**CHAPTER V**

**RESEARCH DISCUSSIONS**

**A. Introductions**

Two broad themes emerged of five research questions regarding the benefits of the collaborative lesson study process: improving classroom pedagogical teaching practices and gaining a sense of professionalism. The theme of improving practices was reflected in teacher comments about the opportunities that lesson study provided for careful planning, more reflections about teaching and learning process, observing student learning behaviors, improving content knowledge, changing in practices, and learning new ideas about effective teaching. The lesson study process led to a new focus on promoting student learning rather than simply “achieving learning score or memorizing learning materials.” The teachers believed lesson study resulted in changes in classroom practice and new ideas about the active, creative, effective, innovative, and joyful teaching and learning. This kind of instructional strategy had been suggested to be used in the Competency Based Curriculum (CBC) since 2004, which was so called (*PAKEM – Pembelajaran Aktif, Kreatif, Efektif, dan Menyenangkan*), but in fact only a few teachers could practice it due to the lack of knowledge and experience of teachers (Hendayana,et al., 2007).

This section was aimed at discussing the findings of the study. The findings of this study especially those related to pedagogical competence and professional development were discussed within Ministerial Education and Culture’s policy of teacher professional development (2012) and MONE’s assessment gratings (blueprints) of pedagogic and professional competence of teacher certification consortium (2010). Themes in the findings would be grouped in two categories of teacher competency, namely pedagogic and professional competences. Accordingly, Indonesian government policy and regulation defined teachers’ pedagogical competence as the understanding of basic education, students, curriculum development, lesson plans, dialogical teaching and learning process, learning evaluation, and students potential developments (Ministerial of Education and Culture, 2012). In detail each element of pedagogic competence can be translated into sub-competence and indicator as follows:

a. Understanding learners. This sub-competence specifies essential indicators namely: understand learners by utilizing the principles of cognitive development, understanding the learners by utilizing the principles of personality, and identify participants early teaching supplies.

b. Instructional design, including understand the educational foundation for the sake of instruction. This sub-competence indicates essential indicator such as: applying the theory of teaching and learning, determine the learning strategies based on the characteristics of learners, competency to be achieved, teaching materials, and develop a lesson plan based on the strategy chosen.

c. Conducting instructional process. This sub-competence refers to essential indicator: creating instructional background (setting) or environment, and conducting a conducive learning.

d. Designing and implementing evaluation. This sub-competence shows essential indicators: conducting the evaluation (assessment) of learning process and learning outcomes on an ongoing basis with a variety of methods, analyzing the results of the assessment of learning process and the learning outcomes to improve the level of mastery learning (mastery level), and utilize the results of assessment of learning for improvement of quality of the learning program.

e. Developing a learner to actualize their potential. This sub competence involves essential indicator, such as: facilitating learners to develop various potential academic, and facilitate learners to develop a range of non-academic potency.

While professional competence is defined as an ability dealing with the mastery of instructional materials which appropriate with the field of study widely and deeply that covers the substance of curriculum material content of subject matter in a school and substance of knowledge that overshadow the curriculum materials as well as adding depth of knowledge for teachers (MONE, 2010; MOEC, 2012) . In detail each element of competence has its sub-competence and essential indicator as follows.

a. Mastering scientific substance associated with the field of study. This sub-competence shows essential indicators namely to understand teaching materials in the curriculum of the school, understand the structure, concepts and methods of science that overshadow or coherent with the teaching materials, understand the relationship between the concept of related subjects, and apply scientific concept in everyday life .

b. Mastering the steps of research and critical analysis to broaden and deepen knowledge/ subject material.

This study explored the impact of Lesson Study process to build the capacity of pedagogical competence and professional development were strongly associated with the impact on teachers teaching and students learning. This chapter discusses the findings of the research which analyzed by using a qualitative approach dealing with the research questions as well as related to the field of literature used in chapter two.

In addition, it is also discussed the barriers of the lesson study process and theoretical implication of implementing lesson study. Obstacles in the implementation of lesson study are very diverse. Of the many obstacles, the reluctant teacher to engage in lesson study is as the main barrier. If all teachers felt reluctant, no one would be the member of lesson study. Theoretically lesson study involves many people and each participating and working collaboratively and sharing knowledge or experience (Lewis, 2005). LS model is strongly supported by the constructivist theory which states that knowledge is constructed collaboratively between the individual and the situation can be customized by each individual.

Further, this section discussed the research findings in accordance with the themes and the formulation of the research problems. Some evidence of research findings in the form of themes were discussed based on the category of each research question. Five research questions of this study were established to lead the description of relevant themes: (1) How does lesson study process facilitate EFL teachers collaboration and peer coaching in planning an instructional process which centered on students learning based on classroom environment context? (2) How does lesson study process impact on student learning as learning centered or student-centered learning? (3) How do EFL teachers perceive their pedagogical and professional development advancing along with the practicing of lesson study? (4) How do EFL teachers collaboratively reflect the effectiveness of the instruction and sharing knowledge and experience by the principle of collegiality as a result of the lesson study process? (5) What are the barriers of implementing lesson study for EFL teachers in Jayapura Municipality?

**B. Themes Relevant to Research Question #1**

**Collaboration and Peer Coach in Planning the Lesson**

**1. Collaboration and participation in designing Lesson Plan**

Based on the ministry regulation, number 41, year 2007, about the process standard, it is explained that a lesson plan is the elaboration of syllabus which illustrates the teaching and learning activities to achieve the goals of the basic competency. Every teacher who uses school curriculum, should design a plan completely and systematically to make the teaching and learning interactive, inspiring, joyful, challenging, and be able to motivate students to be active, creative, and self-reliance, in line with their talent, motivation, their physical and psychological development. This statement is mostly about the teaching and learning activities. Every stage of the lesson should be planned to fulfill the above requirements and make certain that the instructional objectives could be achieved. (MONE, 2009). A lesson plan is an extremely useful tool that serves a combination guide, resource, and historical document reflecting our teaching philosophy, student population, textbooks, and most importantly, our goals for our students (Jensen in Murcia, 2001).

EFL groups of lesson study prepare collaboratively to produce lesson plans. They need to provide learning objectives and determine specific objectives on competency standard and basic competency. They also need to plan student-centered strategies for each objective. Further, they highlight some of the themes in individual teaching plans. They face difficulties and challenges in providing to open class lesson plans because they have to think on their own in every step of the lesson and thinking about anticipate student’s response (MONE, 2013). They also need to figure out the overall tone of what possibly to do during the process of teaching and learning. In addition, EFL teachers also need other assistance such as finding examples of instructional media or strategies, teacher’s advice on how to incorporate components should be exist into the lesson plan and discuss it with friends. A lesson plan is a record what will be done in class, this record serves as a valuable resource when planning assessment measures such as quizzes, midterms, or final exams (Jane, 2001).

The view of EFL teachers of LS teams indicates that they need to support of creating lesson plans. In this case, the lesson study provides EFL teachers the opportunity to discuss with the current members of the group when preparing a lesson plan. Through the lesson study approach, things that are highlighted in the lesson plans by the students in the group are sharing of ideas, collaboration in preparation of instructional materials and teaching aids, improvement of lesson plans, joint evaluation and enhancing learners’ motivation (MoNE, 2009). The lesson plan that is prepared jointly will establish cooperation in the sharing of ideas between them through collaborative discussions. The processes in doing lesson plans in a group is that they are able to share and gain various ideas, whereas small ideas can be developed further in group discussions (Lewis, 2002; Stepanek, et al., 2007).

