

ARTICLE

INSIGHTS TOWARDS CULTURAL ASPECTS AND RELATED IMPACTS OF LESSON STUDY PRACTICES: A SYSTEMATIC REVIEW**CARMEM SILVIA LIMA FLUMINHAN¹**ORCID: <https://orcid.org/0000-0002-0342-2474>

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ABSTRACT: Lesson Study (LS) is a professional development model that Japanese teachers have been utilizing for over a century. Although several scholars have proclaimed the benefits of adopting LS in international educational systems, it is still unclear how LS has been used and how it should be implemented in cultures beyond Japan. To shed light on the theme, a Systematic Review was conducted aiming to (1) identify specific features of LS practices as they are developed in different settings, (2) verify and analyze what cultural aspects may have impacted the implementation of LS, and (3) verify and develop an analysis of challenges for the use of successful practices of LS in international contexts. 5 international academic databases were searched to identify 28 publications. This investigation provides multiple evidence of the fast global spread of LS and reveals that some key adaptations or redesigns are conducted so that LS meets local needs and conditions. It argues that time constraints, financial support, search for quick results, and inclusion of knowledgeable others are critical aspects that should be considered when introducing LS to a new context. Finally, this study suggests further avenues for research to deepen the understanding of how the LS movement should be properly implemented in different contexts outside Japan.

Keywords: Lesson Study, Professional Development, Teacher Education, Cultural Implications, Systematic Literature Review.

ASPECTOS CULTURAIS E IMPACTOS RELACIONADOS ÀS PRÁTICAS DE LESSON STUDY: UMA REVISÃO SISTEMÁTICA

RESUMO: Lesson Study (LS) é um modelo de desenvolvimento profissional utilizado há mais de um século por professores japoneses. Embora vários especialistas tenham proclamado os benefícios da adoção do LS em sistemas educacionais internacionais, ainda não está claro como o LS tem sido utilizado e como deveria ser implementado em culturas fora do Japão. Para aprofundar as discussões sobre o tema, foi realizada uma Revisão Sistemática com os objetivos de (1) identificar características específicas das práticas de LS desenvolvidas em diferentes contextos, (2) verificar e analisar quais aspectos culturais podem ter impactado a implementação de LS, e (3) verificar e analisar quais são os desafios apontados na literatura para o desenvolvimento de práticas exitosas de LS em contextos internacionais. 28 publicações foram identificadas para a análise em 5 bases de dados acadêmicas internacionais. Esta pesquisa revela várias evidências a respeito da rápida disseminação do LS em ambientes internacionais e aponta as principais adaptações ou redesenhos implementados ao modelo LS para que este atenda às necessidades e condições locais. Os dados demonstram que a restrição de tempo, o apoio financeiro, a busca por resultados rápidos e a inclusão de especialistas são aspectos críticos que devem ser considerados na introdução de LS em um novo contexto. Por fim, foram extraídas implicações educacionais bem como sugestões para futuras pesquisas para ampliar a compreensão de como o movimento LS deve ser implementado adequadamente em diferentes contextos fora do Japão.

Palavras-chave: Lesson Study, Desenvolvimento Profissional, Formação de Professores, Implicações Culturais, Revisão Sistemática da Literatura.

ASPECTOS CULTURALES E IMPACTOS RELACIONADOS CON LAS PRÁCTICAS DEL ESTUDIO DE CLASES: UNA REVISIÓN SISTEMÁTICA

RESÚMEN: Estudios de Clases (EC) es un modelo de desarrollo profesional utilizado durante más de un siglo por los profesores japoneses. Aunque varios expertos han proclamado los beneficios de adoptar EC en los sistemas educativos internacionales, aún no está claro cómo se ha utilizado EC y cómo debe implementarse en culturas fuera de Japón. Para profundizar las discusiones sobre el tema, se realizó una Revisión Sistemática con los objetivos de (1) identificar características específicas de las prácticas de EC desarrolladas en diferentes contextos, (2) verificar y analizar qué aspectos culturales pueden haber impactado la implementación de EC, y (3) verificar y analizar cuáles son los desafíos identificados en la literatura para el desarrollo de prácticas exitosas de EC en contextos internacionales. Se identificaron 28 publicaciones para su análisis en 5 bases de datos académicas internacionales. Esta investigación revela varias evidencias sobre la rápida difusión del EC en entornos internacionales y señala las principales adaptaciones o rediseños implementados al modelo LS para que responda a las necesidades y condiciones locales. Los datos demuestran que las limitaciones de tiempo, el apoyo económico, la búsqueda de resultados rápidos y la inclusión de especialistas son aspectos críticos que se deben considerar al introducir el EC en un nuevo contexto. Finalmente, se extrajeron implicaciones educativas, así como sugerencias para futuras investigaciones para ampliar la comprensión de cómo el movimiento de EC debería implementarse adecuadamente en diferentes contextos fuera de Japón.

Palabras clave: Estudio de Clases, Desarrollo Profesional, Capacitación de Profesores, Implicaciones Culturales, Revisión Sistemática de la Literatura.

INTRODUCTION

Lesson Study (LS) is claimed to be a process for developing and implementing effective classroom learning which favors innovation and promotes fast-growing teacher professional

development (DUDLEY *et al.*, 2019). Lesson study is a form of collaborative and active research that is used for accomplishing pre-defined teaching and learning goals (TAKAHASHI; McDOUGAL, 2016) and continuous improvement of teaching practice (NORWICH, 2018). Through such an approach, teachers jointly study teaching contents and instructions by observing lessons and reflecting on them (NI SHUILLEABHAIN; BJULAND, 2019).

Originating in Japan in the 1870s (DUDLEY, 2011), LS has been receiving a growing interest around the globe and, as a consequence, international influence (NORWICH, 2018). The World Association of Lesson Study (WALS) annual conference held online in December 2020 showed presentations from a variety of different countries embedded in various educational cultures, theoretical educational traditions, and policy contexts. This trend is registered by Fang and Wang (2021), who verified that from 2007, WALS's first conference, to 2019, the number of countries represented by registered participants had increased from 15 to 43, across all the continents. As noted by Norwich (2018) and Lim-Ratnam *et al.* (2019), when introduced in a specific cultural setting, the LS model is expected to be adjusted to accommodate local needs and conditions. This might explain why its origin is often related when LS is examined.

Jugyou kenkyuu, translated as Lesson Study, was first introduced outside Japan in the late 1990s (LEWIS, 2000; TAKAHASHI; McDOUGAL, 2016). It refers to a professional teacher development model that centers around a theme or goal (YOSHIDA, 1999) "of which the research lesson is the core piece" (LEWIS, 2000, p. 4). Further, Lewis, Perry and Murata (2006) explain that the term in Japanese indicates that LS is featured by the "observation of live classroom lessons by a group of teachers who collect data on teaching and learning and collaboratively analyze it" (p. 3). Although LS shares some characteristics with other professional development approaches, the authors underscore that this model has a unique set of characteristics that no other approach possesses and features a live classroom lesson as the heart of the process. In this respect, Cajkler *et al.* (2015) add that LS distinguishes from other forms of professional development as the planning of research lessons is designed jointly to address specific learning problems, "rather than focusing on the performance of an individual teacher" (p. 192).

