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On the Way to Collective Professionalism: A Systematic Review on the Effect of Lesson Study on Teachers' Professional Development

Abstract. This paper presents a systematic literature review of the empirical studies on lesson study (LS), examining the impact of this methodology on teachers' professional development. The review is based on an analysis of relevant papers published between 1999 and 2019 and extracted from the electronic Clarivate Analytics and EBSCO databases. This paper analyses a selection of 16 studies that met the inclusion and exclusion criteria. The analysis revealed four areas where LS has a positive effect on teachers' professional development. The reviewed studies illustrate that the LS methodology facilitates teachers' professional development by impacting the competencies related to (i) teaching and learning processes, (ii) content knowledge and (iii) student personal development, while also affecting (iv) teachers' attitudes and beliefs. Furthermore, this literature review identifies some strategies for how LS could be applied in different subjects and fields. Finally, the review identifies research gaps, calling for different methodological, long-term (e.g., longitudinal) study approaches to deepen the understanding of the specific benefits facilitated by LS.

Keywords: systematic review, lesson study, professional development, teacher, collective professionalism

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Introduction

With the quality of education gaining attention from various interested parties, teachers' professional development has received an increasing amount of attention over the past few decades. Research has been increasingly supporting the idea that the continuing development and learning of teachers is one of the keys to improving the quality of schools (Darling-Hammond 1993; Thompson and Zeuli 1999). It has become obvious that »effective professional development is structured professional learning that results in changes in teacher practices and improvements in student learning outcomes« (Darling-Hammond et al. 2017, p. 5). Thus, it is important to identify the effective structured ways regarding how this need for continuing learning for teachers could be approached in a collaborative and systemic way, rather than left to individual ad-hoc choices by the individual teachers or administrators regarding teachers' learning.

The recent studies bring to light new approaches to teacher professional development, paying specific attention to the collective and context-specific aspects of teachers' professional development. Borko (2004) argued that teachers' learning occurs in many aspects of practice and that teachers' professional development is very much affected by the learning process in and within groups of teachers. The emergence of new developmental methods has called researchers to focus their efforts on the effectiveness of the structured collective learning methodologies that directly engage with the context-specific teaching practice, here as opposed to auditorium or workshop formats for teachers' professional development. Thus, in the current article, we focus on a specific teacher professional development method, called lesson study (LS), which is collaborative by nature (it is performed by a group of teachers) and context specific (the participants plan, act upon and analyse a real teaching-learning challenge in specific classrooms).

The specific choice to focus on the LS method as a professional development process for teachers is based on previous research papers that have suggested that LS is a very effective collaborative learning method. Most papers have argued that LS leads to better student learning (Pang and Ling 2012), the improvement of teaching skills of a specific subject (Hiebert et al. 2003; Hird et al. 2014) and

collaborative enquiry practice development (Larsen et al. 2018). However, the research data so far on LS are fragmented and limited. The purpose of the present article is to fill this gap by presenting the findings from a systematic review, here focusing on empirical studies of the use of LS, to summarise the evidence about the effectiveness of LS on teachers' professional development and the research methods used to analyse LS.

The present article is organised as follows: First, the teachers' collaborative professional development is described. Then, the LS method is briefly introduced. After that, a systematic review of the research literature methodology is described. Finally, the results of the review are presented.

