

A systematic review of the literature on lesson study in Germany: a professional development approach under the radar of research?

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Abstract

Purpose – The purpose of this paper is to systematically review the history and current state of lesson study (LS) in Germany. In particular, this paper describes the development of LS over time and its stakeholders.

Design/methodology/approach – Conducting a systematic literature review, we searched three scientific databases and Google Scholar, examined 806 results and included 50 articles in our final sample, which we analyzed systematically.

Findings – The spread of LS in Germany can be divided into three phases, characterized by their own LS projects as well as their own ways of understanding LS. Although interest in LS has increased significantly in recent years, it is only present at a small number of schools and universities in Germany if compared internationally. Furthermore, this paper identifies the so-called learning activity curves as a tool frequently used for observation and reflection that appears to be unknown outside German-speaking countries.

Originality/value – This paper may act as an outline for countries without large-scale LS projects and with limited support from policymakers. The experience from Germany demonstrates the outcomes and challenges that can arise in such a situation and shows how unique LS features and proceedings have emerged.

Keywords Lesson study, Germany, Literature review, Educational transfer, Teacher training, Professional development

Paper type Literature review

1. Introduction

Lesson study (LS) is flourishing worldwide and is currently being practiced in over 40 countries (Yoshida *et al.*, 2021a). Originally from Japan, LS has established itself as an approach to teachers' continued professional development (PD) in countries such as the United States of America and Singapore. In fact, Dudley claimed in 2014 that "LS is the world's fastest growing approach to teacher learning, and to develop teaching" (p. 4). LS networks in the UK (e.g. Dudley *et al.*, 2019) and the Netherlands (e.g. Vries and Prenger, 2017) prove that LS has arrived in Europe as well.

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Outside Japan, LS can be seen as a borrowed policy (Seleznyov *et al.*, 2021), which is a deliberately adopted policy observed in another context (Phillips, 2005). As policy borrowing is not an “all-or-nothing process” (Dolowitz and Marsh, 2000, p. 13), the degree of adoption ranges from pure inspiration to copying with high fidelity. Consequently, some aspects of LS are usually omitted or modified upon adoption (Stigler and Hiebert, 2016). Given the complexity of educational settings, however, it is not an easy task to successfully adapt policies to new settings and still achieve the same positive results that they yield in their country of origin. Implementation science differentiates between the integrity of the implementation and its social validity to evaluate the success of an implementation (O'Donnell, 2008). The integrity of implementation represents how close the actual implementation stayed to what was planned to implement (Dane and Schneider, 1998), while the social validity describes the acceptance of the implementation by the local community (Wolf, 1978). Reasons why borrowed policies can fail to establish themselves in new contexts include, therefore, not only insufficient knowledge about the policy or the omission of crucial elements, but also an inadequate consideration of the social, ideological, or other relevant contexts (Dolowitz and Marsh, 2000).

Internationally, there is no consensus on what exactly LS is. The borrowing of LS has resulted in manifold adaptations of its core steps, i.e. the long-term goal, collaborative lesson planning, conducting and observing the research lesson and the post-lesson discussion. In fact, there are many different variations of LS even in Japan (Kim *et al.*, 2021). In addition to the individual steps of the LS cycle, Seleznyov (2018) lists as core aspects: outside experts, sharing of LS knowledge and findings and iteration. These components offer a guideline for the international borrowing of LS and can help to assess which features should be copied with high fidelity or be adapted with care. Furthermore, the sociocultural setting of a country plays a role when adopting LS. For example, Japanese teachers view LS as “a platform to share practice, reflect on teaching and learning, and learn from others” (Kusanagi, 2022, p. 170). Hence, according to Kusanagi, the sociocultural setting and the dominant view of the teaching profession in Japan produce structures and attitudes that enable the nationwide practice of LS.

Turning to Germany, it appears that LS is gaining attention but is not yet practiced on a large scale nor prominently discussed in the literature (Kullmann and Friedli, 2012; Sliwka and Klopsch, 2019). The current literature mainly consists of isolated experiences with LS as a PD method, dating back to at least 2009 (Knoblauch, 2017). More recently, Hallitzky *et al.* (2021) classified LS projects in German-speaking countries according to their scope. Overall, these examples seem to have gone largely under the radar of the wider scientific discourse.

More broadly speaking, teachers in Germany rarely collaborate closely with their colleagues and, even if they do, this collaboration occurs primarily at a superficial level, such as the exchange of materials (Massenkeil and Martin, 2016; Richter and Pant, 2016). While the majority of teachers report a positive attitude toward collaboration, external factors such as lack of time are listed when asked what prevents them from collaborating with colleagues (Richter and Pant, 2016). Concerning LS in Germany, it is therefore unsurprising that dedicated time for LS and rooms for lesson planning and post-lesson discussions are considered not just as essential factors for a sustainable implementation of LS (Jakobeit *et al.*, 2021) but as factors promoting collaboration among teachers in general (Kalinowski *et al.*, 2022).

The present systematic review aims to paint a comprehensive picture of LS in Germany. The goal of the review is three-fold. First, we investigate whether there is a growing interest in LS among teachers, researchers and educational policy-makers in Germany. Second, we retrace the introduction of LS to Germany. Third, we analyze how researchers in Germany understand LS and have developed their own procedures.

2. Methodology

We conducted a systematic literature review according to Galvan and Galvan (2017) and Alexander (2020). First, we selected the search parameters, databases and inclusion criteria. We then added articles found by literature backtracking and researcher checking and finally analyzed the included articles systematically.

2.1 Searching the literature

The literature search consisted of several steps. First, we agreed on several search terms to scan the databases of ERIC, Scopus and the German Education Portal (Fachportal Pädagogik). The following terms and their combinations were used: “Lesson Study” OR “Lesson Studies” AND “Germany” OR “German” OR “Deutschland” OR “Deutsch”. The search was not limited to a specific time frame or type of literature, as we included both scientific and gray literature on LS in Germany. We therefore also searched Google Scholar for relevant publications. In order to keep this search manageable and assuming that gray literature on LS in Germany was likely to be written in German, we limited this search to the German language.

