The Japanese endeavors to enhance Classroom Instruction – A Social Anthropological Perspective

Shereen Effat Mostafa Noureldeen
(Assistant Lecturer – Faculty of Languages
MSA University, Egypt)

Abstract

The Japanese Lesson Study Approach is a collaborative teachers' training, where teachers explore, assess and improve their knowledge of content and pedagogy by learning from daily work**.** Teachers work together to challenge and scaffold their knowledge of the subject matter and of students' thinking by observing one another's classrooms and share expertise. This unique classroom experience is deeply rooted in Social Anthropology; particularly in the Situated Learning Theory (SLT) and Community of Practice (CoP) by Lave & Wenger in 1991. For them, learning is not just receiving or absorbing information, rather, increasing participation in communities of practice. Social resources shape people's learning trajectories and their professional identity. Learning partnership occurs among people who find it useful to learn from and with each other about a particular domain. Here, teachers use each other's experience of practice as a learning resource. In this research, the Japanese classroom experience is explored in light of Lave & Wenger's Situated Learning theory and Community of Practice to enhance teaching and hence students' learning.

Introduction

Teacher's training is applied worldwide and usually endeavours to provide teachers with continuous, high-impact development to improve how students learn and how instructors teach. In Japan, a new form of In-service teachers' training began to rise - the 'Japanese Lesson Study'

Approach. This approach penetrates all educational levels starting from elementary and lower secondary schools up to high schools but rarely in college level. The JLS has invaded Japan - where it was firstly originated - and USA respectively in almost all disciplines and all grade levels. It first started in improving mathematics and then was extended to reach out for science, social studies, language arts and even physical education. Specifically, LS is given credit for promoting mathematics and science teaching for elementary students (Lewis, 2002a; 2002c; Lewis & Tsuchida, 1997, 1998, National Research Council, 2002, Takahashu, 2000, Yoshida, 1999a, 1999b as cited in Lewis, Perry & Hurd, 2004).

Review of literature:

In Lesson Study, teachers meet regularly over a period of time - ranging from few months to a year - to work on the 'design, implementation, testing, and improvement of one or several 'Research Lessons', which is the smallest unit to be developed through LS process (Stigler & Hiebert, 1999). Lesson Study is viewed as the prime In-service teachers' PD approach in Japan and as "a powerful teacher-classroom intervention" that comprises of collaboration, observation and reflection with "the ultimate aim to engage teachers in constructing new concepts about teaching practices and enhancing students' learning" (Saito et al., 2008; Marton and Pang, 2006 as cited in Cheung & Wong, 2014, pp. 137-149). Particularly well developed in Japan, LS has stemmed from the collective efforts of teachers to enhance teaching. This collaboration has been molded and re-molded by teachers and education specialists into a

very powerful approach of professional development and 'practitioner inquiry'.

All Japanese teachers, typically, engage in Lesson Study as part of their pre-service training and they continue to do so throughout their careers. Literally, every teacher in the elementary and middle schools/ lower-secondary school teacher of grades (7, 8, and 9) in Japan indulges in 'Kounaikenshuu' from the very beginning of their starting career as teachers, constructing and sharing pedagogical expertise either in same grade-level groups or subject-matter groups such as Maths and Language Arts. In LS, teachers set the theme and frequency of research lessons to attend throughout the school year. They continue enrolling in the LS circles and throughout their careers as teachers. 'The role of this process is twofold; it does not only "provide a context in which teachers are mentored and trained, but it is considered a research field or a laboratory for testing and re-testing new teaching strategies" (Dubin, 2009, p. 30)

