

## **Lesson Study Model and Expectations of Prospective Teachers: Multiple Case Studies**

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### **Abstract**

This study was conducted to explore the expectation of prospective teachers from the practice of lesson study model. It was a qualitative study in which multiple case studies design was utilized for investigation. All prospective teachers of the four years Bachelor of Science program and cooperative teachers constituted the population of the study. By using purposive sampling technique, researcher selected eight prospective teachers and four cooperative teachers. Data collection tools were focus group discussion, researchers' artifacts, drafts of research lessons, observations, videos of research lessons, and interviews. Data collection was based on the cycle of eight weeks. Inductive content analysis and thematic analysis techniques were utilized for analyzing collected data. As findings indicated that in fulfilling the expectations of prospective teachers, practice of lesson study model has proved very operative, hence researchers recommended that this model may be introduced as a compulsory component of course outlines at higher/teacher education institutions.

**Keywords:** Expectations, Prospective Teachers, Professional Development, Lesson Study Model, Cooperative Teachers

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## **Introduction**

In the area of teacher education, offering striking opportunities for professional development to Prospective Teachers (PTs) has become a global concern for teacher educators. In this regard, efforts are being made to explore the expectations of PTs from various models of professional development that are being practiced during their teaching practice. Yavuz Tabak et al. (2020) have conducted research study to explore the expectations of PTs and have outlined that expectations of prospective teachers can provide deep insight for upgrading the quality of teacher education programs as well as professional development opportunities. Besides it, Holbert (2015) identified that in the 21st century a growing trend among researchers has become to explore the skills and competencies which teachers require for ensuring the success of the teaching-learning process. And these expected skills and competencies are playing a pivotal role in motivating teacher educators and concerned authorities (Darling-Hammond et al., 2005) to upgrade the quality of teachers' professional development programs.

Wallace et al. (2001) indicated that encouragement must be provided to teachers for doing collaborative work, sharing ideas/experiences, and utilizing innovative teaching strategies to bridge the theory-practice gap. According to Burns (2014) observation/assessment, open classrooms, Lesson Study (LS), study groups and looking at students work are five famous models of teachers' professional development. In the present research; the researcher practiced lesson study model as researchers (Jumani et al., 2018) explored that LS model can contribute a lot in bridging theory-practice gap and promoting collaborative attitude among PTs.

## **Purpose Statement and Objectives**

Present study was conducted to reconnoiter the role of LS model in offering ample opportunities for professional development for PTs. In this regard, a group of PTs was selected with a formal consent of teacher educators (who were supervising these PTs during their teaching practice). And for practicing lesson study model with PTs in a real context (at schools, where they were placed for teaching practice), formal permission was taken from schools principals through proper channels. Model of lesson study (presented by McSweeney & Gardner, 2018) was practiced in this study and pictorial as well as a brief description of this model is as follows:

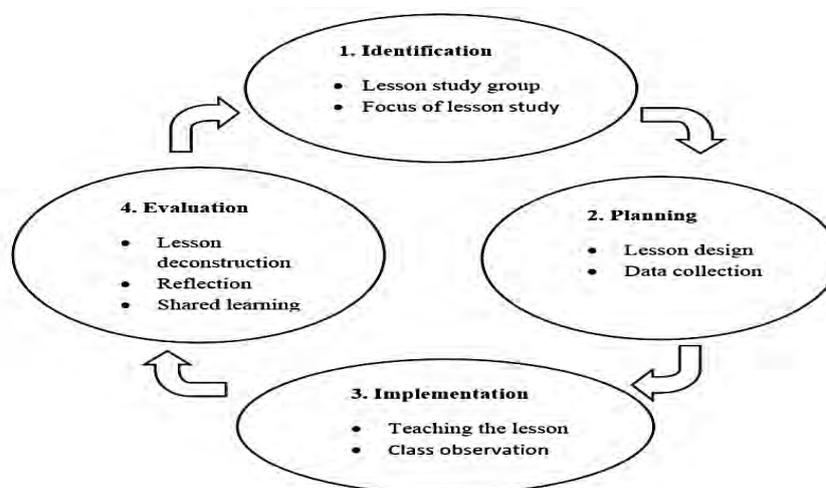


Figure 1. *Selected Lesson Study Model for Practice*

This model demands from researcher to select a lesson study group (comprised of PTs) and after briefing them about study purpose as well as the whole process, direct that group to identify the most challenging content area from the subject that they are teaching during their internship. In the second stage, a group of prospective teachers collaboratively plan the lesson with the adequate assistance of experienced teachers and design/select teaching-learning activities/pedagogical techniques accordingly. During the third stage, one teacher from the group of PTs presents that lesson, his/her fellow teachers and experienced teachers observe that lesson for highlighting weak areas and suggesting improvements. And at the last stage “evaluation” reflections composed by fellow and experienced teachers are addressed to improve the lesson draft for the second round presentation. And after that presentation, post-lesson reflections of PTs are examined to determine the effectiveness of the lesson study model in fulfilling their expectations.