Overall, the initial searches conducted on April 8, 2022, yielded 806 results. A search result was included if it either

- (1) Introduces LS and is written in German,
- (2) Discusses LS on a theoretical level and is written in German, or
- (3) Its main focus is on LS in Germany and it is written in either English or German.

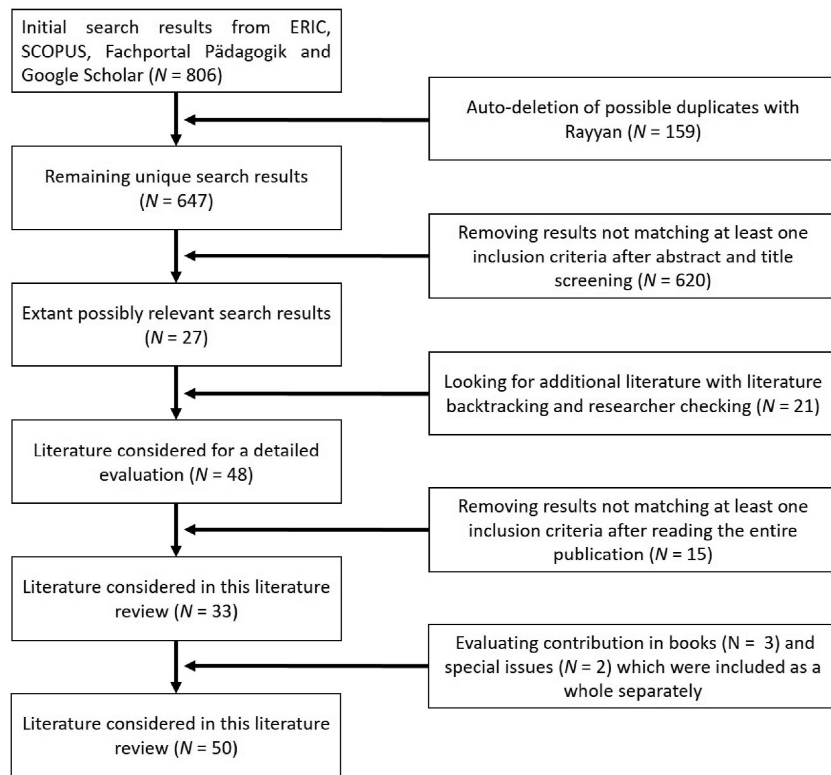
This means that we excluded literature that just mentioned LS as an example of PD or simply recommended the use of LS in Germany. Furthermore, all articles included in the review had to call their own research or experience LS.

To check for these inclusion criteria, all results ($N = 806$) were imported to Rayyan, a software for systematic reviews (Ouzzani *et al.*, 2016). After the auto-deletion of possible duplicates ($N = 159$), the first author and a trained research assistant independently screened the abstracts of the remaining results ($N = 647$) according to the set inclusion criteria. If the abstract was unavailable, we skimmed all parts of the text for the term “Lesson Stud*” and decided on that basis whether to include or exclude the result. This stage reduced the number of texts to 27.

In order to account for intercoder reliability, we calculated Cohen’s kappa. The approximate relative observed agreement of $p_0 \approx 0.98$ and the hypothetical probability of chance agreement of $p_e \approx 0.91$ leads to $\kappa \approx 0.82$, which shows a substantial consistency.

Finally, with literature backtracking and researcher checking, twenty-one additional potential matches that had not been identified in the data bases were discovered. In total, this yielded 48 results eligible for full-text screening.

During full-text screening, we excluded 15 publications for diverse reasons (e.g. main focus of article on different topic or different German-speaking country). While searching the literature, we included any result regardless of the type of literature. This means that edited volumes and individual special issues of journals were fully included, even if only one or more contributions fulfilled an inclusion criterion. While analyzing the literature, we reevaluated each chapter and article separately against our inclusion criteria and counted them separately, with the exception of Hallitzky *et al.* (2022), since the entire book deals with the same case study. This ultimately resulted in 50 individual publications considered in this review (for a complete list see the Supplementary Material). Based on Moher *et al.* (2009) Figure 1 summarizes the search process.



Source(s): Author's own creation

Figure 1.
Illustration of the
literature search
process

2.2 Analyzing the literature

The analysis focused on several aspects. We started by recording general characteristics of the publications (e.g. year or type of publication) and identified the type of literature (e.g. report from Japan, introduction aimed at either researchers or practitioners).

In the next step, we identified common and unique aspects, while also grouping together articles on the same LS projects. We paid particular attention to details regarding the implementation of LS in order to identify distinct ways in which LS has been altered in the German context. While doing so, we also kept track of the type of schools and subjects involved in LS. Lastly, we used the seven core components of Japanese LS identified by Seleznyov (2018, p. 220) to examine LS implementations described in the sample.

3. Findings from the literature review

In this chapter, we first present some general characteristics of the included publications. We then outline the spread of LS in Germany and finally show how different authors understand LS. Lastly, we elaborate on distinctive features of LS in Germany.

3.1 Characteristics of the publications

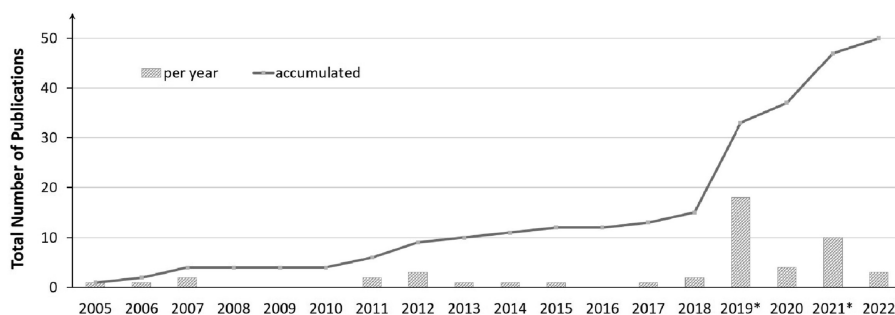
The vast majority of publications on LS in Germany are written in the German language. Out of a total of 50 eligible publications, only four were written in English and only one of these

was published prior to 2021. We identified three additional English-language articles published in the *International Journal for Lesson and Learning Studies (IJLLS)*, namely those by Gruschka (2018), Rovio-Johansson (2018) and Yoshida *et al.* (2021b). All three articles were excluded during the full-text screening, however, as they did not meet our set inclusion criteria. The focus of the publication by Yoshida *et al.* (2021b), for instance, was on a cooperation between Japan and Germany, rather than on LS in Germany itself.