Traditionally, Japanese LS occurs across many curriculum areas or themes (YOSHIDA, 1999) and is commonly implemented in four phases: (1) study curriculum and formulate goals; (2) plan, which refers to selecting and revising the research lesson in detail; (3) teach, when one member of the team teaches the research lesson and the others observe and collect data; and (4) reflect on one's practice and beliefs with a view to its improvement (LEWIS, 2002; LEWIS; PERRY; MURATA, 2006; DUDLEY *et al.*, 2019, CARDOSO; PONTE; QUARESMA, 2023). LS is conducted iteratively and may cycle numerous times through the four phases, sometimes lasting years (FERNÁNDEZ, 2005), and research teams often meet two or three times per month for approximately 45 to 50 minutes, as in Saunders, Goldenberg, and Gallimore (2009) or even weekly, as reported by Yoshida (1999) in his ethnographic research of the LS in math in a Japanese elementary school, and it is developed for traditionally one year long, as detailed by Fujii (2014).

In his guide on how to use LS "to develop and refine teaching, learning and teacher practice knowledge", Dudley (2011, p. 4) advises that the LS team should identify around three 'case pupils' who will represent the wider group of learners in the class. These pupils will be observed and monitored as case studies representing the impact of LS on the larger group. The author suggests that a post-research lesson discussion should be held not only to analyze how the 'case pupils' responded to the LS approach and how they developed learning during the process but also to inform the team about the aspects that favored or hindered learning and how the team should overcome them in future classes.

According to Lewis, Perry, and Hurd (2004), educators engaged in LS in Japan and the United States have acknowledged seven pathways that emerge from LS successful practice: "increased knowledge of the subject matter, increased knowledge of instruction, increased ability to observe students, stronger collegial networks, stronger connection of daily practice to long-term goals, stronger motivation and sense of efficacy, and improved quality of available lesson plans" (p. 19). Although a growing number of scholars echo LS benefits (e.g. NORWICH, 2018; DUDLEY *et al.*, 2019, ELLIOTT, 2019; VERMUNT *et al.*, 2019, SCHIPPER *et al.*, 2020; CARDOSO; PONTE; QUARESMA, 2023), it is also recognized that this process cannot be simply transported worldwide. The main reason for this lies

in the nature of “beliefs about teaching and educating teachers”, which are intrinsically embedded “in a particular culture and particular organizational forms and career prospects” (YOSHIDA, p. 463, 1999). Additional support for this claim comes from Stigler and Hiebert (2016), who argue that “it is harder than we think to import a routine developed in one culture and in one educational system into countries with different cultures and different systems” (p. 581). In this sense, the effort of investigating and pointing out ways to implement LS practice in other parts of the world has emerged as crucial and critical.

PURPOSE OF THIS PAPER AND RESEARCH QUESTIONS

The objectives of this systematic review of lesson study practices were:

1. Identify the following features of the LS practices:
 - i. Type of LS practice applied (specificities, phases included, knowledgeable others contributions)
 - ii. Purpose(s) for using LS
 - iii. LS team
 - iv. Professional development stage
 - v. School phase
 - vi. Curriculum area or theme involved
2. Verify and analyze cultural aspects that might influence the impacts of LS practices in different contexts
 - i. Identify where the study took place
 - ii. Exam aspects or variations applied to the conduction of LS due to local conditions or cultural aspects
3. Identify limitations and develop an analysis of challenges for the practice of Lesson Study in different contexts.

Accordingly, three research questions (RQ) were pursued in this paper:

- RQ1. How has LS been implemented around the globe and what characteristics does it present?
 RQ2. What cultural aspects or local conditions may have influenced LS outcomes?
 RQ3. What lessons inform future researchers or projects as to the necessary adaptations that should be made to develop a successful LS model?

METHOD

According to Chandler *et al.* (2022, p. 1), “systematic reviews seek to collate evidence that fits pre-specified eligibility criteria in order to answer a specific research question.” This definition is in accordance with the definitions reported in the PRISMA Statement and is in line with The Cochrane Collaboration (MOHER *et al.*, 2015). This systematic review was preregistered with a free and open preprint server to ensure transparency and reproducibility (SULLIVAN; DeHAVEN; MELLOR, 2019) and reduce the risk of publication bias (VAN’T VEER; GINER-SORROLA, 2016). Drawing from the guidance of Page *et al.* (2021) work to organize the data collection procedures, this systematic review of LS comprised the following stages: (i) developing and executing a search strategy; (ii) selecting studies from their titles and abstracts for detailed review; and (iii) analysis of full texts selected studies for eligibility. These stages are explored in the following.

This review focuses on the academic research literature in peer-viewed journals written in Portuguese, Spanish, or English languages. It does not draw on professional practice papers, books, PhD dissertations, and guides about Lesson Study. The search was undertaken in October and November 2020, and the selected databases were chosen for being repositories of publications in the target languages of this systematic review. The electronic databases used in this study were: Educational Information and Resource Center (ERIC), Red Iberoamericana de Innovación y Conocimiento Científico (REDIB), ProQuest, Scientific Electronic Library Online (SciELO), and Emerald Insight.

Selection of Studies for Detailed Review

In order to review empirical research on Lesson Study across the globe, the authors conducted searches by title and abstract in the five academic databases aforementioned, and, in some cases, using different search terms, as detailed below. At this moment, three other articles were included from other sources. The complete screening process with database searches, the number of abstracts screened, and the full texts retrieved or rejected, as well as exclusion criteria are shown in Figure 1.

The first database to be searched was ERIC and the search term was “lesson study” for all peer-viewed papers which made their full text available with no definite time. This search led to a list of 3,376 papers. However, even though many of these contained the words “lesson” and “study” in the title or abstract, an expressive number proved not to relate to the Lesson Study approach, the object of this article. Then, two distinct searches were conducted with the term “lesson study methodology” and, next, with the terms “Lesson Study” combined with “technology”, again for all peer-viewed papers which made their full text available and with no definite time. Combining these two searches, a total of 294 articles were identified.

The next database to be consulted was REDIB. Two distinct searches were conducted using the following search terms: “metodología Estudios de Clase” combined with “educación” and then, another search using the terms “Lesson Study methodology” associated with “education”. Both searches were limited to articles in scientific journals and Education and scientific Education materials with no time restriction. The total number of articles recovered was 210.

In the following, a search was carried out in the ProQuest database using the search terms “Lesson Study” AND “Education”, limited to articles that were peer-reviewed with their full texts available. Due to the high number of publications identified (227,735), the search was narrowed. The second search was conducted using the search terms “Lesson Study” (in the title) AND “Education” AND “Culture”. The search was limited to full-text articles available and peer-viewed articles between 2016 and 2020 published in English. The total of articles identified was 94.