Key objectives of this research were to: explore the expectation of PTs from the practice of LS model, practice LS model with the help of the cooperative teacher in an actual context, address the observations of cooperative teachers and researcher about presentations, examine the post-lesson reflections of PTs for exploring the effectiveness of LS model, and compare the expectations of PTs and their post-lesson reflections.

### **Significance and Delimitations of the Study**

National Education Policy (2017) of Pakistan highlighted that in order to bridge the theory-practice gap of teacher professional development programs, it is incumbent to offer momentous opportunities of professional development for PTs and offer them great assistance during training phase. This study is a step forward to address national

aspirations concerning the professional development of nation builders. This study is significant regarding the research setting as it offered opportunities to PTs for practicing LS model in the real school environment. Furthermore, PTs worked under the guidance/assistance of cooperative teachers and researcher throughout the whole process and this practice has proved very contributive in improving their instructional practices. This study has familiarized PTs with the actual importance of LS model in upgrading their pedagogical content knowledge. This study has also enabled PTs to maintain strong and professional interactions with teachers and students.

This study was delimited to PTs of IIUI who were enrolled in the BS (Hons) program of Education and CTs who were supervising PTs during teaching practice. These PTs were working as interns at various schools/colleges of Islamabad; but for present study, PTs were selected from only one school and one college as required number of PTs (3-4) to form LS groups was available only in these two institutions.

### **Literature Review**

For professional development of PTs, LS model is in practice as an effective tool since 1873 and it has been explored by Arani et al. (2010) that the main purpose of utilizing that model was offering professional development opportunities to prospective teachers in a practical environment. Initially, this model was termed “JugyoKenkyu” (a Japanese term) which was translated in English as the study of instruction and a detailed description of this model was drafted by Stigler and Hiebert (1999). Various versions of this model have been developed by researchers (Mee & Oyao, 2013; Fujii, 2014; McSweeney & Gardner, 2018). And it has been observed that there are four major phases in this model which are identification (goal setting), planning (developing lesson plans), implementation (writing reflections), and evaluation (providing feedback for improvement). In current scenarios, it has been explored by Wood (2018) that now the practice of LS model for professional development of prospective teachers is not limited to Japan but it is being practiced worldwide i.e. in various states of USA and Europe, as well as in number of countries of Asia and Middle East.

Cumulative overview of studies regarding the implementation/practice of LS model in real context reflected that it can serve as the most reliable model not only for the professional development of prospective but experienced teachers as well. Regarding the expectation of prospective teachers, McDowell (2010) explored that LS model is serving as a strong motivator for PTs to transfer the learned knowledge in the actual classroom during teaching practice. Hamzeh (2014) described that practice of LS model can prove very substantial to upgrade the self-efficacy’ level of prospective teachers as it has offered them opportunities of implementing the collaboratively planned lessons in real context with the help of experienced teachers. In the same area; Carroll (2013) outlined

that practice of this model can not only boost up the confidence level of PTs, but it can also improve their collaboration, communication, questioning, and writing reflection related skills in an appreciable way. In the same area, it has been explored by Chassels and Melville (2009) that LS can serve as an effective model to upgrade PTs' familiarization about identifying learners' needs as well as the practice of diverse teaching strategies for addressing the learning needs of all students.

## **Research Methodology**

### **Philosophical and Methodological Assumptions**

In the present research, the researcher has followed the characteristics of the social constructivist paradigm as it emphasizes the collaborative working of group members, effective social interaction, experience sharing, extensive discussion, and reflective practices (Wilén et al., 2004). And it has been also advocated by famous educationist Dewey (1859-1952) and renowned psychologist Vygotsky (1896-1934) that socialization among teachers can prove very helpful in enriching their instructional practices. Basic assumption of the lesson study model also inferred that the main focus of this model is to offer a real environment of practice to prospective teachers so that they can work collaboratively with fellow and senior teachers. This model also promotes the habits of experiences sharing, teamwork, and practicing learner catered strategies to make the classroom interactive, and writing reflections among teachers.

