
Title Exploring students' learning and motivation in a lesson study for learning community (LSLC) environment: a new perspective

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This is the author's accepted manuscript (post-print) of a work that was accepted for publication in International Journal for Lesson & Learning Studies

The final publication is also available at <https://doi.org/10.1108/ijlls-01-2022-0007>

Title: Exploring students' learning and motivation in a Lesson Study for Learning Community (LSLC) environment: A new perspective

Abstract

Purpose – The present qualitative paper examined the changes in students' motivation before and after lesson study for learning community implementation at a primary school in Singapore.

Design/methodology/approach – Student focus group discussions (FGDs) were conducted with six students from each of the classes involved in the research lessons. Students were asked specific questions relating to the research lessons and teachers.

Findings – Findings suggest that there are some changes in students' perception of classroom climate and their motivation to learn after the implementation of lesson study for learning community. Together with self-determination theory, lesson study for learning community may be viewed as a social and collaborative model as well as a supportive learning climate, promoting students' adaptive outcomes and needs satisfaction.

Research limitations/implications – Teachers need to be provided support to plan their lessons and to become familiar with the lesson study for learning community approach. There is also a major challenge of teacher 'buy-in' whether they would undertake the practice of lesson study for learning community voluntarily.

Originality/value – This study provides evidence of the existence of an approach via listening pedagogy for the teaching of listening that focuses on students' motivation to listen and learn in class.

Keywords lesson study; learning community; self-determination theory; basic psychological needs; motivation

Paper type Research Paper

1. Introduction

Lesson Study (LS) is a model of fostering the teaching profession where a group of teachers works collaboratively and continuously to improve the quality of learning through curriculum and activities planning (Hobri, 2016). Learning Community (LC) is a collaborative model where learning is designed so that each student gets equal learning opportunities (Hobri & Susanto, 2016). Lesson Study for Learning Community (LSLC) is a newer concept and collaborative principle that explicates a quality and productive learning process (Sato & Sato 2003; Sato, 2012). Within LSLC, there are three stages of collaboration: (1) collaboration between students and the learning materials; (2) collaboration between students and their peers in groups; and (3) collaboration between a class of students and the teacher who acts as a facilitator (Asari, 2017; Saito *et al.*, 2015; Saito & Sato, 2012). Therefore, the characteristics of LSLC are collaborative learning and

caring communities that aim to foster students' motivation and improve their levels of engagement.

Based on Self-Determination Theory (SDT), a social learning context is essential to support students' three basic psychological needs, namely autonomy, competence and relatedness. To facilitate students' psychological needs, teachers have to create a need-supportive environment that fosters autonomous motivation (Vansteenkiste *et al.*, 2009). Studies in the SDT literature have provided the benefits associated with learners' need satisfaction and teacher's autonomy support (Furtak & Kunter, 2012; Jang *et al.*, 2012). Furthermore, social interaction plays an important role in children's cognitive and social development (Davis, 2003; Ryan *et al.*, 1985). There is potential research to examine how students perceived their teacher's instructional behaviors that may nurture the relationship between teacher and students. LSLC is considered as a social and collaborative model that nurtures a caring community and quality learning. LSLC may be viewed as a supportive learning climate that promotes students' need for satisfaction and adaptive outcomes.

Yet, studies exploring LSLC through the SDT perspective and connecting student learning are limited. Despite LS's focus is on the importance of observing pupils, majority of research has addressed groups of teachers and their teacher development activities, and there are fewer discussions that have actually addressed issues concerning pupils themselves (Saito, 2012).

Furthermore, little is known in exploring students' views on their teachers' supportive behaviors within LSLC context, at an in-depth level. The present paper aims to bridge the existing gaps and expanding student learning and motivation in English and mathematics within the LSLC framework in the context of a primary school in Singapore.

2. Literature Review

2.1 Lesson Study for Learning Community (LSLC)

The idea of the learning community was first discussed in 1992 in Japan's academic circles and in education research through Manabu Sato's work (Saeki *et al.*, 1995). In LSLC, democratic values are emphasized as a learning community (Sato, 2006, 2012). Democratic values here refer to the disposition to live with others regardless of background (Dewey, 1916; Sato, 2012).