Two distinct searches were conducted in the SciELO database. The search term “Metodologia Lesson Study” was used and no limited time nor language was set. Next, the search terms “Lesson Study” AND “Educação” were used. Combining both searches, a total of 48 articles were identified.

The search words “Lesson Study” (in the title) AND “Education” were used to conduct a search in the Emerald Insight database for articles with full access. No definite time limit nor language restriction was set. A total of 15 articles were identified.

From the databases consulted, 636 articles were identified for screening. One of the documents was not available online, two were straight duplications, and five hundred fifty-one publications were not related to Lesson Study practice. Hence, a total of five hundred fifty-four articles were excluded at this stage. In the following, the authors proceeded to a full-text screening of the eighty-five remaining publications considered for eligibility.

Selected Studies for Eligibility

The selection of the studies for final inclusion and in-depth review involved the following criteria:

1. The publication had to be a peer-reviewed research article (editorials, reviews of literature studies, or commentaries of studies were excluded)
2. Study had to deploy Lesson Study empirical practice in the Educational context
3. The methods and/or analytical approaches were clear and described in detail
4. The study described at least one complete cycle of Lesson Study practice

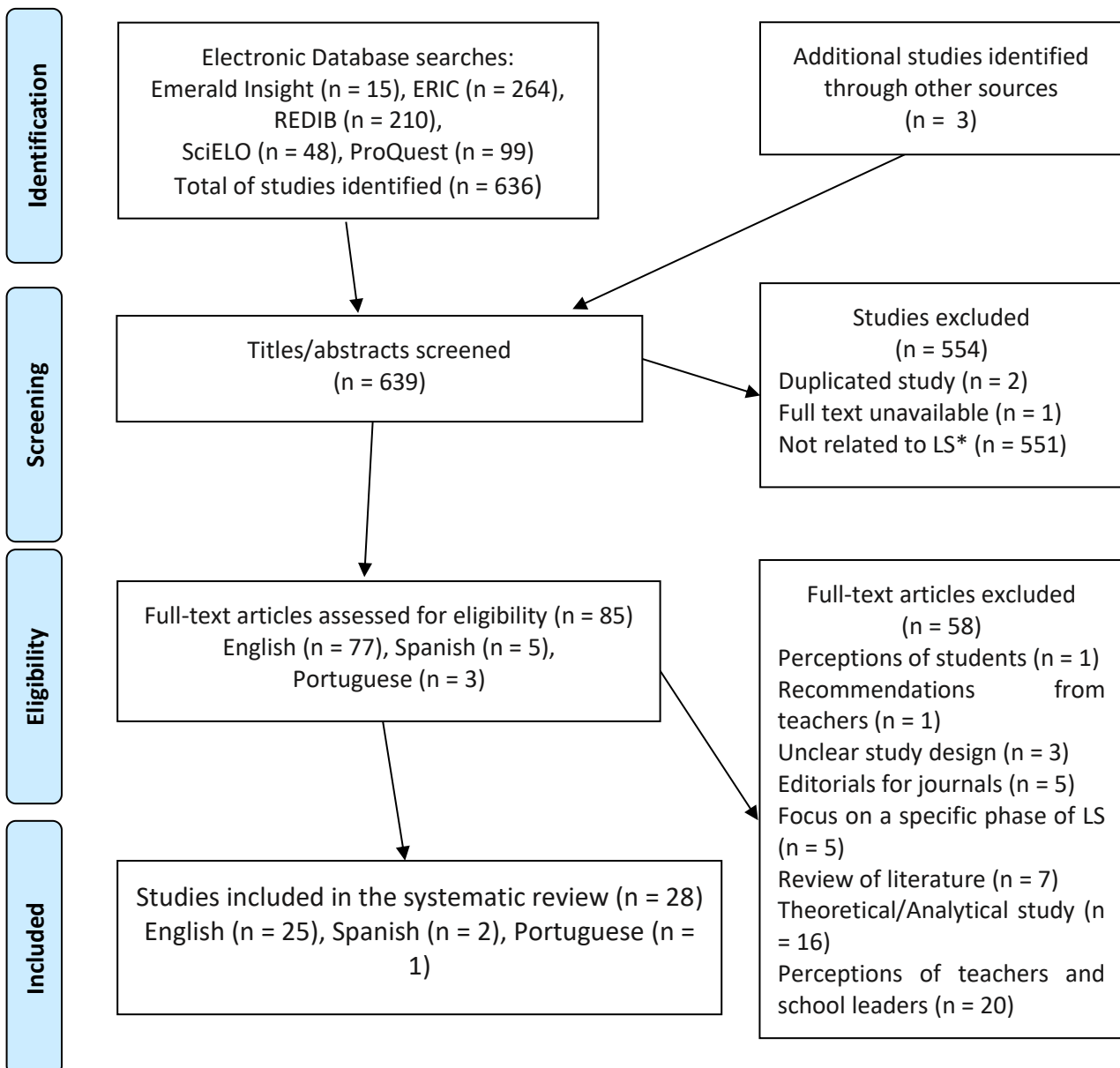
To address the aims of this systematic review, and in addition to the four criteria indicated above, the authors did a full-text screening of the eighty-five articles selected in the previous stage. As a result of this process, fifty-eight documents were excluded for the following reasons:

- 1 described the perception of students;
- 1 aimed at reporting recommendations from teachers
- 3 reported unclear study design

- 5 were editorials for a scientific journal
- 5 focused on a specific phase of Lesson Study
- 7 presented reviews of Lesson Study
- 16 aimed at reporting theoretical or analytical study
- 20 provided perceptions of teachers and school leaders

By this method, a total of twenty-eight articles met the criteria of this study and were included in the systematic review.

Figure 1 - PRISMA flowchart of screening process with database searches, the number of abstracts screened and the full texts retrieved



*LS = Lesson Study

Source: The authors. Adapted from Moher, Liberati, Tetzlaff and Altman (2009)

KEY ISSUES IN THE PROCESS OF LESSON STUDY PRACTICE

To reach the objective of this study, the 28 selected articles were analyzed in terms of the following areas:

1. Country where the studies were conducted
2. Curriculum area or theme involved
3. School phase
4. Study specificities (e.g. knowledgeable other's contributions, use of revised research lesson, duration of the study, and inclusion of students' perspective)
5. Professional development stage
6. Knowledge base (e.g. pedagogic practice and learning theory)
7. Purpose(s) for using Lesson Study

FINDINGS

The data were analyzed to answer the research questions and the aspects that emerged from the information gathered were established. The results of the research contain data on the following aspects: the country where the studies were conducted, the curriculum area involved, the school phase, specificities related to the team members and specific procedures adopted in the study, professional development stage (PDS) of participating teachers, the Knowledge base and the purpose(s) for using LS.

Data in Table 1 indicate that 15 countries are represented by publications on the selected model between 2012 and 2020. Most publications are concentrated in the United States (6) and the United Kingdom (4), followed by the Philippines (3) and Sweden (2). Austria, Canada, Chile, Ireland, Italy, Malaysia, Mexico, Portugal, Spain, Thailand, and Turkey published one study each, and 2 studies did not specify the country where the research was developed.