The research lessons (lesson plans) designed by the EFL teachers of this in LS teams were different from the lesson plans used in ordinary instructional activities. One of the differences that teams would note between familiar lesson plans and research lessons was the level of detail evident in the research lesson. Just as the EFL teachers have carefully crafted the research theme and the goals, they would also take time to plan the instructional sequence, learning activities, key questions for students, and anticipated student responses (Stepanek, et al., 2007).

An obvious difference is the degree to which teachers collaborate with one another in creating the lesson. Moreover, as the team proposes instructional activities, they consider how they will help students achieve the goals, a process similar to backward design (Wiggins & McTighe, 1998. In planning a lesson, they predict and anticipate how students are likely to respond to specific questions, problems and exercises (see lesson plan template in Appendix D). Teachers try to put themselves in the position of a student and imagine what it would be like to experience the material and lesson activities as a novice, an approach that fosters the development of pedagogical content knowledge. In order to investigate student learning during the class period, teachers try to design a lesson that makes students’ thinking visible—that is, open to observation and analysis (Wiburg & Brown; Pierce & Kaye, 2011; Lewis & Hurd, 2011).

In addition, all the members in a group have the opportunity to evaluate the research lessons that are developed together when one of the members is simulating or teaching. After simulating the research lessons, the chairperson does briefing or other group members can assess the weaknesses and strengths of the teaching techniques or teaching methods that was designed together. This enables them to discuss and to improve lesson plans that relevant with the current curriculum and appropriate with the students’ background knowledge (Stepanek, et al., 2007; Rock & Wilson, 2006; Ermeling, 2013). Overall, cooperation in preparing lesson plans in the lesson study approach will increase the motivation and enthusiasm of students in the learning process because they design of learning experiences aimed at empowering students and learning activity is centered on student learning (Lewis, 2011; Saito, et al., 2015). “Preparation of teaching plan in group increase motivation among us, as this is our first time in making lesson plans and teaching...indirectly we get encouragement from each other to increase our motivation in teaching effectively in the micro teaching”(Yuli, Interview, November 29, 2015).

The components of LS that the teachers found to be most beneficial to them were planning collaboratively and observing individual or small groups of students during actual and natural context of classroom environment instruction, which advancing the learning community and collegiality principles. The goals of lesson study are to help students learn and improve teaching practice and professional development (Stigler & Hiebert, 1999), which are dependable as a strategy for change and improvement that is appropriate for a cultural activity such as teaching (Stepanek, et al., 2007).When creating a lesson, a teacher must consider the background of the students, the objectives of the lesson, the skill to be taught, the activities, the materials and texts, the time constraints, and the connections to previous and future lessons (Jane in Murcia, 2001).

Planning is a key in running an activity. The planning phase of learning study cycle takes time and focused effort. It is an opportunity for teachers to adopt the stance of ‘teacher as researcher’ creating a lesson as an inquiry into the complexities of content, instruction, goals, and student learning (Rock & Wilson, 2005; Stepanek, et al., 2007). In this study, there were two areas of focused planning teachers agreed were critical in planning effective lessons included: (a) planning instruction explicitly and thoroughly, and (b) revising and teaching the lessons a second time. With explicit and rigorous planning, teachers were able to focus their planning to instruct specific standards and use curricular materials to support instruction rather than let the curriculum dictate when and what needs to teach students (Wiburg & Brown, 2007; Stepanek, 2007; Lewis, 2011). It’s more meaningful and better teaching to teach to the actual standards and not try to get the teacher’s guide in there. The focused planning allowed teachers to slow down their instruction and thoroughly teach to the standards (Lewis, 2002; Wiburg & Brown, 2007; Lewis, 2011). All the teachers expressed that they became more specific and systematic when they delivered instruction and used a variety of teaching strategies. When asked what kind of changes they made to their instructional strategies as a result of their participation in the lesson study project, one teacher stated:

*I’m a little more detailed when I plan my lessons…More specific. Before I was more general with whatever I was teaching. Now I’m more specific and a little more differentiated. I can understand what the learners are doing, I mean, I work as if I’m a learner and I need to have full understanding (Irsah, Interview, November 30, 2015).*

Teachers also reflected that focused planning increased the consistency of instruction and stimulated higher levels of thinking from students (Lewis, 2002; Stepanek, 2007). One of the teachers commented, “I’m definitely emphasizing doing English language skills a lot more and moving away from just structure based activities and students just need to be pushed to think more deeply, questioned more intensely (Yuli, Interview 29, 2015).” A good lesson plan is the result of is both macro planning and micro planning. On the macro level, a lesson plan is a reflection of a philosophy of learning and teaching which is reflected in the methodology, the syllabus, the texts, and the other course materials and finally results in a specific lesson, (Jane in Murcia, 2001). In brief, an actual lesson plan is the end point of many other stages of planning that culminate in a daily lesson.

In the planning phase of lesson study particular attention is paid to anticipating student responses to enable teachers to be better prepared to deal with issues that might arise during the course of the lesson (Fernandez and Yoshida, 2004). Although many of the Japanese teachers involved in lesson study are able to “draw on their past experiences” and “observations of their current students” (Fernandez and Yoshida 2004, p. 7) to anticipate student responses, the teachers relied on the experience of the mentors, readings they received from the mentors and research they undertook themselves to help them to anticipate student responses. Anticipating student responses allowed the teachers deal effectively with misunderstandings which occurred during the lesson. One example of this was in the greeting topic of English lesson where a student wrongly identified the sentence pattern the class were working on. The teacher, whose lesson study group had prepared for this error, was able to guide the student to create correct sentence pattern using suitable pictures. The teacher later commented that knowing this error might arise meant she had a ready solution ready and this helped maintain the flow of the lesson and gave her confidence. The teachers also recognized the importance of anticipating student responses or misconceptions so they could have different strategies prepared for students who could not grasp a concept.

As indicated by researchers, teachers increase their content knowledge by collaborating on lesson planning and reflecting on instructional strategies. Perry, Lewis, & Akiba (2002) also indicated in their studies that teachers, who participated in lesson study, strengthened their content knowledge by discussing the flow and continuity of lesson topics and procedures. According to Kuntari that, “Lesson study made me more aware of my own teaching practices. As a teacher, anytime I see someone else teach, immediately compare and contrast what they are doing with what I would do the same or differently; therefore, it causes me to self-evaluate and make changes that better my classroom” (Interview, November 29, 2015). Stigler and Hiebert (1999) indicated a need for teachers to collaborate in their instructional planning and to observe colleagues teaching as a means to improve instructional strategies. Yuli supported Stigler and Hiebert’s suggestion by stating, “Every lesson I see (from each model teacher) enables me to develop and strengthen my instructional knowledge. Lesson study opened up a dialogue with peers, and I thoroughly enjoyed having it” (Interview, November 29, 2015).