LSLC is different from other types of LS as a technical rationality model that seeks an efficient connection between knowledge and methods of teaching and learning. Teachers' mutual observation and reflection are taken as a platform to develop knowledge through democratic participation in learning (Saito & Atencio, 2015). The philosophy of establishing a learning community was spurred on by the need to support 'reform' in certain Japanese schools which were suffering from delinquent school culture in the 1990s (Sato & Sato, 2003). This was in alignment with the notion of creating a safe space for children in the classroom where there was an active relationship between teacher and students that promoted learning in a conducive environment. As a result, the rate of truancy decreased substantially from 5% to roughly 1% and

students' academic standards improved vastly (Sato, 2008). Since then, LSLC has gained international attention including Taiwan, Korea, Indonesia, Vietnam and Singapore (Tsukui & Murase, 2019). It is also being used widely in schools in Japan and other countries as a form of curriculum reform (Lewis and Takahashi, 2013, Saito *et al.*, 2015). It is recognized for its focus on understanding pupils' needs, learning experiences, and practices.

However, majority of current literature has only reported the impact of LSLC in terms of teacher professional development and the likes of it. Using a broader range of evidence about teacher and student learning is valued in the research literature (Fishman *et al.*, 2003), including 'using a combination of teacher reflection, classroom observations and ongoing assessment of student performance' (Mayer & Lloyd 2011, p. 9). Exploring the impact of LSLC on students' learning and motivation can help inform important aspects that ought to be addressed in the curriculum and teaching methods used. Paradoxically, the very reason for the proposal of an LSLC was to improve students' learning experiences. Thus, it is equally important to explore its impact on students' learning and motivation. Tsukui and Saito (2017) referred LSLC to taking a 'stroll' into students' learning that can help inform the teacher's professional knowledge and identity. This would represent embodied actions and values that appreciate each pupil's existence and learning as is without rigid bureaucratic perspectives. This can be done through walks taken around in classrooms on foot or using eyes to seek real encounters with pupils – their minds, learning and existence.

In similar settings of professional learning communities (PLCs), teachers have indicated increased learning outcomes for students in terms of achievement, social skills, emotional aspects, independence, and creativity. Significantly, the overall key impact arising from effective PLCs operating within innovative contexts seem to be the increased well-being of teachers and students (Owen, 2015). In some instances, there is the concern about how much the participating teachers understand the essence of successful student observation and narrative development that will be useful for analysis within a given time (Saito *et al.*, 2020). Lee and Tan (2020) have explored the implications of the enhancement of teacher professional learning and identified one possible means of resolving the contradictions as facilitating and documenting the teachers' discussions in ways that further strengthen their use of student learning data for LS. Bringing this further, we aim to tap on to how the implications of LS can influence students' motivation and learning experience through our study.

2.2 Self-Determination Theory (SDT)

An extensive of self-determination theory (SDT) research has been applied in educational research, providing evidence for students' motivation and academic performance (e.g., Ng *et al.*, 2016). However, SDT has been largely overlooked in LSLC research; especially studies adopting the SDT's motivating principles in LSLC are still in infancy. As SDT has been recognized as a macro human theory and widely applied in education research, it is appropriate to apply SDT's perspective for addressing students' motivation in a formal classroom learning environment. The following paragraph describes the central tenets of SDT, explaining why SDT herein serves as an

appropriate framework for addressing students' motivation and learning within the context of LSLC in a Singapore primary school.

Within SDT, a social learning context is essential to support students' three basic psychological needs, namely autonomy, competence and relatedness (Ng *et al.*, 2016). Autonomy refers to being the source of one's behavior, competence is experiencing optimal self-proficiency, while relatedness refers to a sense of belongingness with individuals and community (Deci & Ryan, 1985). To facilitate students' psychological needs, teachers have to create a need-supportive environment that fosters autonomous motivation (Vansteenkiste *et al.*, 2009). For instance, enhanced motivation and improved academic learning demonstrated the effect of autonomy-supportive teaching (Ng *et al.*, 2015).

Autonomy support refers to identifying and fostering students' intrinsic motivation by offering options; fostering interest with respect to learning; providing rationale and informational feedback; as well as encouraging self-regulated learning (Reeve, 2006). A learning climate with autonomy support promotes the student need for satisfaction and adaptive outcomes (Cheon *et al.*, 2012). Furthermore, an autonomy-supportive environment facilitates more self-determined forms of motivation in students as opposed to controlling behaviors (Ng *et al.*, 2015; Reeve & Jang, 2006).