Table 1 – Countries where the studies were conducted

Country	Study	n	f
Austria	Klammer and Hansfstingl (2019)	1	3.57
Canada	Zhou and Xu (2017)	1	3.57
Chile	Ramos-Rodríguez, Matínez and Ponte (2017)	1	3.57
Ireland	Ni Shuilleabhain (2016)	1	3.57
Italy	Bussi <i>et al.</i> (2017)	1	3.57
Malaysia	Moon, Dali and Sam (2016)	1	3.57
Mexico	Sánchez and Gómez-Blancarte (2015)	1	3.57
Philippines	Danday and Moterola (2019); Lomibao (2016); Lucenario <i>et al.</i> (2016)	3	10.71
Portugal	Ponte <i>et al.</i> (2016)	1	3.57
Spain	Calvo, Blanco and Fueyo (2018);	1	3.57
Sweden	Klefbeck (2020), Leifler (2020)	2	7.14
Thailand	Thinwiangthong, Eddy and Inprasitha (2020)	1	3.57
Turkey	Yemnez <i>et al.</i> (2017)	1	3.57
United Kingdom	Bradshaw and Hazzel (2016); Brown and Taylor (2016); Griffiths (2016); Lamb (2015)	4	14.28
United States	Barber (2018); Hart (2009); Huang (2017); Lewis and Perry (2014); Mostofo (2014); Soto <i>et al.</i> (2019)	6	21.42
Not specified	Suh and Fulginiti (2012); Yildiz and Baltaci (2017)	2	7.14
Total		28	100

n = number of selected studies

f = frequency of selected studies

Source: The authors

The next data to be addressed is related to the curriculum area involved in the studies (Table 2). 19 of the 28 studies engaged in developing research involving Mathematics, one of them to investigate strategies for teaching Mathematics to Special Educational Needs (SENs) students. English and Science were investigated in 3 studies each and Chemistry, Humanities, Physical Education and Physical Science were present in one study each. One study investigated the contributions of the LS approach to SENs environment across academic subjects. The total of publications indicated in Table 2 is 31 because some studies aimed to investigate more than one curriculum area or theme. Regarding the school phase (Table 3), 8 studies were conducted in high school, higher education was the setting of 7 studies, elementary and middle schools were involved in 5 studies each, and 2 studies were in the context of graduate teacher training programs. 1 study did not specify the school phase in which the research was conducted.

Table 2 - Curriculum area or theme involved

Curriculum area	<i>n</i>	<i>f</i>
Mathematics	19	67.85
English (e.g. English as a Second Language and literacy)	3	10.71
Science	3	10.71
Special Educational Needs (SENs)	2	7.14
Chemistry	1	3.57
Humanities (e.g. geography, history, citizenship and social science)	1	3.57
Physical Education	1	3.57
Physical Science	1	3.57

n = number of selected studies
f = frequency of selected studies
 Source: The authors

Table 3 - School phase

School phase	<i>n</i>	<i>f</i>
Elementary school	6	21.42
Middle School	6	21.42
High School	8	28.57
Higher Education	7	25.00
Graduate Education	2	7.14
Not Specified	1	3.57

n = number of selected studies
f = frequency of selected studies
 Source: The authors

Regarding the professional development stage (PDS) of the participating teachers (Table 4), the findings demonstrate that LS is mainly used in the context of continuing professional development ($n=22$), whereas it was much less required for educating pre-service teachers in higher education settings ($n=6$).

Table 4. Professional development stage (PDS)

PDS	<i>n</i>	<i>f</i>
Pre-service	6	21.43
Continuing Professional Development	22	78.57
Total	28	100

n = number of selected studies

f = frequency of selected studies

Source: The authors

Table 5 summarizes the main findings revealed in the studies regarding the focus of inquiry, the team members involved, whether the study included the participation of knowledgeable others, whether participating teachers had previous experience in LS activities, the inclusion or not of students' perceived outcomes, the number of educational institutions engaged in the process, the duration of the study and whether a revised lesson was implemented.

Table 5. Team member specificities and specific procedures

Study	Focus of enquiry	Team members	Inclusion of K.O. or facilitator	Participating teachers previous experience with LS	Students' perspective included	Number of institutions involved	Length period	Use of revised research lesson
Barber (2018)	Process	4 teachers	Yes	Yes	No	1	Not specified	Yes
Bradshaw and Hazzel (2016)	Process	2 teachers	No	Not specified	Yes	1	Not specified	Yes
Brown and Taylor (2016)	Outcome	18 teachers	Yes	No	No	9	Pilot: 5 months Main study: 1 year	No
Bussi <i>et al.</i> (2017)	Outcome	1 teacher, 2 supervisors and 1 doctoral student	Yes	Yes	No	1	2 months	Yes
Calvo, Blanco and Fueyo (2018)	Process	14 teachers and 350 students	Yes	Not specified	No	1	2 years	No
Danday and Moterola (2019)	Outcome	18 pre-service teachers	Yes	No	Does not apply	1	5 weeks	Yes
Griffiths (2016);	Process and outcome	28 pre-service teachers	Not specified	Not specified	Does not apply	1	3 weeks	Yes
Hart (2009)	Process	8 teachers	Yes	No	No	5	1 year	Yes
Huang <i>et al.</i> (2017)	Process	2 teachers 2 doctoral students	Yes	No	No	1	3 weeks	Yes
Klammer and Hansfistingl (2019)	Process and outcome	5 pre-service teachers and teachers	Yes	No	Yes	2	1 year	Yes
Klefbek (2020)	Process and outcome	10 SEN teachers	Yes	No	Yes	1	Not specified	Yes
Lamb (2015)	Process	17 pre-service teachers	Yes	No	No	1	Not specified	Yes

Leifler (2020)	Process and outcome	26 teachers	Yes	Not specified	No	3	5 months	Not specified
Lewis and Perry (2014)	Process and outcome	13 groups of 4 to 9 teachers	No	41% were new to LS	No	Not specified	91 days	No
Lomibao (2016)	Process and outcome	5 teachers	Yes	No	No	1	Not specified	Yes
Lucenarío <i>et al.</i> (2016)	Process and outcome	4 teachers and their students	No	Yes	No	2	2 months	Yes
Mon, Dali and Sam (2016)	Process	17 teachers	No	Not specified	No	2	1 year	Not specified
Mostofo (2014)	Process	6 pre-service teachers	Yes	No	No	1	Not specified	Yes
Ponte <i>et al.</i> (2016)	Process	5 teachers and 1 observer	Yes	No	No	1	Not specified	No
Ramos-Rodríguez, Matínez and Ponte (2017)	Process	7 teachers	Yes	Not specified	No	1	60 hours	Yes
Sánchez and Gómez-Blancarte (2015)	Process and outcome	5 teachers and 2 collaborators	Not specified	Not specified	No	1	18 months	Yes
Ni Shuilleabhain (2016)	Process	12 teachers and 1 observer	No	No	No	2	1 year	Not specified
Soto <i>et al.</i> (2019)	Process	5 teachers	No	Not specified	No	5	Pilot: 1 semester Main study: 1 semester	Not specified
Suh and Fulginiti (2012)	Process	21 pre-service teachers and 4 faculty members	Yes	Not specified	Does not apply	1	1 semester	Yes
Thinwianghong, Eddy and Inprasittha (2020)	Outcome	11 teachers	Yes	Not specified	No	1	15 weeks	Yes
Yemnez <i>et al.</i> (2017)	Process	4 teachers	Yes	Not specified	No	2	5 months	No
Yildiz and Baltacı (2017)	Process	3 teachers	Not specified	Not specified	No	1	1 semester	No
Zhou and Xu (2017)	Process	73 pre-service teachers	Yes	No	Does not apply	1	1 year	No

Source: The authors

Table 6 lists six types of pedagogical practices and 23 learning theories or educational models integrated into LS indicated in the selected publications upon which the research was built. 3 studies (HART, 2009; LEIFLER, 2020; LEWIS; PERRY, 2014) informed to have used the LS approach alone to carry out the research.