Perry, Lewis, and Akiba (2002) indicated in their studies that by encouraging students to discover lesson concepts, teachers’ conceptual knowledge increased as well. As a result of planning a lesson that encouraged students to problem-solve and explore their thoughts and ideas through various kinds of learning experiences (tasks or exercises), teachers were able to deepen their own conceptual understandings. Because of the different ways that the problem might be solved it was necessary to identify the possible ways such that the teachers’ subject-matter knowledge was strengthened. In addition, teachers increased their content knowledge by understanding the level alignment as a result of collaborating with colleagues from different Junior Secondary schools.

Finally, as a result of collaboration, teachers also increased their understanding of the content knowledge and pedagogical knowledge well which resulted in an increase in their confidence. According to Wilms (2003), when teachers had greater knowledge and confidence, their instructional strategies improved. Findings from this research supported that teachers’ became more aware of the content and pedagogical knowledge a result of collaboration. This in turn increased the teachers’ content knowledge as well as their instructional knowledge. One teacher mentioned, “Lesson study made me more aware of my own teaching practices. It is great to see someone else’s teaching style because it makes you critique your own which allows you to improve.” Research findings indicated that teachers deepened their content and pedagogical knowledge as a result of participation in lesson study (Lewis, Perry, & Murata, 2003). According to Lewis, Perry, & Hurd (2004), as a result of teachers seeing the research lesson through the eyes of the students and predicting students’ questions and responses while planning the lesson, teachers’ content and pedagogical knowledge were developed. Once again, findings from this research supported the current literature. One element in the lesson plan format required teachers to anticipate students’ responses and questions throughout the research lesson. This particular element forced most teachers to think in terms of the students which increased their own content knowledge.

**2. Peer coaching in lesson planning**

Coaching is defined as a mutual conversation between manager and employee that follows a predictable process and leads to a superior performance, commitment to sustained improvement, and positive relationships (Tomlinson (2004). A leader as coach enables a person to perform at their best and brings out the best of their ideas and achievements. Leaders as coaches develop and articulate what the organization is trying to do, create environments where employees believe in themselves, determine what needs doing, then do it. They know they cannot solve all problems so delegate real strategic power, authority and responsibility (pg. 99). The role is to set free initiative by ‘controlling’ conceptually not procedurally. Coaching can be of teams in an environment where people work in self-managed teams that identify and solve problems on their own.

In this study, senior and experienced EFL teachers coaching and mentoring the junior and unexperienced other EFL teachers. Peer coaching is natural extension of team teaching. The process of peer coaching in their cases grew out of team-teaching experiences. In all cases, the desire for peer coaching came from a perceived need in all two teams to better integrate language and content instruction. In one case, the co-teachers began their course with a high level of mutual trust. In the others, that trust had to be earned over time. As the teams worked out their course learning objectives, developed materials, and instructed together, they were critically appraising each other’s work. In short, they met regularly to work on specific aspects of their course and their development as teachers (Richards & Farrell, 2005).

The qualities of a coach as consultant require her/him to be a good listener; capable of handling sensitively and neutrally both personal and professional issues; experience; the capacity to see the world through another’s eyes; the ability to change without threat (Tomlinson, 2004). Coaching supports the authorship of self-development since the purpose of coaching is to help precipitate and support changes in practice that benefit the individual and the organization. The ideal out- come is for an individual to become a reflective, evidence-based practitioner who will continuously evaluate and develop his or her working practices (Stepanek, et al, 2007; Rock & Kopp, 2005).

Lesson study brings instruction out in the open, which can be considered as a risk to many teachers (Fernandez, 2002; Hiebert et al., 2002). Even during this study, a few teachers expressed hesitation about being observed, citing the discipline problems in their class as the reason for their reluctance. However, through exploratory and encouragement from their colleagues, these teachers agreed to be observed and came to view their observations as feedback about the quality of the instruction, rather than as evaluations of their performance of the teacher (Lewis, 2002; Chokshi & Fernandez, 2004; Stepanek, et al., 2007). The teachers eventually described the collaboration during the lesson study as an “eccentric” experience. The collaborative nature of the lesson study facilitates a safe space where barriers that may have existed in the past were slowly removed. As teachers were able to build trust and a nonjudgmental attitude, focusing on the “teaching” and not on the “teacher,” teachers were able to share honestly about what worked and did not work during their instruction.

In this lesson study implementation, the researcher served as the facilitator for the lesson study. As he was the site’s instructional coach, he was initially concerned about the balance of functioning as a facilitator in a collaborative teacher group and participating without stifling or interfering in the collaborative problem solving process (Chokshi & Fernandez, 2004). In the first to the fourth lesson study cycles, he guided the process explicitly and ensured that teachers followed the agenda. He was also conscientious of time. During the next fifth cycle, as the teachers became more familiar with the lesson study cycle itself, he did not have to guide the process as readily and directly as in the first to fourth cycle. Rather, he was able to ask more analytical questions to have teachers reflect on their decisions, explain why they wanted to use a certain strategy in the planning, and qualify their responses. Participants shared their perceptions regarding to their function as the moderators or chairpersons in the reflection sessions. Teachers received positive feedback from the moderator and reported that there was a “high level of communication.”

The quality of the facilitator makes a difference in the success of the lesson study process. Rock and Wilson (2005) discuss in their study that their participants viewed the lesson study facilitator’s “support as critical to the success of lesson study” and “with appropriate support these participants were very eager to engage in the lesson study process” (p. 89). Therefore, as with the participants in any lesson study, the facilitator should be a trustworthy member of the group who believes in the process and can effectively engage every teacher. Furthermore, for future rounds of lesson study, it would be beneficial if teacher leaders were set in place to function as [chairperson] facilitators as well. Teacher leaders would require training on the basics of how to effectively facilitate these lesson study sessions in terms of managing the logistics (i.e., agendas, securing location, times, etc.), guiding data analysis, incorporating questioning techniques (exploratory questions), and implementing strategies to ensure full collaboration from all participants.

Coaching is a powerful system for enhancing personal development. Your personal coach will ask searching questions that others may be unwilling or unable to ask. Coaches carry out for individuals a similar role to management consultants for the whole business (Tomlinson, 2004). They provide solutions to problems and act as agents of change, but only the individual can make things happen. Coaches also benefit from having help in clarifying what they want from life and how to set and achieve realistic goals (Rock & Kopp, 2005).

The participants may be well in a coaching role part of the time, and therefore need the skills of a coach – understanding the use of body language, active listening, questioning skills, building rapport, building trust, being non-judgmental, being candid and challenging, being able to work from other people’s agendas and giving encouragement and support, (Tomlinson, 2005). The dimensions [lesson study projects] of coaching provide a language and mechanism through which teachers can analyze and reflect on their ‘coaching’ practice. They can act as a metacognitive tool for teachers, providing them with the opportunity to engage with the complexity of their practice.

Such self-knowledge enables productive practice development, and an ability to talk with peers about how their practice is developing. This can help teachers [team members] to plan for, and be more responsive within, coaching or mentoring meetings. Use of the dimensions [lesson study projects] allows the relationships between the nature and the intent of practice to be explored and may help to clarify the roles of different types of professional dialogue, securing them within continuing professional development structures in schools. As relationships and trust within coaching and mentoring partnerships can be vulnerable, gaining greater awareness of the significance of the semantics of the dialogue can support the participants to match intent with outcome (Lofthouse, & Hall, 2014).

