Hodgkinson, S. (eds) *Exploring Talk in School: Inspired by the Work of Douglas Barnes*, Sage, London, pp. 1-53.
- Bell, N.D. (2007), "Microteaching: What is it that is going on here?", *Linguistics and Education*, Vol. 18, No. 1, pp. 24-40.
- Brookfield, S. (1998), "Critically reflective practice", *Journal of Continuing Education in the Health Professions*, Vol.18, No.4, pp.197-205.
- Carrier, J. (2011), "Implementing and integrating effective teaching strategies including features of lesson study in an elementary science methods course", *The Teacher Educator*, Vol. 46, No. 2, pp. 145-160.
- Cajkler, W. and Wood, P. (2016), "Adapting "lesson study" to investigate classroom pedagogy in initial teacher education: what student teachers think", *Cambridge Journal of Education*, Vol 46, No. 1, pp.1-18.
- Cajkler, W., Wood, P., Norton, J. and Pedder, D. (2014), "Lesson study as a vehicle for collaborative teacher learning in a secondary school", *Professional Development in Education*, Vol. 40, No.4, pp.511-529.
- Chassels, C. and Melville, W. (2009), "Collaborative reflective and iterative Japanese lesson study in an initial teacher education program: benefits and challenges", *Canadian Journal of Education*, Vol. 32, No.4, pp. 734-763.
- Cohan, A and Honigsfeld, A. (2007), "Incorporating lesson study in teacher preparation", *The Educational Forum*, Vol. 71, No. 1, pp.81-92.
- Cotton, K. (1991), *Teaching thinking skills*. Northwest Regional Educational Laboratory, School Improvement Program, pp. 1-19.
- DfE (2010), *The Importance of Teaching. The Schools White Paper*. The Stationery Office.
- Desforges, C. (2015), Lesson study as a strategic choice. In Dudley (ed), *Lesson Study. Professional learning for our time*. London: Routledge, pp. xv – xx.

- Donnelly, R. and Fitzmaurice, M. (2011), "Towards productive reflective practice in microteaching", *Innovations in Education and Teaching International*, Vol. 48, No. 3, pp. 335-346.
- Fernandez, C. (2002), "Learning from Japanese Approaches to Professional Development: The Case of Lesson Study", *Journal of Teacher Education*, Vol. 53, No. 5, pp. 393-405.
- Fernandez, M. L. (2005a), "Learning through Microteaching Lesson Study in Teacher Preparation", *Action in Teacher Education*, Vol. 26, No. 4, pp. 37-47.
- Fernández, M. L. (2005b), "Exploring "lesson study" in teacher preparation", In Chick, H.I. and Vincent, J. L. (eds), *Proceedings of the 29th conference of the International Group for the Psychology of Mathematics Education*, Vol. 2, in Melbourne, Australia, 2005, PME, Australia, pp. 305-312.
- Game, A. and Metcalfe, A. (2009), "Dialogue and team teaching", *Higher Education Research & Development*, Vol. 28, No. 1, pp. 45-57.
- Gunnarsdóttir, G. H., and Pálsdóttir, G. (2011), "Lesson study in teacher education: A tool to establish a learning community", in *Proceedings of the Seventh Congress of the European Society for Research in Mathematics Education*, pp. 2660-2669.
- He, C. and Yan, C. (2011), "Exploring authenticity of microteaching in pre-service teacher education programmes", *Teaching Education*, Vol. 22, No. 3, pp. 291-302.
- I'Anson, J., Rodriguez, S. and Wilson, G. (2003), "Mirrors, Reflections and Refractions: The contribution of microteaching to reflective practice", *European Journal of Teacher Education*, Vol. 26, No. 2, pp. 189-199.
- Krathwohl, D. R. (2002), "A Revision of Bloom's Taxonomy: An Overview", *Theory and Practice*, Vol. 41, No.4, pp. 212-218.
- Lamb, P. (2015) "Peer-learning between pre-service teachers: embracing lesson study", *International Journal for Learning and Lesson Studies*, Vol.4, No.4, pp.343-361.
- Marble, S.T. (2006), "Learning to teach through lesson study", *Action in Teacher Education*, Vol. 28, No. 3, pp. 86-96.
- Mercer, N. (1996), "The quality of talk in children's collaborative activity in the classroom", *Learning and instruction*, Vol. 6, No. 4, pp. 359-377.
- Merghler, A. G. and Tangen, D. (2010), "Using microteaching to enhance teacher efficacy in pre-service teachers", *Teaching Education*, Vol. 21, No. 2, pp. 199-210.
- Moon, J. (1999), *Reflection in learning and professional development*. London, England. Kogan Page.
- Myers, J. (2013), "Creating reflective practitioners with preservice lesson study", *International Journal of Pedagogies & Learning*, Vol. 8, No. 1, pp. 1-9.
- Parks, A. N. (2008), "Messy learning: Preservice teachers' lesson study conversations about maths and students" *Teaching and Teacher Education*, Vol. 24, No. 5, pp. 1200-1216.
- Parks, A.N. (2009), "Collaborating about what? An Instructor's Look at Preservice Lesson Study", *Teacher Education Quarterly*, Vol. 36, No. 4, pp.81-97.
- Schon (1983), *The Reflective Practitioner How Professionals Think in Action*, Basic Books, New York.
- Sims, L. and Walsh, D. (2009), "Lesson Study with preservice teachers: Lessons from lessons", *Teaching and Teacher Education*, Vol. 25, pp. 724-733.

Spelman, B. J. and St. John Brooks, C. (1972), "Microteaching and Teacher Education: A Critical Reappraisal", *The Irish Journal of Education*, Vol. 6, No. 2, pp. 73-92.