Table 6 - Knowledge base integrated to LS practice

Pedagogical practice	n	f	Example
Action research	3	10.71	Calvo, Blanco and Fueyo (2018), Klammer and Hanfstingl (2019), Lamb (2015)
Co-teaching	1	3,57	Suh and Fulginiti (2012)
Professional learning community	7	25	Huang, Prince, Barlow and Schmidt (2017), Klammer and Hanfstingl (2019), Leifler (2020), Lewis and Perry (2014), Ni Shuilleabhain (2016), Sánchez and Gómez-Blancarte (2015), Soto <i>et al.</i> (2019),
Professional collaborative practice	14	50	Barber (2018), Brown and Taylor (2026), Bussi, Bertolini and Ramploud (2017), Calvo, Blanco and Fueyo (2018), Hart (2009), Huang, Prince, Barlow and Schmidt (2017), Klefbeck (2020), Lomibao (2016), Lucenario <i>et al.</i> (2016), Mon, Dali and Sam (2016), Ramos-Rodríguez, Martínez and Ponte (2011), Thinwiangthong, Eddy and Imprasisitha (2020), Yenmez <i>et al.</i> (2017), Yildiz and Baltaci (2017)
Problem solving group	1	3,57	Bradshaw and Hazell (2016)
Teacher coaching	4	14.28	Danday and Monterola (2019), Griffiths (2016), Mostofo (2014), Yildizz and Xu (2017)
Learning theory or model	n	f	Example
Model of Instructional Improvement (Lewis <i>et al.</i> , 2002)	1	3,57	Barber (2018)
Interconnected Model of Professional Growth (Clarke, & Hollingsworth, 2002)	1	3,57	Barber (2018)
Process Model (Stenhouse, 1975)	1	3,57	Bradshaw and Hazell (2016)
Design Based Research (Penuel <i>et al.</i> , 2011 and others)	1	3,57	Brown and Taylor (2026)
Student Voice “movement” (Wood and Cajkler, 2016)	1	3,57	Calvo, Blanco and Fueyo (2018)
Theory of Semiotic Mediation – TSM (Bartolini Bussi, Mariotti, 2008)	1	3,57	Bussi, Bertolini and Ramploud (2017)
Microteaching Multiple-Representation Lesson Study - MRLS	1	3,57	Danday and Monterola (2019)
Microteaching Lesson Study - MLS	1	3,57	Zhou and Xu (2019)
Peer Microteaching Lesson Study (PMLS)	1	3,57	Griffiths (2016)
Deliberate Practice (Ericsson <i>et al.</i> , 1993)	1	3,57	Huang, Prince, Barlow and Schmidt (2017)
Phases of Concern Model	1	3,57	Lamb (2015)
Technological Pedagogical Content Knowledge – TPACK (Bos, 2011)	1	3,57	Yildiz and Baltaci (2017)
Variation Theory (Lo, 2012 and others)	2	7.14	Klammer and Hanfstingl (2019), Klefbeck (2020)

Phases of Concern Model (Fuller, 1969)	1	3,57	Lamb (2015)
Reflection in Action and Reflection on Action (Schon, 1983)	1	3,57	Lomibao (2016)
Pedagogical Content Knowledge (PCK) (Hill <i>et al.</i> , 2004)	1	3,57	Lucenario <i>et al.</i> (2016)
ALaCT Reflexive Process (Korthagen, 2011)	1	3,57	Ramos-Rodríguez, Martínez and Ponte (2011)
Community of Practice – CoP (Wenger, 2001, Wenger, McDermott, & Snyder, 2002)	2	7.14	Sánchez and Gómez-Blancarte (2015), Soto <i>et al.</i> (2019)
Mathematical Knowledge for Teaching - MKT (Ball, 2003, Ball <i>et al.</i> , 2016)	2	7.14	Suh and Fulginiti (2012), Ni Shuilleabhain (2016)
Open Approach – OA (Nohda, 2000)	1	3,57	Thinwiangthong, Eddy and Imprasitha (2020)
Mathematical Modeling (Lingefjord, 2002)	1	3,57	Yenmez <i>et al.</i> (2017)
Technology-facilitated Lesson Study	1	3,57	Soto <i>et al.</i> (2019)
Vygotsky Space (Galluci <i>et al.</i> , 2010)	1	3,57	Mostofo (2014)

Source - The authors

Table 7 lists the purposes for using LS as referred to in the examined studies. It is noted that, in some cases, the same study pointed out more than one purpose, which makes the LS purposes listed below outnumber the publications selected for this review. The findings show that the primary use of LS was to support teacher professional development ($n=29$) aiming to promote those professionals' motivation, knowledge, and skills. As far as student learning ($n=5$) and the examination of teaching material ($n=1$) are concerned, fewer studies pointed to those purposes as the reasons for using the LS approach.

Table 7 - Lesson Study (LS) Purpose

Purpose for using LS	<i>n</i>	<i>f</i>	
Teacher Professional Development	knowledge	16	59.25
	skills	12	44.44
	motivation	1	3.70
Student Learning	5	18.51	
Teaching Material Examination	1	3.70	

n = number of selected studies

f = frequency of selected studies

Source: The authors

DISCUSSION

The growing international interest in LS in educational systems beyond Japan observed in the past few decades indicates that this model may be beneficial if appropriately implemented in foreign

contexts. However, several professional experts have warned that simply enacting a LS routine in a new setting will not guarantee its efficiency (STIGLER; HIEBERT, 2016), rather, by missing the point of incorporating its core characteristics, chances are that LS will become one more perishable fad intended to promote progress towards pedagogical/learning science (LEWIS; PERRY; HURD, 2004). To contribute to the theme, this paper sought to (1) identify specific features of LS practices implemented in different contexts, (2) verify and analyze what cultural aspects may have impacted the implementation of LS, and (3) verify and develop an analysis of challenges for the use of successful practices of LS in international settings. The first question to be addressed is:

RQ1. How Has LS Been Implemented Around the Globe and What Characteristics Does it Present?