Lesson study is a teacher-led and teacher-driven form of professional development (Lewis, 2002b; Stigler & Hiebert, 1999). Teachers plan, observe, and reflect together on a research lesson; however, some lesson study groups also have a “knowledgeable other” present throughout the cycle. Future research should address the role of the “knowledgeable other.” A “knowledgeable other” in Japan is also known as the outside advisor who serves the following three functions: (a) provides a different perspective when reacting to the research lesson; (b) provides information about subject matter content, new ideas, or reforms; shares the findings of other lesson study groups. In addition to the above mentioned roles of the “knowledgeable other” some have served as support in encouraging teachers to continue the lesson study process while others have actually taught the planned research lesson (Lewis, 2002b; Watanabe & Wang-Iverson, 2002; Fernandez & Yoshida, 2004). In this current study, the “knowledgeable other” served more as a facilitator and supporter throughout the lesson study cycle in order for teachers to feel ownership in the process.

**C. Theme Relevant to Research Question # 2**

**Student - Centered Learning**

Learners are human beings with all nature. They have feelings and thoughts and desires or aspirations. They have needs that must be met, such as basic needs (food, clothing, shelter), the need for security, the need for recognition, and the need to actualize themselves (being him/herself in accordance with the potential of each). From wherever they come from, whether from rich or poor families, pounding of the town or village, whether from below or above society, all of them feel the need. The fulfillment of these needs is very influential in the success of learners themselves. So let teachers help their students so that these needs can be met, if not all, some are also pretty well.

The student centered aspect of Lesson Study was emphasized by the participants who noted an impact on their teaching from practicing Lesson Study. This case was indicated in the instructional process, observation activity, as well as in process of lesson planning. Examples of the value of the student centered learning process included, "Having to really analyze what students are doing...", "having a specific goal in the lesson based upon what kinds of student interactions are wanted," "making sure students are doing more of the work, and paying attention to student engagement in the lesson.”

In addition, the student-centered aspect of Lesson Study was noted by the teachers in their field notes and the reflection scripts. The student-centered aspect of Lesson Study was from both the student-centered lesson planning process and how lessons played out in the classroom. The indicators of student-centered lesson planning included "pre-thinking what students might do," "changing the lesson to fit the students’ needs," and planning "specific goals for student interaction." In relation to student-centered learning within the classroom, increased student engagement was the predominate subject. The focus attention on student-centered learning in the LS process, move the central attention from the presenting teacher to the students’ thinking (Hurd & Liccirdo-Musso, 2005; Corcoran, Dolores & Maurice, 2011).

Student-centered learning in this LS showed some evident especially from observations, reflections, and artifacts (lesson planning devices). All EFL teachers (model or volunteer teachers) who conducted the teaching practice in the open classes have endeavored to empower the students to learn based on the students’ needs. Each model teacher has his/her own ways to trigger the students-learning actively. Instead of individual learning, the teachers also addressed the students to learn collaboratively in a group work. All EFL teachers lesson planning and practice teaching emphasized the importance of the student-centered aspect of Lesson Study, although they just realized as long as they taught, they focused on learning goals rather than on student learning.

The concept of student-centered learning is to bring the classroom and students to life. The teacher is considered a “guide on the side”, assisting and guiding students to meet the goals that have been made by the students and the teacher. Students of all academic levels absorbed to work together in small groups as a team. This type of grouping brings out the strengths of each student: challenging them in a non-threatening environment to meet higher levels of critical thinking (Overby, 2011; Hurd, 2005; Pierce & Kaye, 2011). The EFL teachers in this study admitted that they made some efforts to encourage students to learn effectively and actively by offering a few learning experiences, such as group work, pair work, or role playing. Students with special needs have been noted to excel in group structures and by pairing them with students of higher performance has engaged them to work harder. Research suggests that pupils who need help benefit because of being able to turn to peers for assistance. Often students can easily understand and focus on what is needed to provide them with explanations faster than what a teacher can (Filippatou & Kaldi, 2010).

There were many positive comments and appreciations from the observers to the EFL teachers who conducted the instructional process by providing various learning activities based on student centered learning. As stated by Adawiyah, “I liked the teacher’s way of motivating and empowering students learning by their own willingness without being forced. Class interaction (between teacher and students, students among them) was very good.” The other teacher (Wahyuni) also praised the way MT (Model Teacher) treated a few lazy students with an elegance way without made the students felt embarrassing. She mentioned that, “I think that was good way not to embarrass them among their friends. I got valuable knowledge from this class how to treat lazy students in instructional process wisely”.

Lesson Study prompts teachers to broaden their view of teaching by specifically connecting their practice to student thinking and learning (Stepanek, et al., 2007; CfBT., 2009; McDonald, 2009). By examining students' interactions with the lessons and artifacts such as student responses produced during the lesson, teachers hone their skills to focus on student learning and thinking (Baba, Takayu, 2010; Pierce & Kaye, 2011). Teachers tasks should be still on the corridor to create classroom atmosphere in order the students feel secure and joyful in learning. Irsah stipulated how a MT empowering her students to learn actively, “…each student was able to work collaboratively, …All students took participation to collaborate to do the project, even one, two, or three students looked lazy,…but generally I saw the empowerment of students.”

The EFL teachers who involved in lesson study team stated that the impact on student learning was a result of their participation in the lesson study project. Teachers were eager to share their observation results about the enhancement of students’ learning spirit and motivation in learning. Student active collaboratively learning, student participation during instruction, student work, and ‘performance data indicated growth and increases in student learning outcome’ (Perry & Lewis, 2003). The teachers reported across multiple data sources that students showed an overall improvement in their learning, particularly they learning English (students practice using English language skills in the classroom, they did listening, speaking, reading and writing). This happened because teachers always directed their attention to anticipate students’ thinking stems from knowledge gained through previous experience in looking at the instructional process of how students learned (Corcoran, Dolares & Maurice, 2011). The assessment data from students’ English performance and learning activity have improved. Darling-Hammond (2008) suggests that in order to make teaching more meaningful, it is important to create ambitious tasks and that these should help [learners] organize and use knowledge conceptually. It is important for [learners] to experience the learning the way professionals enquire in their disciplines (Darling-Hammond, 2008). In other words, learning in a lesson with quality would help children participate in a community of enquiry in given ﬁelds by using similar methods of study or engaging in discourses with depth of specific ﬁelds (English language skills).

An underlying principle of lesson study is that teachers need to know how their students learn in order to teach them effectively. Thus, how students learn is central at every step in the lesson study process. In the lesson planning phase teachers consider how their students are likely to interpret, construe and respond to the parts of the lesson (Lewis, 2002; Cerbin & Kopp, 2008; Stepanek, 2007). Observers attend to learning and thinking as the lesson unfolds. Data collection focuses on student learning and thinking throughout the lesson. After the lesson the group analyzes the evidence of student learning as a basis for making changes to the lesson.

The instructional principles of lesson study mainly on services for learning to students is very relevant with a view humanistic theories and constructivist theory. In view humanistic theories more oriented toward recognition of the learner as a whole figure and have the potential to develop in accordance with the cadence and rhythm that they have example in learning the English language, adapted to the needs of learners and the socio-cultural background has learners exempted from competing flavors, strict discipline, and the fear of failure.

In line with this description, Margono (in Holt , 1972) describes the learning atmosphere that is free from stress, anxiety , or fear :

…that children are by nature smart, energetic, curious, eager to learn, and good at learning; that they do not to be bribed and bulled to learn; that they learn best when they are happy, active, involved and interested in what they are doing; that they learn least, or not at all, when they are bored, threatened, humiliated, frightened (Margono, 2003: 26).