Theoretical Framework

Current Challenges of Teachers' Professional Development

There has been a turn among educational scientists regarding their approach towards teacher professionalism and their professional development. Hargreaves (2000) argued that the view of the teacher as an autonomous professional is a thing of the past. This persistent critique of a longstanding culture of individualism within teachers' professional development and practice had led to the need to incorporate the social interrelatedness and relational potentiality of teachers' development, which again should not be simplified as simply a culture of collaboration (Hargreaves 2019). »Collective professional learning enables educators to work together capitalising on collective knowledge and fostering positive professional relationships among educators« (Colmer 2017, p. 447). Some researchers (Hargreaves 2019; Hargreaves and Goodson 2003; Hargreaves and O'Connor 2018) have insisted that teachers' collaboration should not be simplified to the practices of sharing experiences or specific knowledge, instead calling for an increased focus on the collaborative enquiry and action. It has been evidenced that when teachers' professional learning takes place in a specific social context, the understanding of what conditions are necessary to improve their practice deepens and becomes actionable so that their teaching practice is improved (Trabona et al. 2019). During the social process of collaborative enquiry, teachers shift »learning from a solely individual process to a social one that occurs through interactions and experiences« (Trabona et al. 2019, p. 473). Hargreaves (2019) conceptualised that collaborative enquiry is not merely a process to look at data to lift students' scores, but it is also »a way for learning to permeate the whole organization« (p. 615). The practice of collaborative enquiry, at its best, not only engages the teachers in mutually creative dialogue and reflection, but it also builds professional trust and readiness to learn. Such collaboration has the potential to develop into the cocreation of knowledge, where teachers »construct meaningful knowledge together to transform teaching and learning« (Trabona et al. 2019, p. 473). For this to occur, teacher learning must be conceptualised as a complex system rather than an isolated event (Collins and Clarke 2008). This approach requires institutional engagement as well, where other interested parties

(such as school administration, support personnel or parents) need to learn how to be the containers of boundaries by adapting learning spaces and infrastructure for the needs of learners, provide flexibility in learning schedules or give the necessary emotional support or other forms of support. Essentially, »teacher learning can flourish when teachers feel a sense of belonging to a community and are contributors to that community« (Trabona et al. 2019, p. 473). The collaborative nature of these enquiry challenges the longstanding culture of individualism within the teachers' professional development, inviting researchers to turn the research lenses into methods and formats that are collaborative and contextual.

The turn from individualism towards collaborative also brings about the need to conceptualise measures that could help assess the results of such collaborative professional development. The teacher's self-efficacy which positively correlated with student achievement has already been looked at as a promising conceptualisation for measuring the effect of effective professional development (Killian 2017). In light of this, the concept of collective efficacy becomes relevant and applicable. Collective efficacy is a teacher's belief about his or her colleagues' effectiveness (Bandura 1993) and »goes beyond the individual teacher to focus on the faculty as a whole« (Zambo and Zambo 2008, p. 160). Bandura (1993) argued that collective efficacy is the group's shared belief that through their collective action, they can positively influence student outcomes, including those who are disengaged and/or disadvantaged. Loughland and Ryan (2020) argued that collective efficacy and teacher PD support the agentic, collaborative involvement of teachers in their own professional learning. The most recent meta-research by Hattie (Killian 2017) showed that teachers' collective efficacy has the highest positive effect on student achievements. Fullan (2010) noted that teaching quality depends on a collegial, collaborative school environment, claiming that »the power of collective capacity is that it enables ordinary people to accomplish extraordinary things« (p. 74). Moreover, there is a strong correlation between teachers' effectiveness, their collaborative professional learning and collective efficacy (Loughland and Ryan 2020). Thus, there is a need to look deeper into the methods and formats of teachers' professional development to identify those with this collaborative and contextual nature to understand more deeply how to meet the challenges of effective collaborative PD.

The most recent research has shown that collective efficacy can be developed in interschool teams (Loughland and Ryan 2020) that are based on different forms of collaborative activities in schools (Hargreaves 2019). However, despite the existing scientific data supporting that the methods and formats for collaborative professional development are an important and highly relevant area, researchers have admitted that the academic literature is still short of inventory of teacher collaboration designs and their impact (Hargreaves 2019). With the current article, we offer a systemic analysis of the current status of research and findings into one such collaboration design for teachers' professional development—LS—as well as what we currently know about the impact of these methods on teachers' professional lives.

An Overview of Lesson Study

According to Dudley (2013), in the nineteenth century, LS started in Japan as a method of teacher-led professional development. The method is based on the cooperation of groups of teachers supported by knowledgeable others. Together, they hold professional discussions of issues and problems raised during classroom activities. The methodology involves identifying specific teaching–learning challenges, cooperative planning of classroom activities, executing and observing the class-in-action according to a mutual plan and reflective postclass discussions focused on students' learning and the effectiveness of the teaching process (Dudley 2013).