In terms of epistemological assumption, this study focused on generating knowledge from pre and post-lesson reflections of PTs, observations of cooperative teachers, and researchers' artifacts. In order to fulfill the axiological assumptions researcher has taken formal permission from the university, school, and college administrators to involve PTs in the practice of LS model and practice lesson study model at their institutions respectively. The researcher has taken formal consent from PTs to participate in this study for practicing LS model and ensured them about the confidentiality of collected data. In internship courses; PTs is graded at the end of the semester by university administrators, therefore after discussing with them the purpose and process of study PTs were also ensured that their participation in the practice of this model will not affect their final grading. An environment of trust, mutual respect, support, and providing constructive feedback was maintained for this study.

This study was qualitative in nature and multiple case studies design was utilized for investigation as according to Cresswell (2013) this design allows the researcher to collect data from real-life experiments and detailed collection sources. The context for this study was one university (where prospective teachers were enrolled for their degree program and come once in a week for sharing their experiences as well as taking direction

regarding internship related tasks) one college and one high school. As it has been identified by researchers (Cerbin & Kopp, 2011) that for formulating groups to practice LS model three to six teachers may be involved; therefore institutions having required number of PTs were selected. The researcher emphasized keeping data collection tools open, broad, and discussion-oriented. PTs were also directed to work as a team and take assistance from cooperative teachers and researcher throughout the practice of the lesson study model (wherever they get stuck).

### Population and Sample

Total PTs of BS (Hons) education program at IIUI were 19 and they were placed at nine different Islamabad based colleges and schools for teaching practice (long term internship: which is of 4 months and take place in the last semester of the degree program, before that internship students are sent to various schools and colleges for short term internship of 20 days during second last semester of the degree program) all these PTs and Cooperative Teachers (CTs) that were 18 in number constituted the population of the study. For the selection of the sample, purposive sampling technique was utilized and researcher selected 8 PTs that were placed in the form of groups (4+4) at one school and one college. CTs which were four in both institutions (2+2) for providing required directions and assistance to PTs during their internship generally and in the practice of lesson study model specifically were also familiarized with the complete process of practicing lesson study model. A brief description of selected cases and research process employed in this study is as follows:

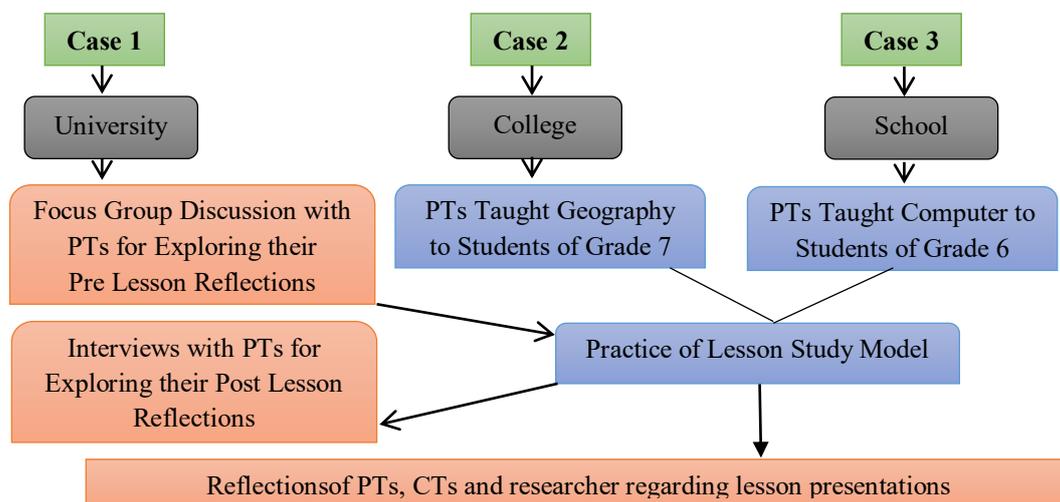


Figure 2. Overview of Cases and Research Process

### Research Instruments

In this multiple case studies research, researcher has utilized various data collection tools to get detailed information about the role of LS model in fulfilling the expectations of prospective teachers. Major data collection tools were focus group discussion, researchers' artifacts, drafts of research lessons, observations, videos of research lessons, and interviews.