According to Roger (in Brown, 2000: 152) that the lessons learned in the humanistic views more focused on the process than on the results. Humanism approach suggesting the existence of a low level of anxiety among learners and do not feel any competition between them. Further it is said that competition sometimes impedes progress in mastering the English language.

Dealing with the instruction that can empower students to learn more active, there is instructional model called Contextual Teaching and Learning (CTL). Philosophically, CTL instructional model supported by constructivist theory, as presented by Zahoriik (1995 in Saleh & Maarif, 2003) as follows:

knowledge is constructed by humans. Knowledge is not a set of facts, concepts, or lows waiting to be discovered. It is not something that exists independent of a knower. Humans create or construct knowledge as they attempt to bring meaning to their experience. Everything that we know, we have made (pg. 46).

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. In other words, it refers to the idea that learners construct knowledge for themselves. This is in harmony with (Richards, 2002) who states that "the basic idea of constructivism is that knowledge must be constructed by the learner. It can not be supplied by the teacher (in Fauziati, et al., 2013). Each learner individually and/or socially constructs meaning as he or she learns. The construction of meaning is learning; there is no other kind.

Constructivism theory is heavily influenced by the theories of Piaget cognitive psychology. Knowledge according to Piaget formation can be through the process of assimilation or accommodation. First is the process in which new knowledge assimilated with preconceived knowledge. While the second, is when the old knowledge structure was rearranged to put a new experience (Saleh & Ma’arif, 2003).

While CTL approach can help students learn actively to connecting knowledge that already possessed by students in the context of everyday social life. Johnson (2002) further explains that the CTL system is an educational process that aims to help student see meaning in the academic material they are studying by connecting academic subjects with context of their personal, social, and cultural circumstances. To achieve this aim, the system encompasses the following eight components: making meaningful connections, doing significant work, self-regulated learning, collaborating, critical and creative thinking, nurturing the individual, reaching high standards, using authentic assessment (pg. 25).

Lesson study practicing especially in acting the English lessons and managing student active learning in the classroom alternatively the teacher can use Communicative Language Teaching (CLT) and Cooperative Language Learning (CLL). The emphasis in CLT on the process of communication, rather than mastery of language forms, leads to different roles for learners from those found in more traditional second language classrooms. Richards & Rodgers (2001) declare students learning activity in the classroom. “Classroom arrangement is nonstandard, students are expected to interact primarily with each other rather than with the teacher, and correction of errors may be absent or infrequent.

Several roles are assumed for teachers in CLT, the important particular roles being determined by the view of CLT adopted. Breen and Candlin (1980) (in Richards & Rodgers, 2001) describe teacher roles in the following terms:

The teacher has two roles: the first role is to facilitate the communication process between all participants in the classroom, and between these participants and the various activities and texts. The second role is to act as an independent participant within the learning-teaching group. The latter role is closely related to the objectives of the first role and arises from it (p. 167).

CLT procedures often require teachers to acquire les teacher-centered classroom management skills. It is the teacher’s responsibility to organize the classroom as a setting for communication and communicative activities.

Cooperative Language Learning (CLL) advocates draw heavily on the theoretical work of developmental psychologists Jean Piaget (1965) and Lev Vygotsky (1962), both of whom stress the central role of social interaction in learning (Richards & Rodgers, 2001). CLL also seeks to develop learners’ critical thinking skills, which are seen as central to learning of any short. The word *cooperative* in CLL emphasizes another important dimension of CLL: it seeks to develop classrooms that foster cooperation rather than competition in learning. Cooperative learning is the instructional use of small groups through which students work together to maximize their own and each other’s learning.

Speciﬁc strategies provided insight into why school leaders and coaches should or should not participate in such groups [of lesson study] and the type of issues resulting from such participation. Collaborative and participation in a group utilize this prior knowledge and individual leadership experience to gain a better understanding of how to lead effectively within collaborative group models (Lasonde & Israel, 2010). Involving in a collaborative group of lesson study project can inspire and serve as a tool to look intensively at each others’ teaching and to discuss critically the effects of [their] teaching efforts on students’ learning. They learned from each other through discussions of everyday events and observations in the classroom, sharing experiences, knowledge, opinions, and observation results, reading results, and opening themselves to new ideas by listening to others’ perspectives. In the process, they developed a supportive network that continues to benefit each member even today (Dudley, 2011; Hubbard, 2005; Richards & Farrel, 2005).

Lesson Study has given EFL teachers an increased awareness of student learning. This increased awareness was indicated by greater attention to levels of student engagement, developing strategies to increase student engagement, anticipating and watching for student responses to the syllabus (basic competency and competency standard) and being better able to identify student misconceptions. As one teacher (Purwanti) responded, " I made endeavor to trigger learners to take participation and learning collaboratively in group work. I got chance to control to each group” (SELF-REF.1 MT- Purwanti). Another teacher (Yuli) noted, "I tried to make the students to enjoy the lesson and make them more active in learning by grouping in order they could learn or work collaboratively….I also went around to control each group if the members of the group needed my help (SELF-REF.3 – Yuli). Teachers conducted every effort of encouraging students to learn actively whether individually or cooperation in group is the feature of students-centered learning (Westwood, 2008).

**D. Themes Relevant to Research Question # 3**

**Improving Pedagogical Competence and**

**Professional Development**

**1. Pedagogical Competence**

Pedagogical competence is the ability to be held by teachers regarding the characteristics of learners viewed from various aspects such as physical, moral, social, cultural, emotional, and intellectual. It implies that a teacher should be able to master the learning theory and principles of learning that educates as learners have the character, nature, and interests are different. With regard to the implementation of the curriculum, a teacher should be able to develop curriculum at each level of education units and tailored to local needs. Teachers should be able to optimize the potential of learners to actualize his ability in the classroom, and to be able to carry out an assessment of the learning activities that have been performed (MOEC, 2012).

Lewis (2005) suggests that lesson study creates multiple “pathways for learning” that lead to instructional improvement. According to her model, teachers’ thinking and practice may improve in multiple ways as a result of:(1) increased knowledge of subject matter;(2) increased knowledge of instruction ; (3) increased ability to observe students; (4) stronger collegial networks;(5) stronger connection of daily practice to long- term goals; (6) stronger motivation and sense of efficacy; and (7) improved quality of available lesson plans (Lewis, 2005:115).

Lesson study offers a different way of thinking about teaching and learning. For many college teachers entering into a lesson study means approaching teaching with different assumptions and expectations. This is most evident in the way that lesson study is oriented toward student learning (Lewis, 2002; Fernandez, 2002; Cerbin & Kopp, 2006). An underlying principle of lesson study is that teachers need to know how their students learn in order to teach them effectively. Thus, how students learn is central at every step in the lesson study process.

In the lesson planning phase teachers consider how their students are likely to interpret, construe and respond to the parts of the lesson (Stepanek, et al., 2007; Wiburg& Brown, 2007). Observers attend to learning and thinking as the lesson unfolds. Data collection focuses on student learning and thinking throughout the lesson. After the lesson the group analyzes the evidence of student learning as a basis for making changes to the lesson (Rock & Wilson, 2005; Lewis, 2011).