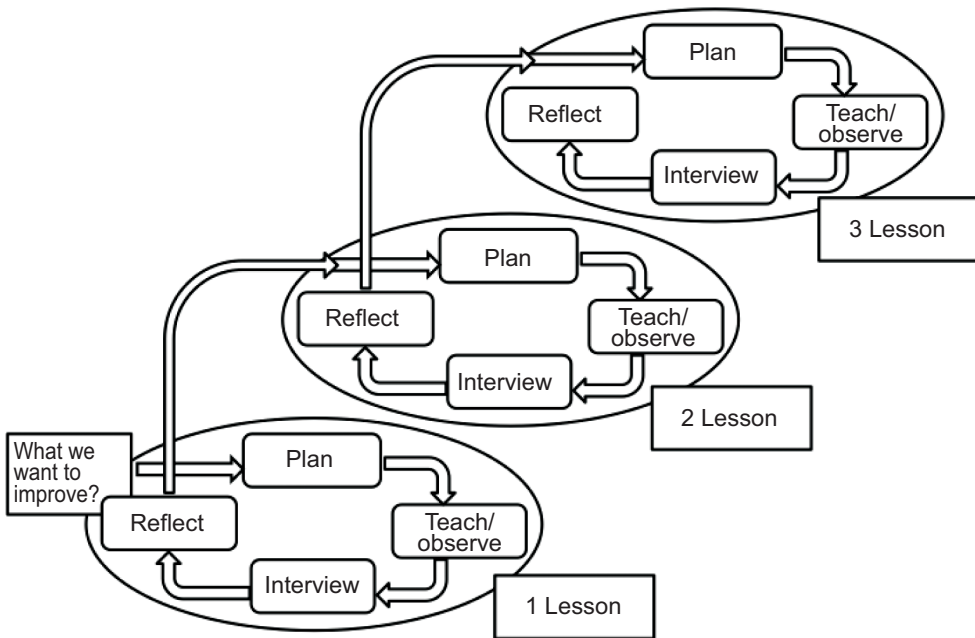


Figure 1: The cycle of lesson study (Dudley 2013)

This process helps bring about cooperation among teachers (i) to come up with better approaches to support student learning and (ii) develop their own problem-solving skills within their own class context. According to Saito (2012), traditionally, there are two types of LS: top down (with the purpose of disseminating innovations in education) and the grass roots method (improving pedagogical practice by reviewing teaching and learning methods through teachers' observations and discussions).

The systematic literature review conducted by Xu and Pedder (2015) identified the growth of LS and how it spread into countries outside Japan. The literature had indicated that LS, as a separate method, spread worldwide and entered different cultures. The variety of methodological applications suggests the potentiality of the method when it comes to variations and adaptations of it, as well as integra-

tion with other methods such as action research, learning study and other types of collaborative methods of professional development.

Saito (2012) noted that the main difference between LS and other types of professional development is the joint observation of real practices in a classroom setting, which is an important process step of LS. For example, LS has inspired other practices of professional development, such as Learning study (Kullberg 2010). Some authors have argued (Cheung and Wong 2014) that LS and learning study have a lot of similarities, such as the collective and iterative process of lesson development with the aim of improving student and teacher learning. Meanwhile, Buchard and Martin (2017) considered that the Learning study method is just a variation of LS in different cultures; they argued that a learning study is an LS variation, as it is perceived in Hong Kong and Sweden, yet in Japan and the USA, it is an LS method in its traditional form. However, other researchers (e.g., Pang and Ling 2012; Elliott 2019) do not affirm that LS and learning study are the same method. Although Pang and Ling (2012) argued that the learning study approach is essentially a kind of LS, Elliott (2019) stressed that the important difference between LS and learning study is their orientation, where LS is mainly oriented towards an improvement of teaching practice, LS is »focused on pupils experience of learning and not simply on teaching methods« (Elliott 2019, p. 181). Others, like Hanfstingl et al. (2019), have raised the question of the similarities and differences between action research and LS as well as Learning study. According to Dudley (2013), LS is a highly specified form of classroom action research focusing on the development of teacher practice knowledge. For the purpose of our research, we take Dudley's approach to LS as a form of action research performed by teachers.