### Validity and Reliability of the Instruments

For ensuring the validity of interview guide and observation sheet (that were developed for prospective teachers), expert opinion was taken from senior teacher educators of International Islamic university and vice principals of selected college and high school. Required changes were made in both instruments based on the suggestions of experts. And after pilot testing, value of Cronbach alpha was calculated to check the reliability of observation sheet and the obtained value was 0.73 that was found satisfactory to carry on the observations.

### Data Collection

This research study was based on the cycle of 8 weeks. Data collection detail related to each week has been given in the following table:

Weeks	Major Activities
1	For practicing LS model with PTs at schools, the researcher conducted a meeting with: <ul style="list-style-type: none"> <li>• University supervisor to take their permission for engaging PTs</li> <li>• Schools Principals for getting their permission to work in their institutions</li> <li>• PTs to brief them about the study purpose and take their formal consent</li> </ul>
2	<ul style="list-style-type: none"> <li>• A FGD was arranged by the researcher at the university with PTs for exploring their expectations</li> <li>• The researcher conduct a meeting with CTs of the selected institution and brief them about the study purpose and process to practice LS model</li> <li>• Title of Group 1 was denoted to PTs who were working at college and Group 2 to PTs who were working at school</li> </ul>
3	For practicing lesson study model, with the help of researcher and CTs: <ul style="list-style-type: none"> <li>• Group 1 selected the topic of "Mountains and Plateaus" of Geography (Grade 7)</li> <li>• Group 2 selected the topic of "ICT Fundamentals" of Computer (Grade 6)</li> </ul> These topics were selected as they were found most challenging by PTs to teach and a template of research lesson was provided to PTs for preparing 1st draft of the lesson
4	Both groups prepared the 1st draft of lessons along with required audio-visual aids with the help of the researcher and CTs
5	Both groups presented their drafted lessons on scheduled days (the lesson was presented by 1 PT from each group). CTs, researchers, and other PTs were observing the lesson and writing the points for lessons' improvements
6	The researcher conducted meetings with PTs and CTs at both selected institutions for improving the research lessons keeping in view the observations data
7	Both groups presented their final lessons on scheduled days (the lesson was presented by 1 PT from each group)

8	<ul style="list-style-type: none"> <li>• The researcher arranged a meeting with PTs and they were interviewed for exploring their post-lesson reflections</li> <li>• On the completion of the whole process, the researcher offered a celebration lunch to PTs</li> </ul>
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### Data Analysis and Interpretation

Inductive content analysis technique was utilized for the analysis of data collected from FGD, researchers' artifacts, drafts of research lessons, observations, and videos of research lessons. While the thematic analysis was carried out for analyzing data collected via interviews.

### Findings of the Study

#### Findings on PTs' Expectations from LS Model

Prior to the practice of LS model; a focus group discussion was conducted for PTs and researcher motivated them to compose their expectations (sort of reflections) which they have from this process. Their expectations indicated that they want to improve a number of skills with the practice of LS model; in figure 3 some major skills highlighted by PTs of both institutions have been outlined.