Successful examples of Lesson study in Japan are countless. On a yearly basis, Japan's elementary Science Education Conference rotates to various parts of the country, where thousands of teachers observe and discuss RLs. At the end of the conference, teachers, school administrators and academic educators gather for the plenary session, where final inspirations are expressed in an atmosphere full of teamwork spirit and confidence (Lewis & Tsuchida, 1998b, pp. 32-37). Globally and since then, evidence started to accumulate that LS is an effective approach to promote teachers' teaching and students' learning (Perry & Lewis, 2008) and this

period has witnessed an unprecedented growth of lesson study practices as a vehicle for professional development in countries such as the USA, UK, Malaysia, Indonesia and Australia (Groves, Doig, Widjaja, Garner, & Palmer, 2013). Subsequently, LS has swept across the US, emerging in at least 250 schools in two states. Then, by 2004, Lesson Study has taken place in the USA in 32 states and 150 lesson study clusters have been formed (as cited in Groves & Doig, 2010, p. 700-701).

The Japanese LS consists of four major phases: (1) formulating an over-arching school goals that are related to students' learning and long-term development; (2) collaboratively plan the research lesson to enact these goals and bring them to life (3) teaching of the research lesson by one team member while the planning team and others attend to observe and collect evidence that orbits student learning and development; and (4) holding the post-lesson debriefing session where the team and outside observers and experts attend to reflect on evidence and use it to improve the lesson, the unit, and instructional strategies – it is where evidence and expertise consolidated to bring about improvement (Lewis, 2002c, Perry and Lewis 2008, p. 366; Groves et al. 2013).

Although the survey conducted by the Japanese Ministry of Education, Culture, Sports, Science and Technology in elementary and middle schools in 2007 concluded that there is no correlation between the frequency of conducting LS and students' average scores, many researches confirmed the effectiveness of LS as a tool to drive forward

teaching and learning. This necessitates researcher to dig deeper to identify other factors than the correlation between how often LS is implemented in the school premises and students' exam results. Add to this, there is a scarcity of quantitative studies that describe the LS process and its effectiveness in Japan's schools. Stemming from this need, the National Institute of Educational Policy Research of Japan (NIER) investigated every LS aspect in elementary, middle and high schools to explore the correlation between LS processes and its effectiveness. While conducting in-depth surveys, the researchers commented that LS in middle and high schools is "a tedious, less engaging process, with little interactions among the participants and the lesson relies heavily on the traditional lecture format and a prescribed textbook, thus failing to encourage student's higher order thinking". On the other hand, it is proved that in elementary schools, LS is deliberate and requires students to think in depth. Generally speaking and despite all of the above, instructors were satisfied that LS led them to better understanding of "how students interpret and experience the instructional activities in class: and students' capacities and limitations" (Chichibu & Kihara 2013, p. 13).

Despite the lack of sufficient quantitative results of LS impact on students' learning, there is relatively growing evidence that LS improves student learning (Lewis et al, 2006; Lewis, Perry, and Hurd, 2009; Foster and Popers 2009, Saunders, Goldenberg, and Gallimore 2009, Perry and Lewis 2010; Waterman 2011 as cited in Lewis & Hurd, 2011, P. 7). Most studies provided a plausible explanation of how and why lesson study

improves student learning, through increases in teachers' content and pedagogical knowledge, focus on student thinking, and mutual respect for instructional improvement in a professional community that learns (Lewis & Hurd, 2011, p. 7). In contrast to standardized tests, feedback from lesson study is immediate, specific to the school's curriculum and goals, and based on actual observation of the lesson and students. Because lesson study centers on the observation and analysis of actual practice, it yields such knowledge (Lewis & Hurd, 2011, p. 11).

One of the benefits of LS is that it targets many students' qualities that influence learning and that are fundamental to success in school; namely, the habits of mind and heart such as persistence, cooperation, responsibility, and willingness to work hard. A Japanese elementary teacher asserted that "teachers cannot greatly improve children's lives except by working together as a whole faculty to provide a coherent, consistent environment for children's development of these qualities". Two American science education researchers who visited Japanese elementary schools were surprised by the science lessons, where students listened and responded to each other's ideas during discussions, responsibly handled dangerous and fragile materials, took careful notes, worked easily with group-mates, and cleaned up the inevitable broken beakers and water spills without attention from the teacher. Lesson study does not just target academic development; it targets the many personal qualities that contribute to student motivation and learning, and reshapes

many elements of school life in order to promote those qualities (Lewis, 2002, Pp.10-11).