Extensive studies in the SDT literature have provided the benefits associated with learners' need satisfaction and teacher's autonomy support (Jang *et al.*, 2012; Hsu *et al.*, 2019). Within LSLC contexts, teachers share and develop knowledge in a group that seeks to improve teaching practice (da Ponte & Quaresma, 2019). Joint work and collaboration among teachers involve collective conceptions of autonomy, initiatives and leadership with regard to professional practice. However, SDT within LSLC research is still in its infancy.

2.3 Empirical research on LSLC and SDT

A study investigated a classroom action research-based LS in two cycles at the State University of Malang, Indonesia (Darmawan *et al.*, 2017). Findings showed that students' motivation improved from 75% in the first LS cycle to 95% in the second LS cycle. Students could maintain their learning motivation and enthusiasm during LS, with improved learning outcomes as well. Similar findings were shown in another recent study conducted on 7th-grade students in Indonesia (Marufi *et al.*, 2019). Descriptive statistics revealed students' learning motivation increased after mathematics was implemented using LS. Students' performance in the mathematics activity also improved.

Most recent empirical studies of LS and motivation came from the schools in Indonesia (e.g., Madjdi & Rokhayani, 2021). In relation to LSLC, the research of LSLC and motivation is still in its infancy. A LSLC pilot study by Saito *et al.* (2015) investigated the factors that led students to engage in positive and supportive behaviors at a junior high school in Japan. LSLC was implemented as part of the school reform. Their findings showed the support from others (e.g., peers) had a strong effect on students' supportive actions for others. In addition, school culture had the largest effect on their supportive actions.

As there is limited empirical research in LSLC and motivation particularly in SDT, the present study aims to examine the change in students’ motivation before and after the LSLC implementation at a primary school in Singapore. The main research question is, “What are the changes in students’ perception of classroom climate and their motivation to learn?”

The next section will discuss the methodology of this research.

3. Methodology

3.1 Participants and Procedure

This study is part of a larger exploratory study in a primary school in Singapore. The study explored the building of a culture of collaboration and listening pedagogy in classrooms through LSLC. There was a total of four LS cycles conducted in the school over a period of two years in the subjects of English and mathematics. Primary 3 and 4 levels were involved in the study. Prior to the study, the school had already been engaging in LS activities for two years. Each LS cycle typically consisted of the following:

- a) 1 - 5 planning meetings each involving teachers from the English and mathematics departments in 2 groups (8-14 teachers per group)
- b) Research lesson(s)
- c) Post-lesson discussion

Prior to the sample collection, ethics clearance from the university review board and permission from the Ministry of Education was attained. Participants were briefed on the purpose of the study and assured of the confidentiality of their responses. All planning meetings, research lessons and post-lesson discussions were audio and video-recorded and transcribed. Fieldnotes were taken for all sessions.

Teachers involved in the LS cycles were interviewed for 30-60 minutes each. Three English language teachers and two mathematics teachers were interviewed during the pre-interview in Year 1 for the larger study. The same teachers were interviewed in Year 2, with an additional two English language teachers and one mathematics teacher who newly joined the team (see Table 1). All interviews were audio-recorded and transcribed.

Table 1

Teachers in the LS teams

Subject	Pseudonym	Year 1 Class	Year 2 Class
English	Teacher A	P4-1	-
	*Teacher C	-	P3-1
	Teacher H	P4-4	-
	*Teacher L	-	P4-3
	Teacher S	-	P3-6

Mathematics	Teacher M	P4-3	P3-5
	Teacher R	P4-5	P4-6
	*Teacher Z	-	P3-3

Note: *Teachers who newly joined the team in Year 2

Pertaining to this study, at the end of every two cycles of LSLC, there were student focus group discussions (FGDs) conducted with six students from every class that were involved in the research lessons. A sample of two high progress students, two middle progress students and two low progress students were selected for the FGDs with the researchers. The students were asked specific questions relating to the research lessons and teachers on the condition of anonymity via a FGD questionnaire. The questionnaire consisted of three parts. The first part sought to investigate how students experienced listening pedagogy implemented by their teachers in their classroom practice. The second part sought to investigate how students experienced collaborative learning in their classes and the difficulties they have working in groups. The third part investigated students' perceptions of their learning in their English and mathematics classes. The FGD was conducted by the second author (A2) in Year 1 and the principal investigator of the study (P1) in Year 2. All FGDs were audio-recorded and transcribed.