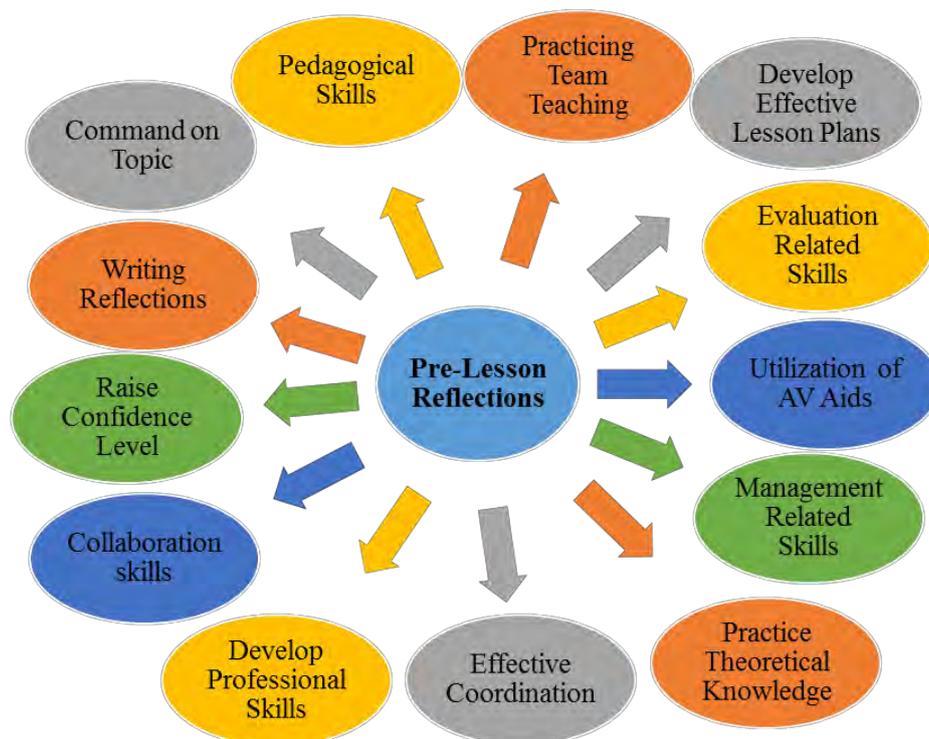


Figure 3. PTs' Expectations

Figure 3 reflected that during the FGD, PTs of both groups prescribed a lot of expectations from the practice of the lesson study model. Two PTs stated that we are confident that practice of this model will not only upgrade our pedagogical skills but it will also offer opportunities for teamwork and in the future habit of teamwork can prove very supportive for effective instruction. Two PTs stated that, as practice of LS model has contributed a lot in improving their skill of collaborative work, therefore they are sure that its practice will play a contributive role in upgrading their skills related to evaluation, development of low cost-no cost audio-visual aids, and classroom management. Three PTs expected that the practice of LS model will enable them to ensure effective coordination with colleagues and it will be a positive sign of developing professional as well as collaboration skills among them.

Besides, these expectations, they also narrated that practice of this model will train them in the area of reflective practices and when they will write reflections about their own as well as other' instructional practice, then they will become able to provide constructive feedback for improving lessons plan and presentation related competencies. After deciding the challenging area of the subject, which prospective teachers were teaching to students of Grade 6th and 7th, they developed detailed lesson plans for presentation with the assistance of CTs and researcher. Prospective teachers were informed that now at the next phase, one of them will give a presentation and others will write down points for improvement. They were also directed that they have to write reflections about instructional practices of teachers and not about teachers' personalities.

## Findings on Lessons' Presentations

### Reflections of PTs (Group 1) CTs and Researcher about Lesson Presentation

During the first round of lesson presentations, PTs of both groups were very active and enthusiastic. In the first session, the lesson of Geography subject was presented by group 1 and during this presentation, PTs noted the following points for lesson improvement:

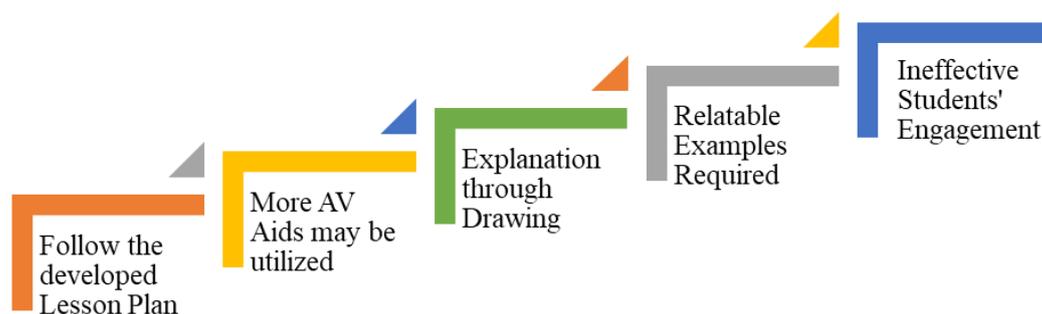


Figure 4. Reflection of PTs

Points noted by PTs reflected that their fellow teacher did not follow the developed lesson plans and she remained unable to engage all students in the classroom. They further indicated that lesson presentation may be improved by developing some more attractive audio-visual aids, drawing some pictures related to the topic on board, and giving relatable examples from daily life experiences. CTs and researcher also noted some points for improving the instructional practices of PTs, description of these points is as follows:

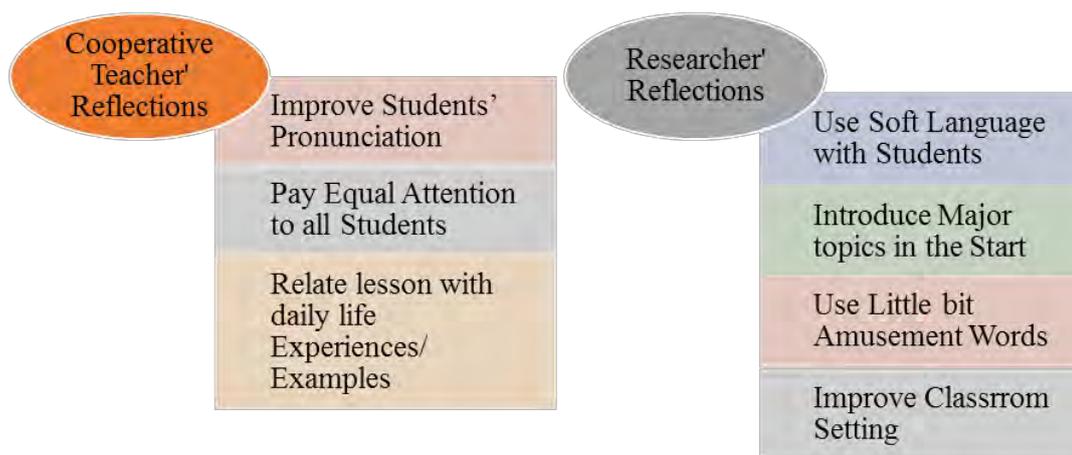


Figure 5. Reflections of CTs and Researcher

Their reflections indicated that lesson presentation may be improved by following the above-mentioned suggestions (Figure 5). And after that presentation, PTs were directed to improve lesson plans keeping in view the points suggested by fellows, CTs, and researcher. They were also directed that they can get help from CTs and researcher, wherever they get stuck.

### Reflections of PTs (Group 2) CTs and Researcher about Lesson Presentation

In the second session, the lesson was presented by PTs of group 2 who were teaching the subject of computer education to students of grade 6. One PT presented the lesson and others note down points for improvement. Summary of PTs noted points is as follows:



Figure 6. Reflection of PTs

Their points reflected that teacher was neither careful about the tone of voice nor was asking questions from all students. Furthermore, they highlighted that focus of the teacher must not be on content coverage as this action can create disturbance in class and lesson presentation may be further improved by asking some more relevant questions during PK (previous knowledge) testing. The researcher and CTs also note down some points for improving instructional practices of PTs and summary of their reflections are as follows:

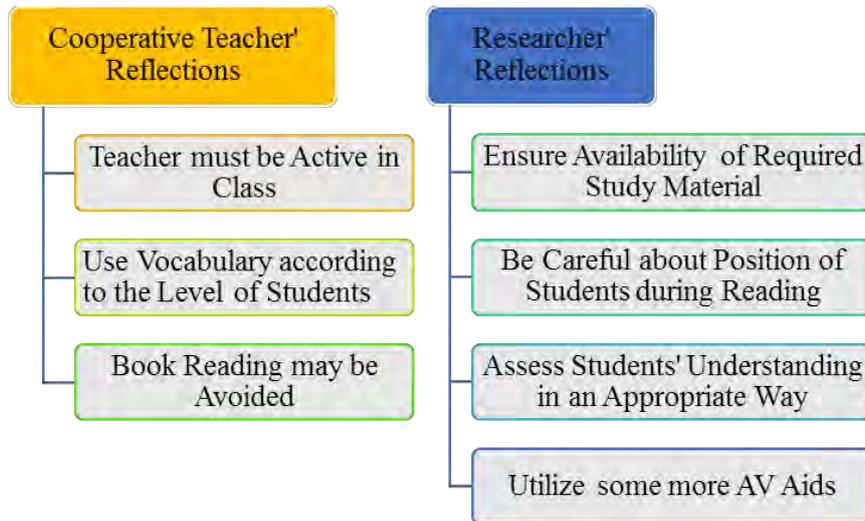


Figure 7. Reflections of CTs and Researcher

CTs and researcher' reflections indicated that there were some lacking's in the lesson presentation and it may be improved by following the above-mentioned suggestion (Figure 7). After that presentation, PTs of group 2 were also directed to improve lesson plans keeping in view the reflections of fellows, CTs, and researcher. They were also directed that they can get help from CTs and researcher, wherever they get stuck.