For the purpose of the present paper, we rely on arguments that the use of LS enables not only a deep analysis of students' learning processes, but also the professional development of teachers (Espinosa et al. 2018). Marble (2007) argued that LS can be a powerful tool to help teachers examine their practices from both within and without. There seems to be agreement among researchers that LS facilitates teachers' cooperative professionalism and collective efficacy and could be integrated into the school-level development system as a professional learning process for teachers (Dudley 2015; Xu and Pedder 2015). According to research results, LS has a positive impact on teacher professionalism. Our research contributes to this scientific conversation by providing a systematic review of the research findings in recent years, focusing specifically on what exactly LS actually facilitates when it comes to teacher development.

Methodology

A systematic literature search was designed to meet our main research goal: to examine the impact of the LS methodology on teachers' professional development and review the research methods used for analysing LS. There were two specific research questions that guided our analysis:

- How is LS empirically investigated when it comes to teachers' professional development?
- How does the LS methodology facilitate teachers' professional development?

In this review process, the principles of a systematic review were adopted, as recommended by Jesson, Matheson and Lacey (2011), as follows:

- mapping the field through a scoping review,
- comprehensive search,
- quality assessment,
- data extraction,
- synthesis,
- write-up.

First, a research plan was developed by formulating the research questions of interest, identifying the keywords and creating a set of inclusion and exclusion criteria. The Clarivate Analytics and EBSCO databases were included for the search. The search terms were *»lesson study«* AND *»professional development«*. The main criteria for the search were full-text, peer-reviewed articles from scholarly journals, in the English language and from the field of education. The studies were filtered by visual examination to avoid duplication of articles across different databases. A comprehensive literature search was performed for the period from 1999 to 2019. The period was selected specifically by taking into account the findings of Xu and Pedder (2015), who noted that it was only after 1999 that the research of LS became available outside Japan and China.

In total, 45 records were identified through the database search. After reading the titles and abstracts, the number of articles was narrowed, focusing only on those related to LS as a tool for teachers' professional development. After this stage, the number of articles was reduced to 33.

The second stage consisted of reading both the titles and abstracts, as well as the conclusions. To focus the research papers to address the specific needs of the research purpose, the following exclusion criteria were applied: we only included articles that reported on empirical (quantitative and/or qualitative) research, and we excluded nonempirical, conceptual and discussion papers. After this screening, the number of articles was reduced to 16. Figure 2 demonstrates the flow of the search and screening processes.

Synthesis and analysis of the data were performed by identifying the research location (continent, country), date, methodological approach (methods), field of the research, aim of the article and the main findings. The data are presented in the two sections below. First, we present our results, concentrating on how LS on teacher professional development is investigated. Then, we present the research results on the impact of LS on teachers' professional development.

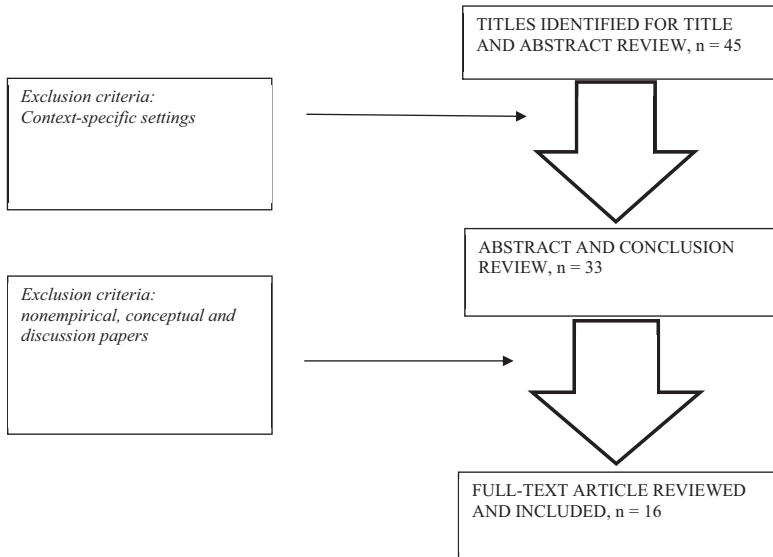


Figure 2: Article selection process in the systematic literature review

Results

Investigating lesson studies

The first research question concerns the choice of empirical methodology applied to research the impact of LS in the field of teacher professional development. We specifically investigated (1) the countries in which the studies were conducted, (2) the research methodological design, (3) the time period of LS research and (4) the discipline where LS is spread (Tables I and II).