3.2 Data Analysis

There was a total of 10 FGD transcripts analysed, four from Year 1 and six from Year 2 (see Table 1). Teacher A and Teacher H's classes were not involved in the FGDs in Year 2 as they were not from primary 3 or 4. Two sample transcripts were used by the authors to generate the codebook. It consisted of two main categories of motivation and motivational strategies. The inter-rater reliability between the authors was calculated to be more than 85%. Thereafter, the other transcripts were coded independently using NVivo. The codebook was improved, expanding on the categories as the other transcripts were analysed. The codebook was then used to identify emerging themes that were useful for the findings.

4. Findings and Discussion

The change in students' perception and their motivation were evaluated using the four main themes: perceived learning climate, motivation to learn, motivation to listen, and relatedness. These themes revealed some meaningful insights on perceived teacher's instructional behavior and students' motivation in learning using LSLC.

4.1 Perceived Learning Climate

Students are likely to ask questions when they know that their teachers are attuned to them, in terms of listening more to their questions. Teachers can understand students' states of being and adjust their instructional behavior accordingly (Reeve & Jang, 2006). Some students enjoyed learning in class when they had the opportunity to answer the questions raised by their teacher. Students might experience frustration when their teacher just went on with their teaching without any interactive session. The following excerpts were in response to the question of

whether students felt that their teachers are listening to them more in class. These are examples of students acknowledging their teachers being more attuned to them and listening to their opinions.

*Yes. If I have (questions) about anything that the teachers say, I will raise up my hand, if other students are talking **my teacher may tell them to stop talking and listen to me.** (Student Ar, FGD, P4-1, Year 1)*

I feel that more people are listening to me, they're not talking. (Student J, FGD, P4-3, Year 1)

*Yes I feel when give the idea, Madam M asks us to **keep quiet and listen to the speaker** (and if) your voice is too soft, she will give us the microphone to use. (Student H, FGD, P4-3, Year 1)*

The students also noted some differences in classroom activities and the way teachers conducted lessons. The following excerpt illustrated the difference in perceived learning climate in terms of learning activities when the teacher was adopting the LSLC approach.

*I think there are some changes a little bit. At the start of the school year, there are more towards, not so fun like, the teacher asked us questions and we need to answer. More towards end of the year we will do **group activities and discuss together and have more fun while studying.** (Student M, FGD, P4-5, Year 1)*

At the same time, there were also some teachers like Teacher R who were already practising listening in class prior to the study.

She actually listens a lot in January so she, she's the same right now. She listens to other people's opinions more. (Student Y, FGD, P4-6, Year 2)

4.2 Motivation to learn

According to Schiefele and Csikszentmihalyi (1995), subject interest relates to motivation and learning. Previous research showed that students' learning experiences in mathematics are related to interest which is a predictor of student achievement (Ng *et al.*, 2016; Nuutila *et al.*, 2018). Subject interest is also related to students' intrinsic motivation (Ng *et al.*, 2015). Students who have strong interest in a particular subject will inherently feel motivated and able to perform academically.

In addition, students seemed more engaged in class when their teacher cracked math jokes. Students enjoyed their lessons more when a teacher could bring up learning in a light-hearted manner (Ng *et al.*, 2015). Not surprisingly, students appreciated such lessons more when their teachers could relate learning to them through a 'fun way' or humorous approach. Humor

releases tension by easing communication with others (Campbell, 1997; Dziegielewski *et al.*, 2003). The notion of humor echoed the nature of classroom dynamics and a degree of reciprocity between teacher and students (Fovet, 2009). The following excerpt affirmed that students learnt mathematics with interest when the lesson was enjoyable and interesting. The student was asked the reason why she liked her mathematics class:

*It's very **enjoyable and interesting** when she... makes up math jokes and... when she prints out **math mysteries for us to do**. (Student ZR, FGD, P3-3, Year 2)*

Students are likely motivated when they get to learn together in a group, such as doing groupwork with their peers. They enjoyed learning in groups as they could collaborate with their classmates and help each other to learn (Slavin, 2015). Below are two excerpts to illustrate students were motivated to learn in groupwork, when they were asked about their thoughts on groupwork and if they enjoyed it:

*I think is very good that our teacher has group work for us as working individually we might be scared and shy but **if we do it together and we might be more motivated to do it more**. (Student S, FGD, P4-5, Year 1)*

I feel like more willingly to speak and I'd always (be) motivated because group work will make me want to study more cos I'm working with friends and I like to do that. (Student M, FGD, P4-5, Year 1)

Several students from the FGD agreed that they enjoyed their mathematics class when it is interesting. Introducing a class quiz is also an approach to motivate them to learn. Students had a higher level of motivation towards learning the academic subject using quizzes (Halim *et al.*, 2020). They perceived quizzes among groups as a healthy competition and allowed them to learn from one another.