According to Lewis (2002b), lesson study does impact teachers’ instructional practices; however, more follow-up studies need to focus on whether these instructional changes transfer into classroom practice. It is authoritative for teachers to endeavor for continuous improvement in instructional strategies and content knowledge because teachers are the key to students’ understanding and achievement in English (Stepanek, 2007; Darling-Hammond, 1998). Lesson study addresses one lesson at a time, but impacts learning and instruction in several aspects. Lesson study allows teachers to view teaching and learning as it occurs in the classroom. Lesson study also keeps students as the main focus. Lesson study is teacher-led which ultimately allows teachers to be actively involved in instructional change (Takahashi & Yoshida, 2004; Fernandez, 2002; Cerbin & Kopp, 2006; Wiburg & Brown, 2007; Lewis, 2005). With time, lesson study has the potential to build learning communities within schools and ultimately result in instructional improvement and increase in students’ achievement (Wiburg & Brown, 2007; Saito, et al., 2015).

All participants (EFL English teachers JSS in Jayapura City) who involved in LS project stated that LS had changed their mindset and improved their content knowledge and pedagogical knowledge, as well as the professional development. Based on data finding from observations, reflections, and documents, it was found that there were four components of pedagogical competence frequently appeared particularly in three data instruments (observation field notes, reflection scripts, and documents), such as teacher’s confidence, pedagogical strategy, classroom management, and assessment.

**a. Confidence**

Self - confidence is one the pedagogical competence of the impact of practicing Lesson Study on teaching or open class process. Instructional process in practicing Lesson Study has prompted EFL teachers to feel more confident about their ability to continue or to improve their teaching. The participants reflected their impressions that the confidence building aspect of Lesson Study had strong impact on their teaching.

The evident indicated that all teachers (especially model teachers) grew their self - confidence stronger when they conducted teaching. Two teachers, even their teaching delivery considered less satisfaction and asked to be iterated, they admitted that they felt proud of having good strong self - confidence and spirit to continue LS activities. Both of the teachers indicated that they were still optimistic and gained their self - confidence slowly grew up. One of the teacher mentioned, “Optimistically, I can learn from my weaknesses teaching practice today, even it energizes my confidence is getting stronger to become a better teacher for my students.” Mostly teachers admitted that they felt nervous at the beginning of their instructional practice but then they could control their emotion to become confidence. As what Kuntari stipulated, “I felt a little bit nervous at the beginning of the lesson because of the presence of the observers but then I felt more confidence.”

The EFL participants of this LS project found that their confidence and motivation as teachers increased because the they were asked to observe students’ learning and teacher teaching and reflect consistently, they also became more aware and cognizant of their pedagogical knowledge increase and whether their practices were effective or ineffective. Garfield (2006) states that high motivation and strong commitment to engage in lesson study, possibly giving chance to the participants to get everything included in it to acquire pedagogical knowledge. Stepanek, et al., (2009) also says that because many teachers have little experience in observing and analyzing student learning or reflecting deeply about [teaching] practice with their colleagues. Some are understandably sensitive to bring perceived as critical of colleagues’ work. In too many schools, teachers are congenial and not accustomed to robust collegial conversations. Teachers working in the isolation of then the classrooms may not have had the opportunity to develop a rich vocabulary around student thinking or the refined observation skills needed to gather useful data on the lesson and student understanding (p. 102).

When (teachers) implementing their lesson plan, they might try to monitor two important issues, namely, lesson variety and lesson pacing. Variety in lesson delivery and choice of activity will keep the class lively and interested. Activities should also vary in level of difficulty, some easy and others more demanding. Ur (1996) suggests, the activities should also be of interest to the students, not just to the teacher. Pacing is linked to the speed at which a lesson progresses, as well as to lesson timing. In order for teachers to develop a sense of destined, Brown (1994, in Ferrell, 2002) suggests the following guidelines: (1) activities should not be too long or too short; (2) various techniques for delivering the activities should ‘flow’ together; (3) there should be clear transitions between each activity. If teachers remember to work for the benefit of their students rather than their own, then they can avoid falling into the trap of racing through different activities just because they have been written on the lesson plan. If these three components considered better by the EFL teachers, automatically their self-confidence also will be stronger.

When teachers feel competent and confident, they are more likely to engage in appropriate tasks and make better choices. Conversely, teachers who feel less confident and competent are more likely to avoid certain tasks and behaviors. Improving knowledge and increasing opportunities for rehearsal and practice, promote effectiveness or self-efficacy (Mayhew &Fernández, 2007). And, Lesson study offered teachers multiple opportunities to both improve their knowledge and practice their skills with collaboration from their peers. It is hypothesized that these experiences with Lesson study served to increase these teachers’ feelings of self-confidence which in turn increased the likelihood that they would choose to continue with Lesson study, gaining more knowledge and experience

**b. Teaching strategy**

Participants indicated that through practicing Lesson Study they had found ways to help their students become better learners. Additionally, participants also indicated that practicing Lesson Study has prompted them to increase the vastness of their instructional strategies. All EFL teachers who were interviewed indicated that practicing Lesson Study has prompted them to be more thoughtful about the strategies they use while teaching and gave specific examples of how practicing Lesson Study has influenced and how they match instructional strategies to student learning. Bety reported. It [Lesson Study] has definitely made me more aware throughout my teaching." While, Yuli described how she used ideas she learned through Lesson Study to help her students with interactional and transactional texts.

Elen and Wahyunienthusiastically acknowledged that they had learned a valuable lesson, especially teaching strategies from teaching practice conducted by Yuli. Elen said, “I have learned many things in this instruction: teaching strategy, classroom management, managing learning tasks and time management”***.***Wahyuni, further stated, “I got valuable knowledge from this class how to treat lazy students in instructional process wisely” (OBVR-REF.3-Elen & Adawiyah, November, 2015). From her observations, Kuntari stated that she has got a new knowledge about teaching strategy of open classes conducted by Ade Sari. Kuntari further stated:

*Each student had done thing, the teacher always gave praise to students who did a good job.. I can learn from this lesson how to manage the class and personal approach to students in order the students doing their tasks sincerely and voluntarily. I like the strategy used by the teacher. That was done by model teacher. I want to try it in my real class*(OBVR-REF. 6 Kuntari, November 2015).

Teaching strategy is defined as a method used by learners to master and accomplish instructional materials and tasks given by the teachers. Brown (1982) defines teaching strategy as a particular method of approaching a problem or task, a way of achieving particular objective, a planned design for controlling and manipulating certain information.Murcia (2001: 5-6) defined and specified the terms *approach, method*, and *technique* in language teaching. An approach to language teaching is something that reflects a certain model or research paradigm- theory. This term is the broadest of the three. A method, on the other hand, is a set of procedures, i.e., a system that spells out rather precisely how to teach a second or a foreign language. It is more specific than an approach but less specific than a technique. Methods are typically compatible with one (or sometimes two) approaches. A technique is a classroom device or activity and thus represents the narrowest of the three concepts. Richard & Rodgers (2001), Strevens (1983), Stern (1986), Rivers (1983), Murcia (2001) stated that some techniques are widely used and found in many methods (i.e., dictation, imitation, and repetition), however, some techniques are specific to or characteristic of a given method (e.g., using questionnaire rods = the Silent Way).