The earliest article on LS included in this review was published in 2005. As Figure 2 demonstrates, the number of publications has increased significantly since then, and Table 1 provides an overview of the types of publications.

We consider almost 50% (22 of 50) of the included publications to be introductory texts on LS. We distinguish between introductions aimed at practitioners (e.g. descriptions of LS) and those aimed at researchers (e.g. research on LS). The second-largest group of publications in this review focuses on specific aspects of LS, such as the observation during a research lesson. Additionally, there are researchers writing about their experiences with LS in Japan.

The analysis shows that LS in Germany is not limited to a certain type of school or subject. LS has been practiced, for example, in elementary schools (e.g. Kager *et al.*, 2022) and high schools (e.g. Hallitzky *et al.*, 2022), but also in vocational schools (e.g. Knoblauch and Rieger, 2015) and in different domains or subjects. Most publications discuss LS only with in-service teachers, but some individual reports also with pre-service teachers (e.g. Droll, 2019).



Note(s): An asterisk indicates that in this year a book and/or journal dedicated to LS was published, and every contribution that satisfies an inclusion criterion is counted separately. Furthermore, the literature search was conducted on April 4; hence, data for 2022 is incomplete. Older publications (since 2001) also exist, but were excluded during full-text screening

Source(s): Author's own creation

Figure 2.
Number of publications on LS considered in this review over time

Type	Number of publications	Most recent publication
Introduction (practitioner)	14	Vock and Jurczok (2021)
Introduction (researcher)	8	Posch (2022)
Specific aspect of LS	13	Kager <i>et al.</i> (2022)
Report from Japan	3	Sliwka and Klopsch (2019)
Other	12	Hallitzky <i>et al.</i> (2022)

Note(s): "Other" includes all remaining results, such as project reports or interviews on LS

Source(s): Author's own creation

Table 1.
Classification of the literature considered in this literature review

3.2 The spread of LS in Germany in three phases

Our analysis indicates that the spread of LS in Germany occurred in three phases (Figure 2) with fluid transitions.

Initial experiences. The first phase, starting in 2005, was characterized by individual reports and introductions to LS by Japanese researchers (e.g. Morita, 2005) and ended with the LS project between the University of Teacher Education, Freiburg, Germany (Pädagogische Hochschule Freiburg) and the University of Teacher Education, Aichi, Japan (Aichi Kyouiku Daigaku) (e.g. Schütte and Gervé, 2007). Their collaboration appears to have taken the form of a contained project that resulted in some of the earliest publications on the German context (e.g. Gervé, 2007; Schütte and Gervé, 2007). Given that LS can take various forms, even within Japan (Mitsuhashi, 2003), this early exchange with researchers from Aichi most likely shaped the particular notion of LS that has since been adopted in Germany.

Second round. The second phase was initiated by the LS project at the Laborschule Bielefeld, a laboratory school that collaborates closely with the Bielefeld University. To the best of our knowledge, the thorough documentation of this project can be considered the earliest documented research literature on LS in Germany (e.g. Freke et al., 2013). Only one article, published by a Japanese researcher (Matoba, 2011), during this phase is unrelated to this project. Our analysis, however, also indicates that both these projects have been concluded and, as far as we have been able to verify, LS is not being pursued further at the schools that were involved at the time (personal correspondence).

Scaling up. The third phase was initiated by several publications by Knoblauch. Starting in 2014, individual publications (mostly aimed at practitioners) about LS were published more consistently and started to attract the attention of both scholars and practitioners. This gradual increase in LS publications led to various books and research studies on LS and paved the way for the current LS projects in Germany. Our analysis identified two independent recent projects that characterize this phase. The first project, which ended in 2022, is the cooperation between the University of Leipzig (Germany) and the University of Hiroshima (Japan). The second project is the LS project initiated by the authors of this article at the University of Potsdam (Germany) and is part of the “Leistung macht Schule” initiative (“Excellence in School Education”), which began in 2017. The project includes 19 primary schools and, to the best of our knowledge, it is the largest LS project ever conducted in Germany to date.

In addition to these larger projects, we identified individual articles written on LS by teachers, coaches, or researchers. These were mostly (field) reports of personal experiences with LS, or about information on LS learned from visits to Japan. The analysis indicates, however, that LS has had an influence on other areas of educational science in Germany and sometimes features in the discourse on effective PD (e.g. Lipowsky and Rzejak, 2015). Recently, LS has also been described in introductory books aimed at undergraduate teacher trainees (e.g. Helmke, 2010; Rothland, 2016). Due to the nature of the search process for this literature review, however, no publication mentioned in this paragraph is included in this review.

3.3 How is LS understood?

The analysis suggests that the understanding of LS is largely homogenous across the publications considered in this review. Specifically, all authors seem to understand LS as a form of PD that includes the cooperative development of lessons and focuses on observing and understanding student learning. Differences do emerge, however, when investigating articles through the lens of Seleznyov’s (2018) seven characteristics: a long-term goal, collaborative lesson planning, conducting and observing the research lesson, post-lesson discussion, iteration, outside experts and sharing the knowledge gained.

First, the general flow of a LS cycle and all its steps (e.g. Lewis et al., 2019) are described in a similar way across all reviewed publications. Descriptions include a *research lesson*, which

is observed and a *post-lesson discussion*. Often, the exact implementation of these steps is not described in detail, which is a trend that can also be observed in the international literature on LS (Kager *et al.*, Submitted). The terminology used to refer to individual LS steps also differs between authors. For example, Kullmann and Friedli (2012) mention a colloquium, Gervé (2007) describes a post-conference and Vock and Jurczok (2021) talk about evaluation and reflection meetings. Yet, the overall idea of LS remains the same, namely that the overall focus of LS lies on students' learning.