*[What do you think is most enjoyable about your lessons?] **The quizzes** that the teacher ask, we can do in point form for our groups. (Student S, FGD, P4-5, Year 1)*

*Another thing that I enjoy is that sometimes we have like healthy competition between each other's group like sometimes give points to the group that is best. **I like this healthy competition** because it **allows us to work hard about (what) we are learning**. (Student RY, FGD, P4-5, Year 1)*

When students were doing groupwork, they appeared more willing to speak and share. This suggests they are more motivated to learn from one another. This is supported by a recent study that students talked more and longer when they worked with their classmates in groups (Moore *et al.*, 2019). The following excerpts revealed students' motivation to learn by their openness to talk and share to their peers during group discussions.

*I felt a bit **happy**. That **we can spend more time, can talk to our friends**, then can plan what to do for the group work (Student I, FGD, P4-1, Year 1)*

*Uhh, I used to be distracted at the start of the year. ... **Now I don't really become distracted**. (Student IS, FGD, P4-2, Year 2)*

4.3 Motivation to listen

When students listen to their teacher in class, they are likely to have a good understanding of what was taught in class. Listening is a way to develop and improve students' reasoning ability as well as foster self-confidence in mathematics (Utami & Nurlaelah, 2021). As shown in the following excerpt, this student understood the importance of good listening so that he could grasp the mathematical concepts well. This is vital because it could influence students' enjoyment in learning a particular subject.

*Because if you listen to a teacher while he is teaching, he or she, **you will get more explanation and you can be better in class**. (Student A, FGD, P4-1, Year 1)*

*Because sometimes, we usually did not get the answer correct and we did not know what the solution is, and we **may like to ask people to help us**. (Student AH, FGD, P4-3, Year 2)*

In the excerpts below, students mentioned the importance of listening to understand and also correct their groupmate's mistakes that will help them to improve.

*When we're doing Math, they don't understand and then they just make careless mistakes as they speak. **You have to tell them what they did wrong and we help them improve**. (Student H, FGD, P3-1, Year 2)*

*[Anything else you think you ought to do in order to listen better? In your group or...?] Try to understand what he or her are saying like if you don't understand, you won't get interested in what they're saying. So, **you can ask them personally so that you can understand better**. (Student M, FGD, P3-3, Year 2)*

One of the students also mentioned providing difficult members in their group with ‘incentive’ that would motivate them to listen, such as making them choose their roles.

*Usually in groups, we were assigned roles so when they don’t want to listen, **we’ll ask them what role they like and then we’ll let them be.** (Student L, FGD, P3-6, Year 2)*

Besides the motivation to listen to their peers, students could also approach their classmates and help each other out in times of doubt.

*If they don’t know (the) question, **we can help them.** If we also don’t know (the) question, **they can help us.** (Student C, FGD, P4-1, Year 1)*

The following excerpts showed that the students were motivated to do well and improved their grade when their teacher and classmates paid attention to what they said. This suggests that listening pedagogy is important in the learning process and it can also be a motivating gesture when used appropriately.

*I experience, my **report bookmarks are improving** more because our classmates and teachers are listening. (Student H, FGD, P4-3, Year 1)*

*I realize that when my teachers and friends pay attention to me, I could at least **say what I want to say and then maybe I could do well in the subject.** (Student R, FGD, P4-3, Year 1)*

4.4 Relatedness

There are positive examples in students experiencing a sense of connectedness with their peers. Having a sense of relatedness, collegial relationship was established through acknowledgment and mutual respect. Students also viewed group work as building teamwork through which they can successfully complete difficult tasks. It was perceived as an opportunity to collaborate with groupmates who could help them.

*When we all um usually we do things with group, **we need teamwork to do things that are impossible.** There may be some stronger ones that can help. (Student A, FGD, P4-1, Year 1)*

However, some students also conceded that sometimes they could end up quarrelling due to difference in opinions.