Because of the many sets of ears and eyes capturing students working methods and speech during the lesson, and the public discussion of the observations, student learning is more carefully examined and an entirely different picture is revealed. The classroom becomes an arena for research, investigation, and reflection. Teachers apply a new lens to their teaching - the researcher's lens (Fernandez, Cannon, and Chokshi 2003 as cited in Lewis & Hurd, 2011, P. 20). The research lesson is designed so that observers will have as many windows as possible into students' thinking. A lesson that asks students to work on thought-revealing tasks, to justify their ideas to partners, to explain their thinking in whole class discussion, to turn and talk to classmates, or to write about what they learned will provide more chances to gather data on student thinking and discourse (Lewis & Hurd, 2011, P. 52).

The Japanese Lesson study approach which frames out the theoretical underpinnings of this study has solid foundation in social sciences research and is deeply rooted in social anthropology theories such as the 'Situated Learning theory' (SLT), and Community of Practice' (CoP) by Lave and Wenger, and the Professional Learning Communities (PLC)/ Communities of Inquiries (HoTEL - Holistic Approach to Technology Enhanced Learning, 2013). Lave and Wenger (1991) defined Situated Learning as "a social process whereby knowledge is co-constructed and is

situated in a specific context and embedded within a particular social and physical environment". The theory explains that "learning is unintentional and situated within authentic activity, context, and culture". Theorists of situated cognition advocated that knowledge cannot be separated from the context in which learning and practice take place and for effective learning to happen, students and teachers have to perceive the field of study as a culture and to enter this culture as apprentices and form what they called 'Communities of Practice' – (CoP).

These Communities of Practice are constantly and widely evolving and influencing theory and practice in many domains participating in learning and teaching. CoPs have become the main foundation of knowing and learning which creates learning systems in various sectors at different scales starting from local communities to single organizations, partnerships, cities, regions and the entire world, and many sections are now depending on CoPs to improve the performance. Communities of Practice are formed by people who indulge into process of collective and continuous learning, or who share a concern or a passion for something and they gradually learn how to better their performance as they interact regularly (Lave & Wenger, 1991). When people join these communities, they are still considered outsiders or newcomers and they are offered "legitimate peripheral participation" as referred to by Lave and Wenger, which is a "a region which is neither fully inside nor fully outside". Then and step by step, these novice participants move from the periphery of a community to its centre as they become more "active and engaged within

the culture and eventually assumes the role of an expert" through "growing involvement e.g., observation, special assistance, close supervision". In 1998 & 2006, Wenger advocated that we all – somehow – belong to CoPs either at home, at work or at school in addition to some or a number of hobbies "in some – CoPs - we are core members and in many we are merely peripheral and we travel through numerous communities over the course of our lives. In fact, communities of practice are everywhere. Social interaction and collaboration are necessary for 'situated learning' to take place by getting immersed in CoPs and absorbing its modes of action, beliefs and behaviours in order to become a community member (Wenger, 1998, p. 117; Lave & Wenger, 1991). Lave and Wenger's anthropological perspective advocated that learning is not only about "just receiving or absorbing information, rather increasing participation in communities of practice". Wenger's published book in 1998 "Communities of practice: Learning, meaning, and identity," focused on how learning – through CoPs – takes place in workplace. He stated that "resources shape people's learning trajectories and their professional identity". He confirmed that CoPs are becoming applicable to various context including business, organizational design, government, education, and civic life.