Since LS was brought to public attention in the late 1990s (LEWIS; PERRY; MURATA, 2006; TAKAHASHI; McDOUGAL, 2016), this approach has reached various countries and all continents, such as Asia, Africa (FUJII, 2014), Europe, in particular (DUDLEY *et al.*, 2019), and it has been increasingly investigated in the United States (LEWIS; PERRY; HURD, 2004). In his editorial review article, Elliott (2016) acknowledges the International Journal for Lesson and Learning Studies for having published a rich resource of material involving the European, Asian, and North American contexts in various educational levels and across different school subjects and theories. This is consistent with the findings in this study that reveal that these regions alone concentrate more than 82% of the studies investigated, with a special remark on South America, where only one country was reported to have carried out one research, Chile.

Being the only country representing South America in this review, it is noted that the connection between Chile and LS did not happen unexpectedly. The implementation of LS in that country is the result of a program established between Chile and Japan, funded by JICA (Japan International Cooperation Agency), during three years (2006 to 2008) in which a total of three groups of 10 mathematics teachers belonging to eleven universities involved in initial and continuing training of teachers, and two members of the Ministry of Education participated in intensive courses in Japan for training in Japanese methodologies of LS (RAMOS-RODRÍGUEZ; MARTÍNEZ; PONTE, 2017; OLFOS; ISODA; ESTRELLA, 2020).

After 15 years of the initial investment in the educational system in Chile, and despite having faced political interference from the government in the past, today the country has maintained the LS approach nationwide, its researchers have spread it by publishing books and through participation in congresses in Latin America, and during ten years, LS has been the theme of a doctoral program in the country. Olfos, Isoda, and Estrella (2020) confirm that meaningful improvements in ongoing professional development were observed by teachers from Chile who participated in training programs and implemented the LS model in their local institutions.

Several supports are essential if LS is to be introduced and sustained in a new country. LS has been introduced in most countries through the support of funding from the government or research agencies (FANG; WANG, 2021). Therefore, it is critical that the administration at local, regional, and national levels should share their responsibilities to provide time and financial support “to enable teachers to collaboratively plan, teach, collect evidence, and revise lessons” (STIGLER; HIEBERT, 2016, p. 585). Lack of shared time, workload, and rigid schedules are some of the constraints identified in this review that could result in weak collaboration between the LS team members and, consequently, follow poorer results (see, for example, HART, 2009; MON; DALI; SAM, 2016; ALAMRI, 2020).

Although the goal of traditional *Konaikenshu* (school-based teacher training program), of which LS is a masterpiece, does not “exclusively focus on the development of students’ academic skills” (YOSHIDA, 1999, p. 52) all the articles selected for this study pursued their goal in the context of investigating specific subject matters. Of the 28 identified articles, 19 (67.85%) aimed to implement LS involving mathematics. This is in line with what is observed in other recent international reviews, in which research referring to mathematics far outnumbers the publications when compared to other school subjects (e.g. KANELLOPOULOU; DARRA, 2019). This finding could be attributed to the

fact that LS was introduced in the west through research involving mathematics presented at the Third International Mathematics and Science Study in 1999 in the United States (LEWIS; PERRY; MURATA, 2006; GROVE; DOIG, 2010) in addition to the fact that American students presented a low performance in the Trends in International Mathematics and Science Study (SAITO, 2012). These facts generated subsequent interest in addressing this problem. Similarly, LS was introduced in Chile through the agreement established in the collaboration program "Improving mathematical education in Chile supported by Japan" in 2005 (OLFOS; ISODA; ESTRELLA, 2020). As LS could be recognized as an "organic system" (FUJII, 2014) in which all teachers should work collaboratively driven by the same general purpose (STIGLER; HIEBERT, 2016), it is crucial that all school subjects are involved and specifically investigated through the LS approach so that it would produce more significant and sustained results. In compliance with Yoshida (1999), we argue that the impact of scant and isolated groups of teachers on students' learning is limited.

LS is acknowledged for being a powerful professional development model that can foster teacher learning by bringing teaching close to practice (SUH; FULGINITI, 2012; KOTELAWALA, 2012; CAJKLER *et al.*, 2013, DUDLEY *et al.*, 2019). However, it seems that traditionally, in Japan, most elementary and middle schools take part in LS, being less frequent in Japanese high schools (GROVES; DOIG, 2010) and in higher education. In this same direction, data in this study reveal that most research, 12 of the 28 (42.85%), took place in elementary and middle school settings, while it was less investigated at the undergraduate level (25%). In line with this, another finding points out that LS was examined in the context of initial teacher education in only 21.43% of the studies, in contrast with in-service settings (78.57%).

The literature confirms that, successfully integrated, LS is central for prospective teacher learning (SOTO *et al.*, 2019, HANDAYANI; TRYANTO, 2022) as it "encourages team members to bridge the gap between theory and practice" (SCHIPPER *et al.*, 2020, p. 362). For example, Suh and Fulginiti (2012) discussed the challenge of providing the opportunity for pre-service teachers to experience the complexity of teaching and, at the same time, for experienced teachers to plan lessons along with novice teachers situated in practice. This positive experience allowed pre-service teachers a safe and authentic environment to lessen their anxiety, develop specific pedagogical knowledge and reflect on their practice.

Correspondingly, Danday and Monterola (2019), reported that an experimental group of pre-service teachers benefited from experiencing microteaching multiple-representation LS and demonstrated better effects on the enhancement of critical thinking. Both studies concluded that feedback from experts, collaboration among fellow pre-service teachers and students, and length of preparation and teaching influenced the positive results perceived. Therefore, we argue that LS is a prominent vehicle that should be introduced to teacher candidates beyond their preparation program to instill in them the lifelong commitment to reflective and collaborative practice necessary for their engagement in professional development.

In terms of the specific procedures and characteristics implemented to the LS model, 16 studies (57.14%) focused their evaluation on the process of LS, 8 studies (28.57%) focused on both the process and the outcome, 4 studies (14.29%) focused only on the outcome and 4 studies (14.29%) did not specify this aspect. This finding may be explained by the fact that the literature unanimously views LS as a complex process that focuses on the student, teacher, and organizational learning (e.g. FUJII, 2014; STIGLER; HIEBERT, 2016; DUDLEY *et al.*, 2019), and much more than the "final product", what matters is the process. This result might be connected with the controversial inclusion of teaching a revised lesson in the LS cycle.

In this review, 17 studies (60.71%) reported having refined and re-taught a research lesson, 7 studies (25%) did not use this resource and 4 studies (14.29%) did not specify it. Some experts are emphatic saying that teaching a revised lesson is not a common practice in LS procedures in Japan (YOSHIDA, 1999; STIGLER; HIEBERT, 2016). Such a strategy is even 'disrespectful', as Fujii (2014) highlights, not only because a research lesson is unique and designed for a particular group of students, but also because students deserve the best and cannot be treated as scientific experiments. LS cannot be reduced to a means of producing more polished lessons (LEWIS, 2009), since it is much more than

the lesson itself (LEWIS *et al.*, 2006). Rather, trying to obtain a perfect lesson is to deviate from its main purpose (TAKAHASHI; McDOUGAL, 2016; ELLIOTT, 2019). Nevertheless, the overwhelming support for a high number of researchers conducting a revised lesson in this review comes from adaptations adopted in settings outside Japan. Chinese Lesson Study, for example, requires repeating the revised research lesson (Huang, Prince, Barlow, & Schmidt, 2017), and in the west, Dudley (2011, 2013) advocates it as part of the LS cycle, whereas Lewis (2009) considers it optional. As Stigler and Hiebert (2016) explain, reteaching a lesson might be of crucial importance in contexts outside Japan because it unveils hidden aspects that are taken for granted in that country, but needed to be demonstrated elsewhere.