*But they think they’re correct, but you are actually correct and you two **will start quarreling.** (Student IS, FGD, P4-2, Year 2)*

Students also said that they could share what they wanted in a climate of trust brought about by listening pedagogy. The students felt safe to ask their teachers what they did not understand.

*(I will) try to understand what he or her are saying like if you don't understand, you won't get interested in what they're saying. So, **you can ask them (teachers) personally so that you can understand better.** (Student Ma, FGD, P3-3, Year 2)*

*I'm also not that strong in Math like Y. So I'll want my teacher to help me more in Math and sometimes, **I'll ask some questions to my teachers so that she can understand me more.** (Student Ka, FGD, P4-3, Year 2)*

One of the changes that students mentioned when their teachers and classmates listened to them more was that they did the same in return. Students related listening to showing respect towards their teacher and classmates.

*I listen to them more because the sense of they listening to you more is like **showing respect** and if they listen to you more but then you end up don't listen to them more so it's like not showing them respect also. (Student Ag, FGD, P4-4, Year 1)*

When students' feelings and knowledge were valued and the respect from their fellow students was experienced, in turn it made students share personal information and they feel accepted (Volman, 2021). Students also felt at ease when they shared their doubts with their peers and felt more assured by the feedback from their peers.

*I usually share with my classmates more than I share with my teacher, because **I feel safer** when I'm with my classmates than my teacher so I can talk to them... They are very patient. And they tell you everything slowly so I can understand it more, and they even go into more details by telling me some facts about the things that we are doing. (Student J, FGD, P4-5, Year 1)*

*To add on to Student J's points, I think that this makes me more assured because my friends (are) **more truthful to me**, so I feel more **assured by my friend** than the teacher. (Student F, FGD, P4-5, Year 1)*

5. Implications and Limitations

The present study examined the change in students' motivation before and after the LSLC implementation at a primary school in Singapore, offering meaningful perspectives of students after the LSLC implementation. Findings in this study enable researchers and practitioners to have an in-depth understanding of students' perspectives of their teacher's instructional behavior and their motivational change after the LSLC implementation.

Taking the discussion of findings from this study into account, several implications for implementing LSLC in schools were drawn. First, teachers need ample support in the form of protocols and materials to become familiar with the LSLC approach. Specifically, they need

explicit support to plan their lesson that are complete while allowing for flexibility. Providing the lesson planning emphasizes the lesson cycles and regular meetings plus debriefing are especially important to foster systematic LSLC implementation in the classroom. Second, there is a major challenge of the fundamental assumption of the LSLC pedagogy that teachers are willing to 'buy-in' and undertake the practice of LSLC voluntarily. One related concern pertaining to this is teachers' beliefs which may influence their 'buy-in' of LSLC., and how they react to a situation in terms of what strategies to adopt (Ng *et al.*, 2015). Finally, in relation to listening pedagogy, it addresses an important gap in the international literature in this field of research and practice. Listening pedagogy may provide evidence, previously lacking, of the existence of an approach to the teaching of listening that focuses on the students' motivation to listen and learn in class. The extent to which teachers may adopt LSLC approach with their own learners have good listening skills and they adopt this listening pedagogy by practicing daily.

Although the present study was a small-scale qualitative research with a focus on students' perspectives, findings herein provide insights on their motivation to learn and listen. There are still limitations to consider for future research. Firstly, this study only focused on one school and the findings could not be generalized. However, it is an exploratory study that focused on one school community of practice. Future research could include more schools for implementing and evaluating LSLC. Secondly, this study acknowledged the lack of group dynamics in FGDs as a limitation. This study only used audio recordings. Future research could consider including video recordings to examine the group dynamics in the FGDs. Thirdly, the current study's focus was mainly on students' perspectives during LSLC. Future research can be conducted to include both the students and teachers' perspectives in LSLC which will be valuable.

6. Conclusion

This qualitative paper focused on FGDs with students, to examine the change in students' motivation before and after the LSLC implementation at a primary school in Singapore. Findings suggest that there are some changes in students' perception of classroom climate and their motivation to learn. There are benefits of LSLC such as students were motivated to learn and listen from one another during groupwork. This study enables researchers and practitioners to have a deeper understanding of LSLC and students' perspectives of such learning climate. Future research could build on the present findings to evaluate the effectiveness of LSLC in other schools.

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