Wenger (1998) proposes that communities of practice can be brought together through seeding and nurturing with the aid of recognized experts. These experts, according to Latosha *et al.* (n.d) need to be educators who take on the role of 'masters' of knowledge. Undoubtedly the concept of

communities of practice has an impact on schools internally in how educators plan and organise educational experiences through participation in communities of subject content and how to connect the learners' experiences to actual practice through participation in broader communities even as a periphery. Authentic learning also offers educators the opportunity to bring the outside world into the classroom and in so doing allow learners to make the necessary connections that will empower them to transfer the skills and knowledge learned at school into their everyday lives outside school (Mims, 2003) thus also equipping them to be competitive in the global job market (Lombardi, 2007 as cited in David, 2007). Communities of practice have alternative names such as "learning networks, thematic groups or teach clubs". They also come in various forms and sizes either local or even covers the world; members could meet face-to-face or online; same are within the same organization or include multiple organizations, are either formal and financially supported or informal and completely invisible.

Methods:

This paper adopts exploratory quasi experimental design where a mixed quantitative and qualitative data collection methods were used. Data collection occurred sequentially through administering Phase I of collecting and analyzing quantitative data, followed by Phase II of collecting qualitative data in order to gain in depth understanding of the study variables and to triangulate quantitative data. Afterwards, results

were discussed and interpreted for implications and recommendations. The researcher (Teaching Assistant I - TA1) collaborated with one Teaching Assistant (TA2) and the ENG201 Subject Supervisor (SPV) to form the Lesson study team. The teacher-researcher acts as both the participating teacher and the facilitator to the study.

For participating students, it was very important that the researchers select a sample that is truly representative of the population characteristics to obtain results that enable generalizations and conclusions about the entire population (Leedy & Ormond, 2013). The research employed non-probability multi-staging sampling. First, the researcher used purposive sampling by selecting **one intact experimental group of** the Faculty of Pharmacy of 77 students (divided into two classes) from the already existing groups. These classes were randomly assigned as long as their timetables do not clash with one another and they fit in the collaborating teachers' schedules. The program commenced 17th of Feb, 2018 until 16th of May, 2018. It was administered to Year 2 - Pharmacy undergraduate students at MSA University in Spring 2018. The study lasted for one academic semester of three months (that makes 13 weeks including two weeks for midterm exams (see appendices for the weekly plan). The sessions were two-hour long delivered twice per week. In this study, four main quantitative data collection instruments were used:

1- A Pre-post Test (based on ENG 201 argumentative writing rubric)

2- Student's Evaluation of Teaching Effectiveness Questionnaire (based on Knight's Big Four teaching framework but phrased from students' perspective)
3- Student's Self Evaluation of Academic writing performance Questionnaire (based on ENG201 argumentative writing rubric)

Semi-structured Interviews with students, the Collaborating Teacher and the Subject Supervisor (Knowledgeable Other) followed to triangulate quantitative data.

Results:

Results showed that there is a statistically overall high evaluation of teaching effectiveness in classroom management, content knowledge and planning, direct instruction and formative assessment in favor of Post LS program (Table).

Table (1) Students' Overall Post Evaluation of Teaching Effectiveness

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Co-efficient variance of dissatisfaction	Percentage of satisfaction
Classroom Management	49	3.25	1.75	5	4.01	0.67	0.45	16.37	83.63%

Content Planning	49	2.43	2.57	5	4.13	0.60	0.36	14.49	85.51%
Direct Instruction	49	3	2	5	4.12	0.63	0.40	15.36	84.64%
Formative assessment	49	3.17	1.83	5	4.20	0.59	0.35	14.15	85.85%
Overall Evaluation	49	2.95	2.03	5	4.12	0.56	0.39	15.09	84.91%

From the above table, it is clear that the mean score of the overall students' evaluation of teaching effectiveness is 4.123 with a standard deviation of 0.56 and a co-efficient variance of dissatisfaction of 15.09 which is a small dispersion degree. This indicates that there is a 84.91% agreement among the study sample in regards to the overall teaching effectiveness of the four domains combined.