All authors, additionally, understand LS as an *iterative event* and agree that the goal of LS is not to create the perfect lesson, but rather to gradually develop and improve instruction. An interesting distinction in this context is the fact that Gervé (e.g. 2007) and Kullmann (e.g. 2012) do not speak of a LS cycle, but rather of a LS spiral.

Another point where Gervé differs from other authors is that he does not address any *long-term goals* in the context of LS that go beyond continuous lesson development. He also has a different approach toward the *collaborative planning of the research lesson*, as the lesson is not planned from scratch, but rather a team member introduces a first draft of a lesson, which is then discussed and modified by the team.

The role of *expert knowledge*, while discussed by Gervé, remains largely unmentioned in other publications. Although several authors describe taking on the role of expert in their LS projects, this role tends to remain vague and is not identified as a central element.

Finally, concerning the *sharing of results* of LS (i.e. within and outside the school), our review indicates that this step is only marginally discussed in the German LS literature. Only Kullmann (2012) emphasizes the importance of mobilizing knowledge and advises publishing LS experiences and research in academic and non-academic journals, or to at least share new knowledge with colleagues. In general, the extent to which this is practiced by schools remains unclear, as this information is rarely available to the public or mentioned in publications. The research reports from the Laborschule Bielefeld (e.g. Freke *et al.*, 2013) likely contain the most thorough descriptions of single LS cycles that are publicly available in Germany.

Lastly, we want to highlight the LS project by Hallitzky's research group, which can be defined as "a project of interprofessional and intercultural cooperation in the field of lesson research and development" (Kinoshita, 2023). This project distinguishes itself from others in Germany, as it is a cooperation between a German teacher and several researchers from the universities of Leipzig (Germany) and Hiroshima (Japan). The lessons, which are planned by the teacher, are recorded on video and the transcripts and videos are subsequently analyzed by two groups of researchers (Kinoshita, 2023). This is followed by an exchange between the two research groups and the teacher about the lesson. One final product of this project was a jointly edited book (Hallitzky *et al.*, 2022) about one of these lessons and its analysis. The goal of this project was therefore the intercultural and interprofessional analysis of teaching and learning (Kinoshita, 2023). The LS practice itself was a by-product, which is reflected in the use of the Japanese term *Jugyou Kenkyuu* (written here in the Latin alphabet) instead of the term *Lesson Study*.

3.4 Data collection during the observation

Concerning data collection during observation, we identified one unique characteristic of LS in German-speaking countries, especially in Germany: the so-called learning activity curves (German: Lernaktivitätskurve). This method has been proposed by Knoblauch (2014) and was developed while facilitating LS.

Learning activity curves are a visualization of the learning behavior of closely monitored case students during a research lesson. To construct these curves, each observer writes down their time-stamped observations pertaining to a case student on sticky notes (different colors for each student). After the research lesson, teachers arrange these sticky notes on an xy-plane, where the x-axis represents the time (i.e. procedure of the lesson) and the y-axis

represents the complexity of the exhibited learning activity (i.e. how challenging and how rewarding a student's activity is for their learning). By connecting the same-colored sticky notes, teachers generate a curve for each student that illustrates how they learned over the course of the lesson. The collaborative analysis of these curves not only structures the post-lesson discussion, but can also help to identify sections of the lesson in which students, or a specific student, struggled with a certain task. Hence, these curves act as a tool to better understand students' learning processes and tailor lesson designs to students' needs.

The idea of using colored sticky notes during the observation and post-lesson discussion can already be found in a publication by [Gervé \(2007\)](#), possibly inspired by the cooperation between the Universities of Teacher Education in Aichi and Freiburg. While Gervé's main focus also lies on the learning of "marked students" (p. 117), the different colors of sticky notes do not refer to individual students, but rather to different teaching and learning activities. The basic idea of focusing on individual students and perceiving them as a whole (holistic education) and then learning from these observations, originated from concepts known in German early childhood education ([Knoblauch, 2017](#); [Alemzadeh, 2021](#)), where systematic observation of the individual child is a key task of educators ([Jergus et al., 2013](#)).

Since its initial introduction to the LS literature, the method of the learning activity curves has spread around German-speaking countries. The method is regularly referred to in German publications (e.g. [Knoblauch, 2017](#); [Droll, 2019](#); [Kager et al., 2022](#)), but has to date only rarely been described in English publications ([Klammer and Hanfstingl, 2019](#); [Kager et al., 2022](#)).

4. Discussion

The goal of this systematic review was to explore the spread of LS in Germany by retracing its journey since introduction. The analysis of the 50 articles included in this review confirms that the number of publications on LS in Germany has grown substantially over the past twenty years (see [Figure 2](#)). This is in line with the general trend observed around the world ([Yoshida et al., 2021a](#)). We further found that several unconnected LS-related projects have been conducted in Germany. The literature search suggests that researchers who initiated early projects are probably no longer actively engaged in LS today. These projects, however, paved the way for the two current LS projects in Germany.

The state of LS in Germany therefore mirrors challenges experienced with the introduction of LS in other international contexts. For example, some LS projects in the US faded away after their initial implementation ([Lewis et al., 2006](#)). Early LS projects in Germany followed a similar trajectory and it seems that, so far, LS in Germany has been closely tied to projects and has not yet been integrated into structures of the education system.

The comparison with the critical components of LS identified by [Selezniov \(2018\)](#) showed that, as a borrowed policy, LS in Germany does correlate closely with international conceptualizations of LS, yet some components have been copied with higher fidelity than others. Especially *outside experts* and the *sharing of results* tend to be neglected in German adaptations.