Our systematic literature review identified that LS is mostly studied in Asian countries, with a few empirical research projects on LS and teacher professional development reported in the USA. Only three empirical research projects have been identified in Europe and South Africa, which suggests that it is only starting up in this area. This is in line with the findings of Xu and Pedder (2015), who identified that LS is not yet widely used in European contexts. Currently, research on LS is being applied in the UK, with early adaptations in Sweden and Ireland (Cheung and Wong 2014; Xu and Pedder 2015). Hence, it comes as no surprise that the majority of empirical research projects (13 out of 16 studies) in our review were conducted in the USA and Asia (see Table I).

Continent	Country	No. of articles	Studies
Europe	UK	1	Wake et al. (2016)
South Africa	South Africa	2	Ogegbo and Gaigher (2019), Mokhele (2017)
America	US	7	Takahashi and McDougal (2016), Regan et al. (2016), Alvine et al. (2007), Halvorsen and Lund (2013), Kohlmeier and Saye (2017), Smith (2013), Cluphf et al. (2012)
	Canada	1	Friesen and Francis-Poscente (2014)
Asia	Philippines	1	Lomibao (2016)
	Singapore	2	Lim et al. (2011), Chong and Kong (2012)
	Hong Kong	1	Cheng (2011)
	Japan	1	Elipane (2018)

Table 1: Geographical distribution of LS research papers included in the review

Our review indicated that LS has been used by teachers in different educational settings. Xu and Pedder's (2015) analysis on the spread of LS identified that »the majority research into LS has been carried out in primary school, secondary school and initial teacher education settings« (p. 57). Our review identified that most research projects on teachers' professional development facilitated by LS were performed in teacher development system settings (see Friesen and Francis-Poscente 2014; Cheng 2011; Elipane 2018; Cluphf et al. 2012; Alvine et al. 2007) (Table II).

System level	Discipline	No. of articles	Studies
Higher education	Physical education	1	Cluphf et al. (2012)
	Mathematics	3	Friesen and Francis-Poscente (2014), Alvine et al. (2007), Elipane (2018)
	Not specified	1	Cheng (2011)
High school	Mathematics	1	Lomibao (2016)
	Mathematics, humanities, and science	1	Chong and Kong (2012)
Secondary school	History	1	Halvorsen and Lund (2013)
	Physics	1	Ogegbo and Gaigher (2019),
	Mathematics	3	Mokhele (2017), Takahashi and McDougal (2016), Wake et al. (2016)
	Not specified	1	Regan et al. (2016)
Informal	Science	1	Smith (2013)
Other	Not specified	1	Kohlmeier and Saye (2017)
Mixed (primary, secondary, high schools)	Mixed	1	Lim et al. (2011)

Table 2: LS distribution in different education settings included in the review

The review showed that within higher education settings, LS is focused on facilitating teaching in sciences. Three publications in this area (Friesen and Francis-Poscente 2014; Alvine et al. 2007; Elipane 2018) analysed the use of LS for the professional development of mathematics teaching with the aim of increasing the professionalism of math teachers. Six studies analysed LS as a teacher professional development approach at the secondary school level. Only one study was performed in an informal education setting (Smith 2013).

Most of the articles that met our review criteria were from the field of mathematics (Friesen and Francis-Poscente 2014; Alvine et al. 2007; Elipane 2018; Mokhele 2017; Takahashi and McDougal 2016; Wake et al. 2016). Three studies (Kohlmeier and Saye 2017; Regan et al. 2016; Cheng 2011) did not specify the field/discipline where the LS methodology was employed.

Only one study, which was conducted by Lim et al. (2011), was carried out at different levels of the education system and was applied in different school subjects. Furthermore, in contrast to the sector of higher education, within the secondary education setting, LS application crosses the boundaries of sciences and steps into the humanitarian disciplines. Specifically, Halvorsen and Lund (2013) analysed LS applied by history teachers for improving the teaching of history.