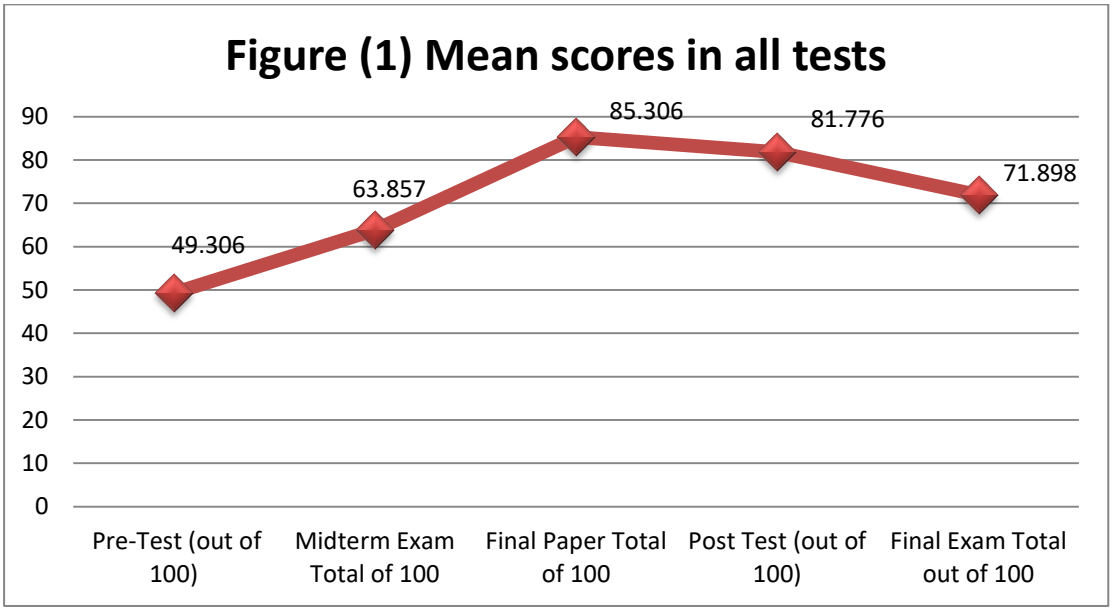
Moreover, there is a statistically significant improvement of students' overall academic writing performance in favor of post test and grades tests. Results are presented in Table (2) and Figure (1) below:

Table (2) Students' Overall Academic Writing Performance

Administration	Mean	Std. Deviation	Std. Error Mean
Pre-Test	49.306	17.615	2.516
Midterm Exam	63.857	10.946	1.563
Final Paper	85.306	15.695	2.242
Post Test	81.776	13.185	1.883

Final Exam	71.898	11.626	1.660

Grades are calculated out of (100)



From the above, paired sample T test was performed and it is evident that there is a statistical difference of students' academic performance between the mean scores of the Pre and Posttest in favor of the Post test. The mean score of the Pre-test was 49.306 with std. deviation of 17.6153; whereas, the mean score of the posttest was 81.776 with a std. deviation 13.1850. This means that the Lesson Study training approach has a significant impact on enhancing students' academic writing performance in the post test. Following are the details:

Discussion and recommendations:

In general, results show a very positive impact of LS-based training approach on improving the overall teaching effectiveness and that there is

a statistical difference of students' academic performance between the mean scores of the Pre and Posttest in favor of the Post test and that the Lesson Study training approach has a significant impact on enhancing students' academic writing performance. Moreover, Lesson Study approach had an impact on enhancing students' overall academic performance in the midterm exam, term paper and final exam. Statistics show that there is an overall significant self-satisfaction of their academic writing performance in favor of Post LS program.

Recommendation and conclusion:

It is also recommended that teachers observe their debriefing sessions and observe themselves discussing students' learning. Each observer should not comment on too many aspects of the lesson at once, so that other observers have an opportunity to share their insights. This procedure prevents one observer from dominating the feedback session and allows space to listen to others, wait, and keep silent when needed. Moreover, frequent but shorter, communicative and effective meetings have more impact than fewer and longer meetings.