*Researcher' Note*

*Keeping in view the observations recorded by prospective teachers and reflections noted by cooperative teachers and researcher; both groups of prospective teachers updated their lesson plans and also developed more relevant audio visual aids with the assistance of cooperative teachers. During the second round of lesson presentations, instructional practices of prospective teachers were observed by researcher and cooperative teachers and lot of improvements were observed during that round. After completing the both cycles of lesson study model; prospective teachers were directed to attend a meeting conducted by researcher at university. In this meeting, they were asked to write post lesson reflections. And after completing this task, they enjoyed a surprised celebration lunch along with researcher.*

Figure 8. *Researcher' Artifacts*

**Findings on PTs' Post Lesson Reflections**

For exploring the post-lesson reflections of PTs, 10 major themes were included in the interview guide. A pictorial and detailed description of these themes is as follows:

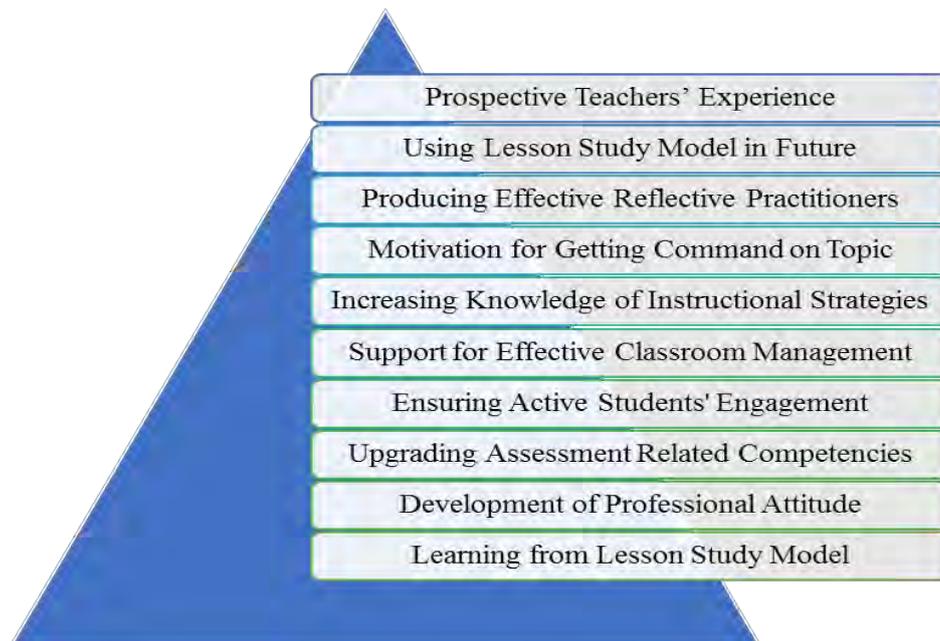


Figure 9. *PTs Post Lesson Reflections*

Prospective teachers indicated that their overall experience regarding the practice of LS model was very good, as during this practice we learned to work in a team and have practiced multiple strategies for ensuring effective participation of students during classroom activities.

One PT indicated that the *practice of this model has enabled me to overcome the theory-practice gap as before it I was confused about the practice of learned knowledge in a real environment*. Their cumulative perception indicated that participation in the practice of LS model has resulted in building their confidence level and developing moral values (cooperation, respecting other views, providing constructive feedback, etc.) among them. All the PTs (eight) who showed active participation during whole research process reflected that will preferably practice LS model in the future as this model has trained them for designing comprehensive and detailed lesson plans to deliver lessons in an effective way.

When PTs were asked about their experience of practicing LS model regarding reflective practices, they stated that during the practice of this model they were provided ample opportunities to observe the instructional practices of not only their fellow teachers but also of experienced CTs. PTs further described that, they were habitual of using the lecture method wholly solely for teaching at school/college prior to the practice of this model. PTs responses indicated that one of the major challenges that they were facing in their classroom before the practice of this model was to ensure effective management. Their cumulative responses indicated that as they arranged multiple activities for students in classes, therefore students were fully engaged in performing those activities and were not creating a disturbance in the class.

As an effective assessment system is considered the key to a successful instructional process, PTs responded this practice has increased their knowledge regarding the successful practice of varied assessment techniques other than a paper-pencil test. This practice is also very significant for developing professional attitudes among PTs. One PT indicated that *“practice of this model has not only improved our communication and coordination skills, but it has also enabled us to attain professional traits such as commitment towards tasks, respecting other views, completing tasks on time, etc.”* Their cumulative responses showed that activity of practicing LS model has sensitized them that teachers’ attitude and communication skills leave an everlasting impact on students’ personality, so teachers are expected to behave professionally at educational institutions.