In terms of the research methods, Xu and Pedder (2015) noted that there is a huge variation in sampling and research approaches in LS research. The studies reviewed during our analysis employed a great variety of methodological approaches. Qualitative methods were the most frequently used (see Table III). In most cases (see, e.g., Regan et al. 2016; Mokhele 2017; Elipane 2018; Wake et al. 2016; Ogegbo and Gaigher 2019; Cluphf et al. 2012), a case study methodology was applied. Only four studies employed mixed methods (e.g., Friesen and Francis-Poscente 2014; Lomibao 2016).

Methods	No. of articles	Geographical locations
Qualitative	10	UK (1), US (5); South Africa (2), Singapore (1), Japan (1)
Quantitative	2	Singapore (1), Hong Kong (1)
Mixed methods	4	Philippines (1), Canada (1), US (2)

Table 3: Design of the study and its geographical location

Thus, our review identified that researchers have shown some preference for choosing qualitative methodologies over quantitative methods. For instance, Chong and Kong (2012) argued that although the quantitative research approach is still dominating the field, the qualitative research approach provides important data, especially in cases where specific lessons are the focus of the research. Quantitative approaches were used in projects to identify the perceptions of the participants about LS (see, e.g., Cheng 2011). Qualitative approaches generate rich data on self-efficacy when small groups of teachers using LS are analysed. Furthermore, quantitative methods were used for research aimed at the analysis of specific teaching practices and situations when LS was applied. The most frequent data collection methods

were observation, videos of lessons, postlesson discussion notes, field notes, video footage and documents (field notes, wikis, etc.). It is worth noting that empirical research projects are single case based (e.g., Elipane et al. 2018), in a small scope (e.g., Ogegbo and Gaigher 2019; Chong and Kong 2012) and focused on pilot attempts to implement LS in school practice (e.g., Takahashi and McDougal 2016).

Impact of LS on teachers' professional development

Our review identified four main categories of focus regarding the impact of LS on teachers' professional development. The first category includes 12 articles focusing on how LS helped develop pedagogical knowledge and skills. The second category consists of nine articles focused on how LS improved teachers' content knowledge. The third category consists of three articles analysing the LS impact on teachers' attitudes and beliefs. The last category consists of three articles focusing on how LS can be implemented. It must be noted that some of the articles had more than one focus. Table IV summarises the range of research focus based on our review scope.

Research focus	No. of articles	Geographical locations
Pedagogic knowledge and skills	12	Philippines (1); US (7); Hong Kong (1); South Africa (2); UK (1)
Content knowledge	9	Canada (1); US (4); Philippines (1); South Africa (1); Japan (1); Hong Kong (1)
Attitudes and beliefs	3	US (1); Singapore (1); South Africa (1)
Conditions for successful PD through LS	3	Singapore (1); Japan (1); South Africa (1)

Table 4: LS research focus included in the review

The review of our empirical research publications showed that the research interest has focused extensively (12 studies) on the impact of LS on developing the pedagogical knowledge and skills of teachers. Wake et al. (2016) noted that LS serves as an instrument that facilitates both the learning and teaching processes for participating teachers. Specifically, the duality of the role—as a teacher and learner—is experienced at the same time because the teachers engaged in LS both teach others and learn themselves from the same process. In such a way, both the knowledge of teaching a specific subject is deepened, and the general pedagogical knowledge and skills are improved. For instance, Alvine et al. (2007) argued that LS facilitates the development of such basic pedagogical competencies as order management and effective communication within a class. Kohlmeier and Saye (2017) showed that LS positively influences the facilitation skills for class discussion of participating teachers. Meanwhile, Wake et al. (2016) demonstrated how LS could improve problem-solving skills for both the teachers and students engaged in a classroom activity. A large-scale quasi-experimental study by Cheng (2011)

showed that LS is a predictor of improvement for preservice teachers' instructional competence. Other researchers (e.g., Lomibao 2016; Regan et al. 2016) reported that LS served as a catalyst for change in teachers' knowledge and understanding of student learning. More specifically, Regan et al. (2016) explored an adapted version of LS (referred to as a microteaching lesson study), here reporting that LS facilitated the alignment of teaching methods with student needs.