Teacher should master group work logistics starting from explaining instructions, dividing students into groups, distributing roles among students, monitoring work, supporting strugglers and encouraging good work, commenting and giving feedback, and assessing students' work.

Teachers should not follow the exact script of teaching; they should vary their teaching styles but agree on the big frame such as using similar

activities, standardize, assess and achieve similar lesson goals. They should follow students' learning needs and flow from there, which adds more flexibility and individuality to the lesson.

Outside Japan, it is recommended that teachers do the second iteration of the lesson, not to perfect a single lesson, rather to learn from the process about teaching and learning (Lewis & Hurd, 2011, P. 63). By re-teaching the lesson, teachers self-remedy their pitfalls, hone down their teaching skills, become sensitive to each others' limitations and get immersed in a Community of Practice that learns.

Teachers should map their curriculum at the beginning to choose key lessons or concepts to be researched during LS Cycle. Mapping and Planning content beforehand enable students to make decisions about difficult lessons or newly integrated lessons, agree or disagree on main concepts. It also includes decisions on when to flip classes or use blended learning, where knowledge should be updated or when activities need to be constructed. In addition, mapping content will enable the team to formulate long term objectives and life skills such as developing a research lens and giving credit to authors, to be developed a long the course (Doig & Groves, 2011, Pp. 81-85).

Teachers should exert more efforts to design activities that are interesting, motivating, and enjoyable to boost students' motivation and encourage attendance and engagement especially at Tertiary education. It is recommended that University students should be engaged in a meaningful

experience where they tackle authentic topics, write for a clear purpose and address a real audience – an experience that helps them become acquainted with the different stages of writing process, and enable them to manage their time more efficiently. Instead of lecturing, teachers should dedicate more time to construct practical compelling activities that are steered towards developing their life skills.

It is recommended that academic writing fundamental concepts be standardized across all writing courses where students could study them on their own via flipped classrooms. In that case, teachers should direct their efforts to designing activities in class rather than struggling with explaining basic key concepts. Flipping classes would help standardize teaching by redesigning discrepancies among teachers and thus class time could be exploited to augment/complement lecturing, holding debates, resolving misconceptions, enhancing presentation skills and thus leaving room for practice writing.

A careful balance between process and product approaches must be maintained. While guiding students through different stages of writing process, teachers must provide learners with a model that keeps them on the track and helps them meet rhetorical conventions required by the genre they are writing in. (Brown, 2000). Teachers should help students break down the process of writing into manageable chunks as they focus on one stage at a time. Walking students through the different stages of writing process will 1) assist students generate ideas, thoughts, and

connections, and plan them logically using effective prewriting strategies; 2) help them write a draft without a lot of editing and develop their ideas more fully; and finally, 3) encourage them to use revision strategies to make one's draft as reader-friendly as possible and detect any layout or language errors.

Students would benefit if the start by viewing a sample or (exemplary) final paper and know what is expected of them, analyze it under teachers' guidance and then use a schemata (writing checklist or template) to learn the process of producing this example. Students should also start by outlining their researches (proposal) when students can see the full picture and make modifications before they start their final research paper.

Reading and writing must be connected, as the former informs the latter and represents an indispensable input source for students. Students learn to write by reading materials written by others, observing and analyzing models, and imitating techniques and strategies (Brown, 2000; Whitaker, n.d.). Reading must be included as an independent module to ensure appropriate instruction of this skill is not neglected. (Bouchefra, 2015). It is advisable that any writing course should be taught in line with a language enhancement course. Another way to improve students' language skills is to develop their presentation skills. Students could practice presentations through argumentation and debating**.** Speaking activities such as debating inspires the written work. It is essential that language skills be addressed to enhance students' vocabulary and

grammatical structures. A parallel English language program is needed to improve students' writing performance.