PTs responses indicated that they have learned a lot from this activity and practice of LS model has considerably fulfilled their expectation. Major skills that PTs learned after practicing this model were: working in a team, providing constructive

feedback, practicing innovative teaching-learning strategies, developing and utilizing no-cost-low cost attractive audio-visual aids, planning lessons comprehensively, clearly stating the learning outcomes, writing reflections for improvement purposes, getting directions from senior teachers for improving instructional practices, and ensuring the active engagement of all students in classrooms.

### **Results and Discussion**

Results showed that prospective teachers have a lot of expectations from the practice of lesson study model and these expectations of prospective teachers have motivated researcher and cooperative teachers a lot in providing effective opportunities for professional development to PTs and they have provided time to time required assistance and guidance to PTs. These findings are aligned with the findings of Darling-Hammond et al. (2005) as they indicated that expected skills and competencies of PTs are playing a pivotal role in motivating teacher educators and concerned authorities to upgrade the quality of training programs. Practice of LS model has provided opportunities to PTs for practicing their learned knowledge in actual context; this finding is supported by McDowell (2010) as he also explored that the lesson study model is serving as a strong motivator for PTs to transfer the learned knowledge in an actual classroom during teaching practice. Observations have played a significant role in supporting PTs to upgrade their confidence level and improve the quality of research lessons. And it has been also explored by Hamzeh (2014) that participation in the process of practicing LS model can contribute a lot in upgrading the self-efficacy' and confidence level of prospective teachers.

Post lesson reflections of PTs indicated that practice of LS model has supported PTs for improving their abilities related to collaborative work, the practice of multiple assessment techniques, and representation of confident and professional attitude. These results are associated with previous research studies conducted by renowned researchers (Chassels & Melville, 2009) who have explored that practice of LS model offered effective opportunities for teachers to improve their collegial interaction related competencies and to upgrade their skills for practicing diverse teaching and assessment related strategies. Results of study also indicated that practice of this model has fulfilled the expectations of PTs to great extent. Findings of the present research study have been also supported by viewpoints of many researchers (Jumani et al., 2018; Carroll, 2013) as they explored that LS is very operative model for boosting the confidence level of PTs, promote collaborative attitude among PTs, enable PTs for bridging the theory-practice gap, strengthen their pedagogical skills, and develop the habits of experiences sharing as well as writing reflections among PTs.

## **Conclusions**

Results showed that prospective teachers have a lot of expectations with the successful implementation of LS model as they stated that this model will improve their instructional practices to great extent. Expectations of prospective teachers have motivated researcher and cooperative teachers a lot in providing effective opportunities for professional development with close coordination. Practice of LS model in school/college has provided ample prospects for PTs to practice theoretical knowledge in real classrooms and improving their skills related to professional teaching, teamwork, writing reflection, getting command on topic, and practice of innovative pedagogical strategies.

## **Recommendations**

Based on findings, the following recommendations have been made: teacher education institutions can include this model in their course outlines as a compulsory component for familiarizing PTs with its real essence a very basic level. As the suggestions provided by the senior teachers played significant role in upgrading PTs lesson planning and lesson presentation related skills, therefore it is recommended that teacher educators may take the necessary initiative to train and guide cooperative teachers who take the responsibility of PT professional development so that they can provide effective guidance to PTs. As this practice has improved instructional competencies of PTs to a great extent and improved competencies of PTs can play important role in improving the teaching environment at educational institutions, therefore it is recommended that cumulative efforts may be taken by teacher educators and school principals for successful implementation of this model during the internship programs of PTs. As the practice of this model demand from PTs to practice innovative pedagogical and assessment-related strategies, therefore it is recommended for teacher educators to emphasize on familiarizing PTs with emerging trends in pedagogy and assessment during course work so that they can perform well during their practice phase.

In this study, lesson study was practiced with the limited number of PTs and CTs, future research studies may be conducted by involving greater number of PTs, CTs, and teacher educators. In the present research, CTs and PTs observed the presented lesson and wrote reflections on their own, during future practices, a checklist for observation of lesson presentation may be provided to them for getting more accurate and detailed feedback. This study focused on exploring the expectations of PTs and the role of the LS model' practice in fulfillment of these expectations, future studies may be carried out for exploring the usefulness of the LS model by taking some other indicators from the teaching learning process such as students' achievement, classroom environment, and so on.

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