Another frequently reported benefit of LS focuses on the improvement of content knowledge and skills (e.g., Friesen and Francis-Poscente 2014; Alvine et al. 2007; Lomibao 2016; Regan et al. 2016; Smith 2013). For example, Halvorsen and Lund (2013) analysed the application of LS to improve history lessons in the fifth grade, showing how the unique challenges arising within the teaching process can be identified and solved using the LS process. Our review indicated that the use of LS is engaged more frequently for the purpose of improving and developing content knowledge with the system of teachers' professional development (e.g., see the studies of Cheng 2011; Elipane 2018; Friesen and Francis-Poscente 2014). Based on our literature review, it should be noted that the subject where LS is the most employed for teachers' professional development is mathematics.

Furthermore, empirical researchers (Cluphf et al. 2012; Chong and Kong 2012; Ogegbo and Gaigher 2019) reported that LS facilitates changes in teachers' attitudes and beliefs about their teaching. Specifically, Cluphf et al. (2012) and Chong and Kong (2012) reported that participation in LS improved the sense of self-efficacy of teachers and supported/generated positive feelings about their capability for teaching. These studies (Chong and Kong 2012; Ogegbo and Gaigher 2019) revealed that collaborative planning was experienced as beneficial for changing teachers' attitudes and beliefs. In particular, it was the collaborative structure of LS that required teachers to work together and learn from each other (Chong and Kong 2012), as well as the process of LS, that generated the feeling of ownership of lessons mutually created by the group of participating teachers.

The final category of research focuses on the process of implementing LS for successful teacher professional development. Lim et al. (2011) research identified some influential factors that help sustain LS in Singapore schools. One key factor is the support demonstrated by school leadership for teachers using LS. The other factor concerns the teachers' time and space management. These two factors have been named as critical in employing LS in South Africa as well. Ogegbo and Gaigher (2019) identified that some factors prevent the successful implementation of LS, specifically teachers' workload; the small number of specific subject teachers in schools; the problem of finding time for collaborative activities; and the lack of resources and support from school management. Other researchers (Halvorsen and Lund 2013) argued that the benefits of LS cannot be achieved through a »one-size-fits-all« approach; they claimed that for LS to generate a positive impact on teachers' professional development, the method must be modified and adapted for specific discipline fields. However, Lim et al. (2011) noted that LS can be employed as a sustainable developmental process within an educational institution with a positive impact on collaborative educational culture because it facilitates openness within teachers to share their professional practice, create conditions for collabora-

tive learning from educational failures, support each other for classroom problem solving, encourage them to ask for help and so forth.

Discussion and Conclusion

The professional development of teachers is as important as ever, and the search for new, more effective ways and forms is not losing its relevance. The research on professional development has shown that development is still too much focused on teachers' knowledge and skills. Moreover, there is still too little focus paid to the attitudes and beliefs of teachers. In this sense, a teacher's career advancement is seen as a straight line, which has become the baseline for most professional development systems. Levin (2014) argued that for too long, teachers' professional development has been approached as a system of »sit and get« (short-term, instructional, mostly outside their classroom). Such an approach creates a gap between professional development and actual professional practice, making it difficult for teachers to integrate the »gained« knowledge into the messy and dynamic process of everyday classroom life. As Postholm (2012) pointed out, we need to approach professional development more holistically, including the inner (personal, competence and values) and outer (institutional, collaborative and cultural) aspects of teachers' reality and the necessary synergy of these factors. To achieve such synergy, new forms of professional development are required; LS is one such form. Yet because it is a rather new form, we need to understand its impact on teachers' professional development. Thus, we engaged in this systematic literature review of empirical studies on LS.

The findings of the review have provided some evidence of LS on teachers' professional development. It is important to note that the research confirms that the use of LS enables the professional development of teachers (Espinosa et al. 2018). The collaborative nature of LS puts all the participants of the LS group within an institution into equal roles as learners, regardless of their age, experience, expertise or seniority in school. The very core of the LS method is the collective enquiry on real teaching–learning challenges; thus, it puts the collaborative practice of teachers' work into the centre and seamlessly integrates collaboration into professional development. The researchers seem to agree that as a cooperative learning process, LS positively impacts teachers' willingness to cooperate and improve professional skills. Schipper et al. (2018) argued that LS supports teachers' self-efficacy in student engagement. Many research papers have shown a diversity of ways in which LS enables teachers' cooperative professionalism and could be integrated into the overall school development system as teachers' professional learning process (Dudley 2015; Xu and Pedder 2015). As a collective enquiry, LS promotes a group sense of collective efficacy, which is positively related to the quality and results of mutual action (Goddard et al. 2004).