Students must be allowed ample opportunities to write and practice what they have learned, as "students learn to write best when they write frequently, for extended periods of time" (Peha, 2003, p. 3 as cited in Bouchefra, 2015). Life skills and application of the learnt concepts should be stressed at the University level. More hours should be dedicated to the instruction of such a significant and complex skill like writing in order to allow teachers enough time to apply writing workshops and give students enough time to go through the different stages of writing process and practice as much as they should. That is why a writing instruction framework must be put in place to ensure limiting lecturing time to a minimum, dedicate enough time for practice and integrate writing process and practice, conferencing, and giving feedback.

The LS outcomes could be doubled or tripled if individualized workshops or counseling, mentoring and pairing programs and online support are designed, implemented and offered to students to enhance their academic writing performance.

Constructive feedback must be provided to students in regards of their writing. The feedback must be provided throughout the writing process as this helps teachers cover issues beyond layout errors and steer students' writings in the right direction (Bouchefra, 2015). Students must also be allowed the chance to see their examination answer sheets and their

coursework grade before the final exam, so they can identify their mistakes and learn from them. Students benefit if given varied feedback in a timely manner before their final exam. Sharing rubrics and helping students identifying and working on their weak points. Peer correcting and sharing common mistakes enhance students' self-confidence, risk raking and sensitivity to mistakes.

Students need motivation, encouragement and praise to progress their studies. Teachers should avoid using negative, harsh and discouraging language with University students. Teachers have to strike a balance between being too serious and too lenient. This could be achieved through continuous communication with student to build rapport and trust.

Teachers should develop the art of asking High impact questions, which is a very powerful tool to assess students' understanding and engages them in their learning process. Students' enthusiasm for learning could be ignited if asked leading and detailed questions which help externalize students' understanding and/or misunderstanding (Dubin, 2009, P. 31).

Conclusion and further research:

The current study has investigated the impact of LS – based training program on enhancing teaching and learning. It is important to notice that LS is still unknown in the Egyptian Private University level. While trying to achieve improvement, LS push open the doors of communication, collaboration and self- critique which was non-existent prior to LS.

Results from this study point to themes that would be ripe to investigate in further research as per the following:

1- Links between lesson study and student learning have been based largely on subjective ideas about teacher quality. Other qualitative research methodologies have the potential to illuminate the teacher beliefs and attitudes that support meaningful participation in lesson study.
2- Comparative research involving teachers from Japan and the Arab world can explore cultural influences on lesson study and might point to more effective adaptations of the policy in Arab countries.
3- There is a need for more prolonged and extensive research and analysis regarding the effect of lesson study on teaching and student learning. Given the capacity for lesson study to change the culture of teaching, longitudinal studies are needed to track changes in teaching and learning over time.
4- Larger, randomized sample sizes can yield more generalized and reliable. An experimental design where teachers are randomly assigned to participate in lesson study might point to causal relationships between lesson study, changes in teaching, and increases in student learning.
5- The study would benefit more if undergraduate students and TAs from other faculties and other subject areas experienced the LS approach.
6- More research is needed for English language in general and academic writing in particular to illustrate the effectiveness of lesson studies in

bringing about improvement in English academic writing and its important adaptations to curriculum, teaching contexts and under linguistically diverse settings such as Egyptian Universities. More theoretical investigations would be needed to explore the effect of LS approach in Tertiary education in different subject matters as well.

7- Further research of the reasons behind why some areas of teaching effectiveness such as direct instruction and classroom management needed attention than content knowledge and formative assessment at the University level is needed. More data is required to understand the reasons behind why not all sub writing skills were developed equally.
8- More research is needed on how to guarantee that students would view flipped classrooms videos and perform their assigned tasks in order to activate blending learning approach.
9- Ways to address the common concerns about the amount of time and continued support from the school community requires more exploration.
10- More research in the Arab region is required to explore the fidelity to the Japanese Lesson Study Approach.

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