Regarding the inclusion of facilitators or knowledgeable others, 19 of the selected studies (67,86%) reported having had such a professional during the process of implementing LS, 6 studies (21.43%) did not include this professional, and 3 (10.71%) did not specify this information. As for the team members, 12 studies (42.86%) indicated that the professionals involved in the LS model did not have any experience with such an approach before, and the same number of studies did not specify it. As discussed in Bocala (2015), both novices and experts should work together in teacher learning models, since more experienced teachers and knowledgeable others can encourage and give support to novice participants and provide essential expertise to the whole process. Knowledgeable others have been defined as someone, usually outside of the planning team, who plays an important role in contributing during the planning process and the post-lesson discussion (DUDLEY, 2014; FUJII, 2016; TAKAHASHI; McDOUGAL, 2016).

According to Takahashi (2014, p. 10), knowledgeable others are responsible for “(1) bringing new knowledge from research and the curriculum; (2) showing the connection between the theory and the practice; and (3) helping others learn how to reflect on teaching and learning.” In this respect, Yoshida (1999) informed that all the surveyed schools reported in his ethnographic study in Japan included an outside-of-school adviser as part of their organizational chart. Especially in countries where LS is still not embedded in their culture, these professionals are considered of high relevance (SEINO; FOSTER, 2020), for “without them, knowledge and skills would remain empty concepts devoid of real application and use” (MEWALD; MÜRWARD-SHEIFINGER, 2019, p. 229).

Being often acknowledged as a “teacher-led” collaborative research designed to develop teaching (LEWIS, 2002; TAMURA; UESUGI, 2020), LS is mostly embedded in teachers’ cultural perspectives. This may explain why much less attention has been given to how students engage, perceive, and experience their learning. In the same vein, the results in this investigation indicated that only 3 studies (10,71%) demonstrated to have investigated the learners’ perspective, in contrast with 21 studies (75%) that looked at the teachers’ perceptions alone, and 4 studies (14.29%) that did not make this formation explicit.

In this respect, Wood and Cajkler (2016) argue that when learning challenges and approaches to learning are identified only through the teachers’ perspective, potential barriers remain between teachers and students. The authors found that listening to their students’ perceptions of what was difficult in the lesson and what they would change about it reflected on their learning outcomes. This finding led the authors to propose a participatory approach to LS as a vehicle to provide new insights into the complex nature and process of learning involving the students. In the study conducted by Khokhotva and Albizuri (2020), teachers are also informed on how and what students need to learn through the voice of students, which brings significant implications to teachers’ transformative learning, educational beliefs change, and improvements in the lesson design. These studies provide new perspectives on having students participate in the LS process and reveal that significant impacts are recognized due to the student’s active involvement.

Concerning the duration of the LS process indicated by the selected articles, the investigations occurred from three weeks to as far as 18 months, in an average of 1.8 institutions (SD=1.81). In contrast with cultures hungry for immediate results aiming at overnight improvements in test scores (CAJKLER *et al.*, 2015), LS is practiced with a view to long-term results in Japan. In Yoshida’s account (1999), for example, the average length of School-Based Teacher Development focusing on the same topic was about four years. Takahashi and McDougal (2016) warned about the

decision of a school district of organizing the complete LS cycle on one single day and brought questions to whether this model could still be considered LS. As mentioned before, Lewis, Perry, and Hurd (2004) pointed out that LS favors a stronger connection between daily practice and the long-term goals the teachers pursued simultaneously. Although scholars vary in developing research in a different range of time lengths, what has unanimously agreed is that LS has the high potential to produce a long-term impact on teachers' practice and substantial positive outcomes on their student's academic success if sustained appropriately.

Among the pedagogical practices identified in the selected publications, professional collaborative practice is the one most used by the investigators (50%). More variation was identified concerning the learning or teaching theory associated with LS practices. Of the 28 articles, 23 different related theories were identified. This might be because LS is a flexible approach with room to be shaped according to cultural and organizational settings to meet the needs of teachers and students effectively (SCHIPPER *et al.*, 2020).

Such a flexible model, led Wood (2020) to discuss the dimension of variation concerning the theories described by articles recently published in the *International Journal for Lesson and Learning Studies*. She underscored the importance of research instruction "being explicit about the theory of learning informing lesson and learning studies and how its implementation leads to teacher learning" (Wood, 2020, p. 93) and raised the question of which theory is the one to underpin Japanese LS. The concern with theoretical approaches associated with LS had already been discussed by Norwich (2018). The author examined variations within LS practices and their connections with related professional learning and teaching traditions. Norwich concluded that the wide variation of practices identified in his investigation makes it difficult to establish which features are necessary and sufficient "to distinguish LS practices from the other non-LS professional learning practices" (Norwich, 2018, p. 213) and suggested that a polythetic type of definition of professional learning and development practices might be useful to protect labels from being excessively used and deviated from its proper use.

RQ. What Cultural Aspects or Local Conditions May Have Influenced LS Outcomes?

The success credited to LS in its homeland is mostly a reflection of Japan's cultural and social conditions and particular school system. Experts unanimously agree that, as teaching is a complex social activity, adaptations to LS procedures will be necessary to fit local needs and contexts (STIGLER; HIEBERT, 2016; SCHIPPER *et al.*, 2019; ADLER; MWADZAANGATI; TAKKER, 2023). Pursuing this understanding, the above analysis reveals several aspects that should be taken into consideration for the effective implementation of LS outside Japan.

Time Constraints

Lack of shared time for the team to collaboratively conduct all the necessary activities to develop the LS model properly may simply refrain the implementation of this approach from the start. LS demands teachers' involvement (LIM-RATNAM *et al.*, 2019) and, not surprisingly, more time for lesson planning than ordinary class preparation (CERBIN; KOPP, 2006). "Protect their time", advises Dudley (2011, p. 7). Or how else can teachers be highly committed to the improvement of their professional development if they are required to stay a hundred percent of their working hours teaching? How can they volunteer if they need to cope with 2 or 3 jobs and work 10 hours a day to increase their income and make ends meet every month? The factor of time seems to be a key component to be discussed and overcome if LS is to be sustained.

Financial Support

Connected to the issue mentioned above, providing financial support for teachers and research projects is crucial to enable the implementation and sustainability of this approach. Takahashi and McDougal (2016) confirm that the provision of adequate time for teachers to participate in the LS model through the use of funds is an important catalyst for LS implementation. Even when funding is

not allocated officially, it is raised through other avenues to guarantee this approach is developed and spread (see, for example, LEWIS; PERRY; HURD, 2009).