In fact, we saw that LS is not yet rooted in the German education system in the same way it is in Japan, or even in other European countries, such as the Netherlands ([Lesson Study NL, 2016](#)). This might be a reason why preconditions that support teachers in participating in LS, such as time for collaboration and support from outside experts, are not always available at German schools ([Jakobeit et al., 2021](#)). In general, the sustained implementation of educational interventions in Germany is a challenging process. As [Straub and Vilsmaier \(2020\)](#) note, top-down interventions frequently lack the "necessary transformative momentum to induce long-lasting change" (p. 10), while bottom-up approaches tend to "face limitations with respect to systematic and evidence-based change processes and diffusion" (p. 10). Yet there are indeed

initial foreign education concepts, for example Dalton Schools (Günsche and Schenk, 2018), that managed to establish and sustain themselves in Germany. Our review of the literature also hints at parallels between the German and Japanese sociocultural settings that might promote the sustainable implementation of LS in the future. Specifically, all publications included in this review understood LS as an opportunity for teachers' continued PD, rather than as a tool to create perfect lessons. As Fernandez *et al.* (2003) argue in reference to the introduction of LS to the US, this understanding of LS can support teachers in focusing their observations on student learning instead of evaluating each other's teaching.

Lastly, there is still a need for collaborative PD methods in Germany and, as this review shows, various stakeholders are showing an increased interest in LS as an approach to address this need. First, there are now more researchers than ever studying LS in the German context. Second, two separate LS projects are being funded concurrently by policymakers. One of these is the largest LS project ever carried out in Germany, which, as part of the transfer phase of the "Leistung macht Schule" initiative (Bundesministerium für Bildung und Forschung, 2018), will be expanded to even more schools in the next few years. Third, an increasing number of teachers and school advisors are publishing articles about their experiences with LS, sometimes in collaboration with researchers. Finally, LS is occasionally offered as a form of teacher training for in-service teachers and sometimes even for pre-service teachers (e.g. Droll, 2019).

This review has several limitations that should be noted when interpreting the findings. We only considered publications that used the term "Lesson Study" or "Lesson Studies". It is therefore possible that eligible articles that use other terms (or translations) to refer to LS were missed in the search process. Furthermore, it is likely that additional eligible articles were missed, as they might have been published in non-academic formats, not available to the public, or not indexed in the data bases searched. We therefore assume that this review presents an underestimation of the LS activity in Germany, especially since not all schools that practice LS are supported by researchers or participate in the discourse on LS by making their LS experiences public. Another source of underestimation might be the inclusion criteria of this review, given that we did not include conference presentations (e.g. World Association of Lesson Studies (WALS) conferences) or other unpublished formats. Furthermore, the distinction between LS in Germany and LS in German-speaking countries is not always clear-cut, and some articles written in the German language lack a clear reference to a specific country.

5. Conclusion

LS still remains a rather unknown approach to teachers' PD in Germany, but it is not completely under the research radar and attention to it has certainly increased in recent years. Researchers (alongside school advisors) have been key initiators of a number of LS projects across German schools. Despite this growing interest, the LS community in Germany remains small and, at this point, not well connected. LS in Germany is still largely project-based and has not yet been integrated into structures of the education system. Looking forward, it will therefore be key to consider how LS can be continued in and by schools outside of project contexts or after projects stop receiving funding.

Our work highlights several implications for LS in Germany and the international context. First, our review showed that LS publications from the German context are predominantly published in German. Although we identified three potential publications in the *IJLLS*, the main focus of these articles was never on LS in Germany itself. It therefore seems that the topic of LS in Germany has not yet fully arrived in the international LS discourse. Germany's understanding of LS, however, corresponds to international conceptualizations, and our experiences with adopting LS are similar to those of other countries. In order to ensure a

better international exchange, we therefore argue that the field would benefit from researchers around the world publishing findings from their local setting in English and using the *IJLLS* as a platform for collaboration and scientific exchange. An example of successful international networking sparked through the WALs and *IJLLS* community is, for example, the joined efforts to translate the book by Lo (2012) to the German language.

Additionally, our review showed that LS in schools often does not survive the end of a (research) project due to a variety of potential factors (e.g. Holtappels (2019)). In our own LS project, the initial schools will now join small networks of schools and train and support the new schools in how to do LS. This, however, is only one possible option for ways to spread LS and many countries are experimenting with different approaches or have already found viable pathways. The key question that will need to be addressed in the future is how countries like Germany can integrate LS into already existing structures of their education systems.

References

- Alemzadeh, M. (Ed.) (2021), "Wahrnehmendes beobachten in Krippe und Kindertagespflege. Partizipatorische Didaktik [Perceptive observation in crèches and day care centres-Participatory Didactics]", Herder.
- Alexander, P.A. (2020), "Methodological guidance paper: the art and science of quality systematic reviews", *Review of Educational Research*, Vol. 90 No. 1, pp. 6-23, doi: [10.3102/0034654319854352](https://doi.org/10.3102/0034654319854352).
- Bundesministerium für Bildung und Forschung (Federal Ministry of Education and Research) (2018), "Leistung macht Schule [promoting excellence in school education]", available at: https://www.bmbf.de/bmbf/de/bildung/bildung-im-schulalter/leistung-macht-schule/leistung-macht-schule_node.html (accessed 20 April 2023).
- Dane, A.V. and Schneider, B.H. (1998), "Program integrity in primary and early secondary prevention: are implementation effects out of control?", *Clinical Psychology Review*, Vol. 18 No. 1, pp. 23-45, doi: [10.1016/S0272-7358\(97\)00043-3](https://doi.org/10.1016/S0272-7358(97)00043-3).
- Dolowitz, D.P. and Marsh, D. (2000), "Learning from abroad: the role of policy transfer in contemporary policy-making", *Governance*, Vol. 13 No. 1, pp. 5-23, doi: [10.1111/0952-1895.00121](https://doi.org/10.1111/0952-1895.00121).
- Droll, M. (2019), "Lesson Study: eine Methode der kooperativen Unterrichtsentwicklung [Lesson Study: a method for cooperative lesson development]", *Lehren and Lernen*, Vol. 45 No. 12, pp. 8-13.
- Dudley, P. (2014), "How Lesson Study works and why it creates excellent learning and teaching", in Dudley, P. (Ed.), *Lesson Study: Professional Learning for Our Time*, 1st ed., Routledge, pp. 1-28, doi: [10.4324/9780203795538-1](https://doi.org/10.4324/9780203795538-1).
- Dudley, P., Xu, H., Vermunt, J.D. and Lang, J. (2019), "Empirical evidence of the impact of lesson study on students' achievement, teachers' professional learning and on institutional and system evolution", *European Journal of Education*, Vol. 54 No. 2, pp. 202-217, doi: [10.1111/ejed.12337](https://doi.org/10.1111/ejed.12337).
- Fernandez, C., Cannon, J. and Chokshi, S. (2003), "A US-Japan lesson study collaboration reveals critical lenses for examining practice", *Teaching and Teacher Education*, Vol. 19 No. 2, pp. 171-185, doi: [10.1016/S0742-051X\(02\)00102-6](https://doi.org/10.1016/S0742-051X(02)00102-6).
- Freke, N., Koch, B., Kullmann, H., Textor, A., Young, V. and Zenke, C.T. (2013), "Werkstattheft nr. 48", [Research reports No. 48]: Laborschulforschung 2013 Anträge und Berichte zum Forschungs- und Entwicklungsplan [Research at the Laborschule 2013 Research Applications and Reports].
- Galvan, J.L. and Galvan, M.C. (2017), *Writing Literature Reviews: A Guide for Students of the Social and Behavioral Sciences*, 7th ed., Routledge, doi: [10.4324/9781315229386](https://doi.org/10.4324/9781315229386).
- Gervé, F. (2007), "Lesson-Study als Modell für die schulpraktischen Studien [Lesson-Study as a model for school studies]", in Flaggmeyer, D. and Rotermund, M. (Eds), *Mehr Praxis in der Lehrerbildung – aber wie? [More practice in teacher education - but how?]: Möglichkeiten zur Verbesserung und Evaluation der Lehrerbildung [Ways to improve and evaluate teacher education]*, Leipzig: Universitätsverlag, pp. 115-130.