Implementing a conducive and communicative learning should include important components that support the implementation of the learning process. The components or indicators intended is how a teacher analyzes principles of motivation in learning (English). Next determine various ways to motivate learners to perform a wide range of English language learning activity that is interactive. In the learning process, the teachers are required to demonstrate an understanding of material in English language studies and to maximize the use of various teaching and learning strategies that attract students to learn actively (MONE, 2010).

The instructional learning process will not mean anything if a teacher is not able to maximize the use of English learning media and resources corresponding to the subject matter. Providing reinforcement during the process of instruction is very important to do by the teacher to the students, but the main thing is how the teacher is able to determine the various ways provide reinforcement in learning English. ... In the instructional process, students are the spearhead of the main goals of all learning activities. Therefore, an English teacher who is conducting instructional process able to maximize the provision of opportunities for learners to reflect on their experience of learning English, which has endured. In addition, teachers are also able to show the best and varied experience who are able to empower and lead the students to study hard (MoNE, 2010; Ministry of Education & Culture, 2012).

According to Lewis (2002b), lesson study does impact teachers’ instructional practices; however, more follow-up studies need to focus on whether these instructional changes transfer into classroom practice. It is imperative for teachers to strive for continuous improvement in instructional strategies and content knowledge because teachers are the key to students’ understanding and achievement in English (Darling-Hammond, 1998). Successful instructional changes occur in sustained efforts and in small incremental steps (Guskey, 2000). Lesson study addresses one lesson at a time, but impacts learning and instruction in several aspects. Lesson study allows teachers to view teaching and learning as it occurs in the classroom. Lesson study also keeps students as the main focus. Lesson study is teacher-led which ultimately allows teachers to be actively involved in instructional change (Takahashi & Yoshida, 2004; Wilms, 2003).

**c. Classroom management**

Classroom management includes everything in the classroom, that is, all learning devices and people (students and teachers). Classroom management is to organize the learning process according to lesson planning and time allotment. A good classroom management is able to make learners learning actively, creatively, and joyful. The structuring of the classroom can support or inhibit the activity of student-active learning. Classrooms need to be laid out in such a way so as to support the effectiveness of learning. There are many models of structuring the classes in accordance with the goals and activities of learning as well as the real circumstances in class. The number of students, the shape of the desk chair and other furniture will be a consideration in organizing class (DBE 2 - Ausaid, 2009).

Classroom management conducted by the all EFL teachers were generally good. Based on the data evident found from the observations and reflections indicated that almost all EFL teachers administered their class very well, particularly two classes conducted by Wardah and Adawiyah evaluated less satisfied because of they did not manage or organize their lesson conveyed based on the student-centered learning. While the other teachers made various efforts to inspire and lead students learning actively by creating a few kinds of learning tasks or learning experiences. For example as stated by a model teacher:

I then made endeavor to trigger learners to take participation and learning collaboratively in group work. I got chance to direct control to each group if the members of the group needed my help. I approached student no. 13 on group 2, no. 15 group 5, and no. 18 group 8 because I saw them relax but when I asked them “why they do not learn?” they answered they had finished their work discussion, and just waiting one of their friend tasked to rewrite project before it’s presented in front of the class (SELF-REF. 1 MT - Sri Purwanti).

Meanwhile, All EFL teachers took role as observers stated their appreciation and mentioned that they wanted to learn from their colleagues’ classroom management activity. Kuntari declared her appreciation to Ade who has presented the lesson with a properly classroom management. Kuntari then mentioned, “I can learn from this lesson how to manage the class and personal approach to students in order the students doing their tasks sincerely and voluntarily (OBVR-REF.6- Kunatari). Ira on the other occasion stated that he could acquire a valuable knowledge from Efi’s LS open class. He clarified, “Interaction in learning process was very good, it made class alive. I can learn from this class, especially from MT that I acquire how to manage the class, teaching strategy, treat the learners to learn actively” (OBVR-REF.8- Ira).

The way the LS participants administering their classroom instructional activities has contented the criteria which required by the experts and institution dealing with the classroom management. There are a few principles to consider in managing or organizing the classroom better: a) mobility, easy to move both for the teacher to go around monitoring the students’ learning process and provide assistance and to facilitate students’ moving for various purposes in the classroom; b) accessibility, easy for all students and teacher to reach out various things such as a learning tool and a learning resource that is in the class; c) communicative, both teachers and students are easy to express their ideas, thoughts and feelings through a variety of activities to communicate either by individual, group, or classical; d) interactive, easy for all students and teachers to interact for various activities and interests; and e) dynamic - indicating that classroom atmosphere is not monotonous with one model arrangement for learning activities of various subjects. Setup classroom model is always changing and evolving in accordance with the subjects, goals, or learning activities (Mucia, 2001;Rechards, 2001; Stepanek, et al., 2007; MoNE, 2006; DBE 2 – Ausaid, 2009; MoEC, 2010).

**d. Assessment**

The final sequence of the teaching and learning process in the classroom is conducting an assessment or evaluation to measure how many students can master the lessons given or presented by the teacher. Conducting assessment at the end of teaching and learning process in the classroom is one of teacher’s pedagogical competence. Consequently, he/she is demanded to be able to carry out the assessment process and the learning outcomes on an ongoing basis with a variety of methods. In this case the teachers endeavor to carry out (English) assessment by using test and non test. Non-test assessment can be done in the form of assignments, portfolios, performance, and others. On the next phase, the teachers have to analyze the results of learning process and the result of learning outcome of (English) for determining the level of mastery learning. The results of the analysis are then used as information for designing remedial or enrichment program. The Results of assessment analysis can also be used as an improvement in general quality of the instructional program (MONE, 2006; MONE, 2010a; 2010b; MOEC, 2013).

To utilize the results of the assessment or evaluation of student learning outcome is a skill and expertise that should be owned by every professional teacher. The results of evaluation will cause positive impact on the design of learning programs better. The use of evaluation of student learning outcomes is very important to know the strengths and weaknesses of English instructional activity that has been implemented. After knowing the strengths and weaknesses of the evaluation results, the next step is the teacher able to specify or decide a part of English instruction need to be improved. Then the final stages of designing assessment and instruction, a teacher attempts to revise the ideal instructional remedy of English materials whereas its content is not too difficult and not too easy.

Students are the center of the educational enterprise, and their cognitive and affective learning experiences should guide all decisions as to what is done and how. Most of the learning activities for the class are traditionally carried out by the instructor: choosing and organizing the content, interpreting and applying the concepts, and evaluating student learning, while the students’ efforts are focused on recording the information (Wright, 2011). Weimer (2002) makes the point that in the student-centered classroom the roles of teacher and student of necessity change, so that the teacher changes from the “sage on the stage” to the “guide on the side” who views the students not as empty vessels to be filled with knowledge but as seekers to be guided along their intellectual developmental journey.

A central concern of learner-centered teaching is learning, and so evaluation in the student-centered classroom is not just to generate grades but, more importantly, to promote learning (Wright, 2011). This means that the processes used will also change. Course objectives and learning goals will be clearly stated, and students will be taught to assess their own work and that of their peers by asking critical questions in a constructive manner. They will be given many opportunities to practice the theoretical and practical skills they are expected to learn and perform. Strategies like these, Weimer (2002) insists, will diminish test anxiety and reduce the temptation to cheat.