Search for Quick Results

A quick result-oriented culture might not welcome LS practices as easily as they seek for better-examining results to happen overnight (CAJKLER *et al.*, 2015). In the LS movement, long-term goals are aligned with teachers' daily practice to build strong collaboration and shared results. Therefore, rushing the process will not bring the expected results. In this sense, Stigler and Hiebert (2016) point out the reason why LS might not work in the North American context: “we underestimate the time and effort it will take to actually implement the idea in an effective way” (p. 586). In the present review article, the authors claim that these reasons identified by Stigler and Hiebert are the highest challenges that countries new to LS face in getting funding and collaboration from teachers, organizations, and public policies.

Choice for a Suitable Learning/Teaching Theory

This study has revealed that LS has been investigated alongside a variety of learning and teaching theories. This result might be related to the fact that LS is a flexible approach (SCHIPPER *et al.*, 2020) and, as indicated by Norwich (2018), LS and LS-related practices might be developed by adopting aspects from different traditions. What is essential, however, is that Japanese scholars make this model more explicit to the international academy (SAITO, 2012) so that educators can choose an adequate theory to support their investigation in their local contexts. The question raised by Wood (2020, p. 98) as to “what *is* the learning theory that underpins JLS” (Japanese Lesson Study) might progress to “what *are* the adequate theories of learning that underpin LS?”

Inclusion of Knowledgeable Others

The inclusion of knowledgeable others in the LS model has been acknowledged as beneficial to all contexts, particularly the ones new to this process. While examining the projects that emerged in North American settings, Takahashi and McDougal (2016) considered that knowledgeable others' contributions are essential to effective LS development not only during the post-lesson discussion but also during the planning process. In addition, the authors argued that, ideally, two different knowledgeable others should perform in each phase. In one respect, it is argued that the expertise of a knowledgeable other is not acquired through formal training, rather, it is developed through the participation in LS activities with colleagues and observation of a great number of final comments being given by peers and experts (Takahashi, 2014). In settings where LS is not a common practice, the author recognizes that opportunities to develop due expertise are rare, however, contributions from knowledgeable others are even more necessary in these settings. To provide insight into the theme, Takahashi provides three steps that an inexperienced knowledgeable other might follow to ensure effective final comments. What is agreed unanimously is that research teams new to LS must not underestimate the importance of these professionals, in addition, researchers and organizations should collaborate to provide means for them to learn and develop this ability.

RQ3. What lessons inform future researchers or projects as to the necessary adaptations that should be made to develop a successful LS model?

Experts from Japan and China are becoming “more explicit about the theory behind lesson study, concerning both its goals and the methods for achieving them” (STIGLER; HIEBERT, 2016, p. 582). This is an increasing demand from foreign researchers who are focusing on understanding how LS occurs in its natural environment so that they can adapt it from there. The good news is that the LS process may not be intended to be used the same way everywhere. It is expected that LS differs across contexts (LEWIS; PERRY; MURATA, 2006).

This study provides evidence that LS has been implemented around the globe and produced many positive results. It has demonstrated a variety of characteristics in the procedures that resulted in benefits for the students, teachers, and other stakeholders involved in the LS process. Such a flexible model permitted the adoption of a varied number of theories that sought to investigate the effects of LS across different subjects and school levels. It was also demonstrated that researchers use different strategies and characteristics of LS to suit the local needs and necessities.

In summary, observing and being faithful to the core aspects of LS is essential if it is to be implemented as such. However, the findings in this study reveal that several negotiable procedures can be reviewed in contexts beyond Japan to make it viable. It might have come the moment each cultural setting will have to decide which non-defining aspects will have to be revised and how LS will best suit their needs and conditions. What is certain, though, is that there are no shortcuts if we intend to point out a way to transform the education system on individual, regional, national, or global levels.

CONCLUSION

It was through writing this paper that the authors reconsidered what they believed was the heart of LS, that is, the research lesson to be crafted and executed by the LS team. Rather, LS refers to a cultural process that originated in Japan which is intrinsically connected to its people and traditions. As such, LS is encrusted in meta-aspects. It does not bear or stand out in a certain phase or activity, nor is it a matter of carrying out activities (LEWIS; PERRY; HURD, 2004). As Fujii (2014, p. 15) states, the heart of LS “is the educational value located at the meta-level.” In other words, LS is developed through routines, practices, and a lifelong and organically organized time, in which novices and experienced teachers jointly focus on student learning to answer “how-questions” over “what-ones”. It is not intended to be commercially traded as a product to be used during a particular time or simply shared through a PowerPoint presentation as if the audience would automatically integrate it into their pedagogical practice.

As Professor Peter Dudley fortunately told the first author during the WAL2020 conference when questioned about what a researcher beginning to LS should do to introduce it successfully: “Give it a go!”, he clarified. He was saying, live it! It is obvious that the visible processes for implementing LS are being more and more established by empirical research and theoretical writings, and these are to be meticulously observed. However, beyond theory and procedures, LS is to be experienced. It has to be embraced sustainably. It has to be lived.

This study was motivated by the desire of encouraging more researchers, especially in Latin America, to introduce LS to their contexts, and learn from this study not only about the specific procedures that typically involve the LS movement but also become aware of the potential and constraints of this professional development model. Firstly, in this respect, as South America was represented by only one research in this systematic review, it is suggested that future research identify and analyze how LS could be properly “translated” in this region, what educational and cultural values could contribute or hinder its use so that LS finds its path of implementation in this context.

Secondly, further research is needed to investigate whether and how schools participating in LS projects continued implementing more LS activities some years after their first experience and how much LS has impacted teachers’ and students’ learning in contexts that have no tradition in this approach. Thirdly, while implementing the LS model, researchers should center their investigation on what students have to say about their learning path through a constructionist, contextualized, and meaningful environment, as discussed by Schlünzen *et al.* (2020), who defend the engagement of every member of the teaching community toward a more deeply, reflective, and inclusive school.

Considering teaching is a complex and socially-situated activity, this paper provides further insight into cultural elements that emerged from the studies that might have influenced the implementation of LS in different educational settings: the pressure of time, lack of financial support, and demands of quick results are shown as the most crucial factors that impacted the development of LS in all its phases. Besides, the results of this study revealed that a choice for a suitable learning or teaching theory as well as the inclusion of knowledgeable others may influence the success of its implementation across various cultures.

The results of this study should be interpreted in light of some limitations. A challenge of systematic literature reviews is how to elaborate a search string that results in as many publications that meet the inclusion criteria as possible. The term “Lesson Study” was used in English, Spanish, and Portuguese combined with other search terms in different databases. There might be additional search term combinations that could have resulted in additional studies. This is a small-scale investigation that used a limited number of databases. If more databases had been included, results would likely have been more robust. In addition, this study selected full-text publications. If more studies had allowed access to their full texts, discussions might have pointed to or included a different direction.

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