- Gruschka, A. (2018), "How we can and why we have to reconstruct teaching", *International Journal for Lesson and Learning Studies*, Vol. 7 No. 2, pp. 85-97, doi: [10.1108/IJLLS-01-2018-0002](https://doi.org/10.1108/IJLLS-01-2018-0002).
- Günsche, M. and Schenk, W. (2018), "Dalton vereinigung deutschland [Dalton association Germany]", in Gronert, M. and Schraut, A. (Eds), *Handbuch Vereine der Reformpädagogik [Handbook of reform pedagogy associations]*, Ergon, pp. 198-205, doi: [10.5771/9783956504600-197](https://doi.org/10.5771/9783956504600-197).
- Hallitzky, M., Herfter, C., Kinoshita, E., Leicht, J., Mbaye, M. and Spendrin, K. (2021), "Lesson Study in German-speaking countries. Between classroom research and teacher education", in Kim, J., Yoshida, N., Iwata, S. and Kawaguchi, H. (Eds), *Lesson Study-Based Teacher Education: the Potential of the Japanese Approach in Global Settings*, 1st ed., Routledge, pp. 155-170, doi: [10.4324/9781003036852](https://doi.org/10.4324/9781003036852).
- Hallitzky, M., Kieres, C., Kinoshita, E. and Yoshida, N. (Eds.) (2022), *Unterrichtsforschung und Unterrichtspraxis im Gespräch [Lesson research and teaching practice in conversation]: Interkulturelle und interprofessionelle Perspektiven auf eine Unterrichtsstunde [Intercultural and interprofessional perspectives on one lesson]*, Julius Klinkhardt.
- Helmke, A. (2010), "Unterrichtsqualität und Lehrerprofessionalität [Lesson quality and teacher professionalism]: diagnose", in *Evaluation und Verbesserung des Unterrichts [Diagnosis, evaluation and improvement of teaching]*, 3rd ed., Klett Kallmeyer.
- Holtappels, H.G. (2019), "Transfer in der Schulentwicklung. Ansätze und Gelingensbedingungen aus der Perspektive von Schulentwicklungstheorie und -forschung [Transfer and school development. Approaches and conditions for success from the perspective of school development theory and research]", *Die Deutsche Schule*, Vol. 111 No. 3, pp. 274-293, doi: [10.25656/01.20597](https://doi.org/10.25656/01.20597).
- Jakobeit, M., Andrea, W., Jurczok, A., Kager, K. and Vock, M. (2021), "Welche schulischen Rahmenbedingungen sind für die Kooperation von Lehrkräften in Lesson-Study- Prozessen förderlich? [What school settings are favorable for teacher collaboration in Lesson Study processes?]. Eine Clusteranalyse von Grundschulen im Rahmen des Forschungs und Schulentwicklungsprojekts Leistung macht Schule (LemaS) [A Cluster Analysis of Elementary Schools in the Research and School Development Project Leistung macht Schule (LemaS)]", *Journal für schulentwicklung*, Vol. 25 No. 2, pp. 17-25.
- Jergus, K., Koch, S. and Thompson, C. (2013), "Darf ich dich beobachten? Zur 'pädagogischen Stellung' von Beobachtung in der Frühpädagogik [May I observe you? On the 'pedagogical position' of observation in early childhood education]", *Zeitschrift für Pädagogik*, Vol. 59 No. 5, pp. 743-761, doi: [10.25656/01.11990](https://doi.org/10.25656/01.11990).
- Kager, K., Jurczok, A., Bolli, S. and Vock, M. (2022), "'We were thinking too much like adults': examining the development of teachers' critical and collaborative reflection in lesson study discussions", *Teaching and Teacher Education*, Vol. 113, pp. 1-13, doi: [10.1016/j.tate.2022.103683](https://doi.org/10.1016/j.tate.2022.103683).
- Kager, K., Kalinowski, E., Jurczok, A. and Vock, M. (Submitted for publication), "A systematic review of transparency in lesson study research: how do we report on the observation and reflection stages?", *Frontiers in Education*.
- Kalinowski, E., Jurczok, A., Westphal, A. and Vock, M. (2022), "Welche individuellen und institutionellen Faktoren begünstigen die Kooperation von Grundschullehrkräften? [What individual and institutional factors promote cooperation among elementary school teachers?]", *Zeitschrift für Erziehungswissenschaft*, Vol. 25 No. 4, pp. 999-1029, doi: [10.1007/s11618-022-01081-4](https://doi.org/10.1007/s11618-022-01081-4).
- Kim, J., Yoshida, N., Iwata, S. and Kawaguchi, H. (Eds.) (2021), *Lesson Study-Based Teacher Education: the Potential of the Japanese Approach in Global Settings*, 1st ed., Routledge, doi: [10.4324/9781003036852](https://doi.org/10.4324/9781003036852).
- Kinoshita, E. (2023), *Lesson Study In Leipzig*, Personal Communication, E-Mail.
- Klammer, S. and Hanfstingl, B. (2019), "A first time lesson study that turned into a learning study", *International Journal for Lesson and Learning Studies*, Vol. 8 No. 4, pp. 305-319, doi: [10.1108/IJLLS-04-2019-0029](https://doi.org/10.1108/IJLLS-04-2019-0029).
- Knoblauch, R. (2014), "Lesson Study – eine Form kooperativer und evidenzbasierter Unterrichtsreflexion", available at: <https://www.lernensichtbarmachen.ch/2014/11/lesson-study-eine-form-kooperativer-und-evidenzbasierter-unterrichtsreflexion/> (accessed 20 April 2023).