Our review also supports Xu and Pedder's (2015) findings that the application of LS has expanded into other teaching subjects outside mathematics. Research has been appearing on adaptations of LS in the social and humanitarian sciences. Indeed,

Halvorsen and Lund (2013) noted that contextualisation becomes very important for the application of LS in other disciplines. The adaptation of LS for informal activities is also an interesting development and seems to be very productive, provided these specific experiential activities are given a focused collaborative effort.

A more detailed analysis of the global experience of LS practice so far (e.g., in the USA) shows that the adaptation of LS is a slow process, where the methodology is reshaped to meet local needs, thus resulting in a variety of forms and structures. Although researchers have been united in describing the positive impact of LS on teachers' professional development, its limited spread raises questions. One explanation for its slow adaptation can be found in the acknowledgement that the introduction of this new cooperative practice is related to socio-cultural barriers for transferring it into school/classroom contexts (Ebaegu and Stephens 2014). Europe has a very high diversity of national cultural values; thus, the variety of cultural dimensions may explain the slow spread of LS.

Based on our review, we identified some methodological limitations in the reviewed (N=16) studies, which we note here. Although most research studies employed qualitative approaches, the research focus was not so much about the analysis of LS process but rather on the teachers' perceptions of LS. In other words, the assessment of the impact of LS on teachers' professional development was measured through the teachers' perceptions, yet the process itself was not analysed. Furthermore, the research projects were still in a rather small scope and focused on the short term. No large-scale and longitudinal studies can be found. In addition, the objects of the research are pilot studies, and no established practice has yet been analysed. From a methodological perspective, neither pretesting nor post-testing was performed. These findings are in line with observations of other researchers (Cheung and Wong 2014; Xu and Pedder 2015; Larssen et al. 2018).

As a final word, a growing body of evidence from our and other researchers' literature reviews (e.g., Cheung and Wong 2014; Xu and Pedder 2015; Larssen et al. 2018) has confirmed that LS facilitates teachers' growth in professional development. It is, however, critically important—as the findings of this literature review suggest—to consider how to adapt LS in professional development for teaching different subjects. For a deeper impact analysis, the current research calls for different methodological, long-term (e.g., longitudinal) study approaches to deepen the knowledge of the specific benefits facilitated by LS in teachers' professional development.

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NA POTI H KOLEKTIVNEMU PROFESIONALIZMU: VPLIV ŠTUDIJA POUKA NA UČITELJEV PROFESIONALNI RAZVOJ

Povzetek: V prispevku predstavljamo sistematični pregled empiričnih raziskav o t.i. študiju pouka (angl. Lesson Study), pri čemer nas zanima, kakšen je vpliv tega metodološkega pristopa na profesionalni razvoj učiteljev. Pregled temelji na analizi relevantnih člankov, ki so bili objavljeni med letoma 1999 in 2019 in smo jih pridobili iz bibliografskih baz Clarivate Analytics in EBSCO. Izbrali smo 16 študij, ki so zadostile postavljenim izbirnim kriterijem. Analiza je pokazala, da obstajajo štiri področja, kjer je mogoče zaznati pozitiven vpliv študija pouka na učiteljev profesionalni razvoj: gre za metodološki pristop, ki spodbuja profesionalni razvoj, tako da vpliva na kompetence, povezane s (i) procesi poučevanja in učenja, (ii) učnimi vsebinami, (iii) osebnostnim razvojem učencev ter (iv) učiteljevimi pojmovanji in prepričanji. Hkrati smo s pomočjo te analize lahko identificirali tudi nekatere specifične strategije implementacije študija pouka na različnih predmetnih področjih. In nenazadnje, ugotovili smo tudi, kje so v tem trenutku raziskovalne praznine, ki bi jih bilo mogoče zapolniti s različnimi metodološkimi – tudi longitudinalnimi – pristopi, in tako še bolj poglobili razumevanje prednosti, ki jih omogoča študij pouka.

Ključne besede: sistematični pregled, študij pouka; profesionalni razvoj; učitelj; kolektivni profesionalizem

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