- Knoblauch, R. (2017), "Lesson Study. Kooperative Weiterentwicklung des Lehrens und Lernens [Cooperative further development of teaching and learning]", *Pädagogik*, No. 3, pp. 34-39.
- Knoblauch, R. and Rieger, R. (2015), "OES-praxisbeispiel lesson study", [OES practice example Lesson Study].
- Kullmann, H. (2012), "Lesson Study - eine konsequente Form unterrichtsbezogener Lehrerverbundenheit [Lesson Study - a rigorous form of instructional teacher collaboration]", in Huber, S.G. and Ahlgrimm, F. (Eds), *Kooperation - Aktuelle Forschung zur Kooperation in und zwischen Schulen sowie mit anderen Partnern [Cooperation - Current research on cooperation in and between schools as well as with other partners.]*, Waxmann, pp. 69-88.
- Kullmann, H. and Friedli, R. (2012), "Lesson Study: eine Methode zur symbiotischen Entwicklung von Unterricht und Lehrerverbundenheit durch Praxisforschung in der dritten Phase der Lehrerbildung [Lesson Study: a method for symbiotic development of teaching and teacher professionalism through practice research in the third phase of teacher education]" in Freitag, C. and Bargen, I. von (Eds), *Praxisforschung in der Lehrerbildung [Practice research in teacher education]: 16. Jahrestagung des Nordverbundes Schulbegleitforschung am 15./16. September 2011 an der Universität Paderborn [16th Annual Conference of the Nordverbund Schulbegleitforschung on September 15-16, 2011 at the University of Paderborn]*, LIT Verlag, pp. 133-144.
- Kusanagi, K.N. (2022), *Lesson Study as Pedagogic Transfer: A Sociological Analysis*, Vol. 69, Springer Nature Singapore, doi: [10.1007/978-981-19-5928-8](https://doi.org/10.1007/978-981-19-5928-8).
- Lesson Study NL (2016), "Lesson study NL", available at: <https://lessonstudynl.nl/lessonstudynl/> (accessed 20 April 2023).
- Lewis, C., Perry, R. and Murata, A. (2006), "How should research contribute to instructional improvement? The case of lesson study", *Educational Researcher*, Vol. 35 No. 3, pp. 3-14, doi: [10.3102/0013189X035003003](https://doi.org/10.3102/0013189X035003003).
- Lewis, C., Friedkin, S., Emerson, K., Henn, L. and Goldsmith, L. (2019), "How does lesson study work? Toward a theory of lesson study process and impact", in Huang, R., Takahashi, A. and Da Ponte, J.P. (Eds), *Theory and Practice of Lesson Study in Mathematics*, Springer International Publishing, pp. 13-37.
- Lipowsky, F. and Rzejak, D. (2015), "Was wir über gelingende Lehrerfortbildungen wissen [What we know about successful teacher trainings]", *Journal für Lehrerinnenbildung*, Vol. 15 No. 4, pp. 26-32.
- Lo, M.L. (2012), "Variation theory and the improvement of teaching and learning", *Gothenburg studies in educational sciences* 323.
- Massenkeil, J. and Martin, R. (2016), "Kollegiale Kooperation im Lehrerberuf: Überblick und Systematisierung aktueller Forschung [Collegial cooperation in the teaching profession: overview and systematization of current research]", in Moegling, K., Hund-Göschel, G. and Hädeler, S. (Eds), *Was sind gute Schulen? Teil 1 [What are good schools? Part 1]: Konzeptionelle Überlegungen und Diskussionen [Conceptual considerations and discussions]*, Verlag Barbara Budrich, pp. 87-118.
- Matoba, M. (2011), "Lehrerausbildung in Japan: lernen im Schulkontext am Beispiel der Lesson Studies [Teacher Education in Japan: learning in the School Context Using Lesson Studies as an Example]", in Pilz, M. (Ed.), *Vorbereitung auf die Welt der Arbeit in Japan [Preparation for working in Japan]*, VS Verlag für Sozialwissenschaften, pp. 89-106, doi: [10.1007/978-3-531-93475-4](https://doi.org/10.1007/978-3-531-93475-4).
- Mitsuhashi, K. (2003), "Nihon ni okeru jugyou kenkyuu no keifuzu no gaikan [The genealogical chart of Lesson Study in Japan]", in Matsushita, K. (Ed.), *Nihon Ni Okeru Jugyuu Kenkyuu No Houhou Ron No Taikaika to Keifu Ni Kansuru Kaihatsu Kenkyuu [Systematization and Genealogy of Lesson Study Methods in Japan]*, Kyoto University, pp. 7-23.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G. and the PRISMA Group (2009), "Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement", *Physical Therapy*, Vol. 89 No. 9, pp. 873-880, doi: [10.1093/ptj/89.9.873](https://doi.org/10.1093/ptj/89.9.873).

- Morita, E. (2005), "Lesson study: kooperative Lehrerweiterbildung in Japan [lesson study: cooperative teacher education in Japan]", *Beiträge zur Lehrerbildung*, Vol. 23 No. 3, pp. 398-409, doi: [10.36950/bzl.23.3.2005.10085](https://doi.org/10.36950/bzl.23.3.2005.10085).
- Ouzzani, M., Hammady, H., Fedorowicz, Z. and Elmagarmid, A. (2016), "Rayyan—a web and mobile app for systematic reviews", *Systematic Reviews*, Vol. 5 No. 5, 210, doi: [10.1186/s13643-016-0384-4](https://doi.org/10.1186/s13643-016-0384-4).
- O'Donnell, C.L. (2008), "Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K–12 curriculum intervention research", *Review of Educational Research*, Vol. 78 No. 1, pp. 33-84, doi: [10.3102/0034654307313793](https://doi.org/10.3102/0034654307313793).
- Phillips, D. (2005), "Policy borrowing in education: frameworks for analysis", in Zajda, J., Freeman, K., Geo-Jaja, M., Majhanovic, S., Rust, V. and Zajda, R. (Eds), *International Handbook on Globalisation, Education and Policy Research*, Springer Netherlands, Dordrecht, pp. 23-34, doi: [10.1007/1-4020-2960-8_2](https://doi.org/10.1007/1-4020-2960-8_2).
- Posch, P. (2022), "Lesson and learning studies - Beitrag zum Theorie-Praxis-Problem [Lesson and learning studies - contribution to the theory-practice problem]", in Pissarek, Markus, Wieser, Martin, Koren, Judith, Kucher, Vesna and Novak-Geiger, Verena (Eds), *Projektbezogene Kooperation von Schule und Universität [Project-related Cooperation between Schools and Universities]*, Waxmann, pp. 13-30.
- Richter, D. and Pant, H.A. (2016), *Lehrerkooperation in Deutschland [Teacher cooperation in Germany]: Eine Studie zu kooperativen Arbeitsbeziehungen bei Lehrkräften der Sekundarstufe I [A study of cooperative work relationships among middle school teachers]*, Bertelsmann.
- Rothland, M. (Ed.) (2016), *Beruf Lehrer/Lehrerin [Occupation Teacher]: Ein Studienbuch [A Study Guide]*, 1st ed., UTB GmbH.
- Rovio-Johansson, A. (2018), "Variation in approaches to lesson analysis – alternative tools for the reconstruction of teaching", *International Journal for Lesson and Learning Studies*, Vol. 7 No. 2, pp. 78-84, doi: [10.1108/IJLLS-02-2018-0006](https://doi.org/10.1108/IJLLS-02-2018-0006).
- Schütte, S. and Gervé, F. (2007), "Qualitätsentwicklung der schulpraktischen Ausbildung [Quality development of practical school training], Zentrum für schulpraktische Studien in Kooperation mit der 2. Phase [Center for practical school studies in cooperation with the 2nd phase]", *Zeitschrift der Pädagogischen Hochschule Freiburg*, No. 1, pp. 18-19.
- Seleznyov, S. (2018), "Lesson study: an exploration of its translation beyond Japan", *International Journal for Lesson and Learning Studies*, Vol. 7 No. 3, pp. 217-229, doi: [10.1108/IJLLS-04-2018-0020](https://doi.org/10.1108/IJLLS-04-2018-0020).
- Seleznyov, S., Goei, S.L. and Ehren, M. (2021), "International policy borrowing and the case of Japanese Lesson Study: culture and its impact on implementation and adaptation", *Professional Development in Education*, Vol. 50, pp. 1-15, doi: [10.1080/19415257.2021.1973069](https://doi.org/10.1080/19415257.2021.1973069).
- Sliwka, A. and Klopsch, B. (2019), "Unterrichtsentwicklung auf Japanisch [Lesson Development in Japanese]", available at: <https://deutsches-schulportal.de/expertenstimmen/lesson-study-unterrichtsentwicklung-auf-japanisch/> (accessed 19 May 2022).
- Stigler, J.W. and Hiebert, J. (2016), "Lesson study, improvement, and the importing of cultural routines", *ZDM*, Vol. 48 No. 4, pp. 581-587, doi: [10.1007/s11858-016-0787-7](https://doi.org/10.1007/s11858-016-0787-7).
- Straub, R. and Vilsmaier, U. (2020), "Pathways to educational change revisited – controversies and advances in the German teacher education system", *Teaching and Teacher Education*, Vol. 96, 103140, doi: [10.1016/j.tate.2020.103140](https://doi.org/10.1016/j.tate.2020.103140).
- Vock, M. and Jurczok, A. (2021), "Im Team leistungsstarke Schüler*innen besser wahrnehmen und effektiver fördern [Better recognize and support high-performing students as a team]", *Potenziale der Methode 'Lesson Study' [Potentials of the 'Lesson Study' Method]*, *Schulverwaltung Spezial*, Vol. 4.
- Vries, S.D. and Prenger, R. (2017), "A lesson study professional learning network in secondary education", in Chris, B. and Poortman, C. (Eds), *Networks for Learning*, Routledge.
- Wolf, M.M. (1978), "Social validity: the case for subjective measurement or how applied behavior analysis is finding its heart", *Journal of Applied Behavior Analysis*, Vol. 11 No. 2, pp. 203-214, doi: [10.1901/jaba.1978.11-203](https://doi.org/10.1901/jaba.1978.11-203).

- Yoshida, N., Matsuda, M. and Miyamoto, Y. (2021a), "The landscape of lesson study: a methodology for teachers' professional development and educational research", in Kim, J., Yoshida, N., Iwata, S. and Kawaguchi, H. (Eds), *Lesson Study-Based Teacher Education: the Potential of the Japanese Approach in Global Settings*, 1st ed., Routledge, pp. 29-50, doi: [10.4324/9781003036852](https://doi.org/10.4324/9781003036852).
- Yoshida, N., Matsuda, M. and Miyamoto, Y. (2021b), "Intercultural collaborative lesson study between Japan and Germany", *International Journal for Lesson and Learning Studies*, Vol. 10 No. 3, pp. 245-259, doi: [10.1108/IJLLS-07-2020-0045](https://doi.org/10.1108/IJLLS-07-2020-0045).

Supplementary materials

The supplementary material for this article can be found online.

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