Assessment should be able to see and perform its profile to learners holistically which whole covers three realms, cognitive, affective, and psychomotor. However, in reality, learning evaluation process is still dominant on cognitive, so the achievement of competencies that touches the affective and psychomotor still backward and has not been much developed. In this LS activity, assessment was conducted by teacher was authentic based learning which referred to students-centered learning (Wright, 2011; Winmar, 2003) that used non-test assessment. This kind of assessment encouraged the use of assessment that could include not only cognitive but also affective and psychomotor. This type of assessment is known as the assessment process or a class-based assessment, (MoNE, 2006; DBE 2-Ausaid, 2009). To measure students ' ability to use English with a wide range of assessment, such as: performance, project, attitude and others, and assessment no longer use paper/pencil test as the only means of evaluation.

Based on the result of this study, EFL teachers who incorporated in this LS administered assessment based on the students-learning process. They evaluated their students’ English competence through their students’ attitude and performance. As declared by one of teacher (Yuli) that she asked their students for role playing to assess the students’ oral English competency. She stated that, “I also asked them (students) to prepare a simple dialog for role playing about shopping.” The other teacher assessed their students using project and product. As what conducted by Ade, she stipulated that, “I made an effort to activate learners to take participation and learning collaboratively in group work to discuss their reading and writing worksheets. Instead of that, I asked them to write a short simple functional text about greeting cards.”

Performance appraisal is an assessment conducted by observing the activities of the students in doing something. This assessment is used to assess the achievement of competency demanding learners to demonstrate their performance. The performance can be observed such as: role playing, play an instrument, sing, read poetry recitation, using laboratory equipment, and operating a toole, etc. (Johnson, 2002; MoNE, 2006; MoEC, 2013). Product assessment is assessment of skills in making a product and the quality of the product. Assessment of products not only retrieved from the end result but also the process of making product Assessment include assessment of the ability of learners to make technology products and art, in this study indicated: student’s individual writing, writing a announcement in a poster (Wright, 2011; Winmar, 2003; DBE . 2.- AUSAID, 2009). On the other side, Project assessment can be used to find out students' understanding and knowledge in a particular field, the ability of learners to apply such knowledge in the investigation, and learners’ ability to inform a specific subject explicitly.

**2. Professional Development**

Professionalism means preparing oneself to do a competent job through learning. This learning may take the form of pre-service on in-service courses, reflection in experience, reading, observation, discussion with colleagues, writing research – the means are numerous. Such learning continuous throughout the professional’s working life. Similarly, the professional recognizes certain standards: of knowledge (of the subject and of its methodology), of dedication and hard work, of behavior and of relationships with clients (learners, patients) and other professionals (Ur, 2001). Further Ur discriminates between technician and professional. The technician, craftsman, or artisan performs certain acts with skill and become more skillful as time goes on through practice. The professional has not only to acquire certain skills, but also to be able to take courses of action that are based on knowledge and thought, as distinct from automatic routines.

In the regulation of State Ministerial of State Apparatus Empowerment (*PAN – Pemberdayaan Aparatur Negara*), and Bureaucratic Reform (RB) No. 16 of 2009, there are three elements of the activities of teachers in Professional Development of Sustainable (*PKB – Pengembangan Keprofesian Berkelanjutan*), which can be assessed credit number, namely: self-development, scientific publications, and innovative work. Of the three elements of this Agreement will be focused only on teacher’s 'self-development', because this element is the most relevant to the activities of this current *lesson study* project. Lesson Study models of professional development in this study that have been experienced by the EFL teachers involved: refreshment workshop of Lesson study, collaboratively designed lesson research and instructional devices, attending and observing open classes (Do phase of LS process), participation to discuss, reflect, debrief, share data gained in open class observation.

Functional training included in the category of education and training in the position implemented to achieve the requirements of competence appropriate to the type and level of functional positions respectively. In the regulation of National Education Ministerial No. 35 year 2010 declared that functional training is to follow the activities of teachers in the education or training that aims to improve the professionalism of teachers concerned within a certain time. MoEC (2012) declares two functional teacher's professional developments, namely self-development and collective activity.

Self-development is essentially an attempt to improve the abilities and skills of teachers through educational activities and functional training and collective activities that teachers can improve their competence and / or professionalism of teachers. Thus, teachers will be able to carry out the main tasks and additional tasks entrusted to it. The main task of a teacher is educating, teaching, guiding, directing, training, assessing, and evaluating students on the various types and levels of education, while the additional duties is another task of teachers that are relevant to the function of the school/madrasah, such tasks as principals, deputy of head school, laboratory head, and the head of the library (MONE, 2009; MONE, 2010; MOEC, 2012).

The collective activities of teachers are following the activities of teachers in scientific meetings or follow the joint activities that done by the teachers, both at school and outside of school, and aims to improve the professionalism of teachers is concerned. Some examples of the collective activities of teachers, among others: (1) workshops or collaboration activities to prepare and / or develop the curriculum, learning, assessment, and / or instructional media; (2) participation in scientific activities (seminars, colloquium, workshops, technical guidance, and panel discussions), either as a discussant and participant; (3) other collective activities in accordance with the duties and obligations of teachers.

To simplify the process of improving the professionalism of teachers, the government established the founding forum of teachers in accordance with the respective field of study called “Teacher Networks” (MGMP). In the era of regional autonomy and in the introduction of the new curriculum, teachers are required to improve their professionalism so as to prepare their students to be able to adjust to the global changes and rapidly advancing information technology. One of the ways to develop the teachers’ professionalism is to conduct activities under a forum called Teacher Networks or MGMP (*Musyawarah Guru Mata Pelajaran*). MGMP is a non structural organization established in accordance with Guidelines issued by Directorate General of Primary and Secondary Education.

The roles of MGMP in improving the teacher’s professionalism are becoming more important when the government is implementing new curriculum. MGMP is empowered to become a forum for teachers to improve themselves to be able to prepare hardworking, creative, critical and skillful students. Therefore, the teaching- learning process should no longer be teacher-centered, but should be student- centered. Teachers are expected to apply various instructional innovations, such as Contextual Teaching and Learning (CTL), Student Active Learning, Problem-Based Learning, and others.

As mentioned in earlier chapters, is focused on developing teachers’ knowledge of the subject or subjects they must teach and how to teach them (Linda Darling-Hammond & Ball, 1998; Linda Darling-Hammond & Cobb, 1995; Elmore & Burney, 2000; Fullan, 2001; Guskey, 2000). Furthermore, professional development that is highly effective helps teachers become deeply immersed in the content. And, the content, or core tasks of teaching, when mastered, provide teachers with the necessary skills to make important decisions about their students’ progress (Darling-Hammond & Ball, 1998).

Finally, professional development had to be embedded in the learning environment (Guskey, 2000; Grundi Robinson, 2004). Lesson study, the Japanese form of professional development, contains the elements researchers such as Guskey (2000) has recognized as essential elements to positively influence instructional change in the classroom. Guskey stressed that professional development must focus on issues related to learning and learners. The participants in the current study did focus on learning issues related to their students. According to Guskey (2000), professional development should take place in the learning environment and involve teacher collaboration. All lesson study activities occurred in Junior secondary school English classrooms after participating teachers spent at least two hours collaboratively planning their research lesson. In addition, teachers were able to observe the research lessons and collaborate for two hours following the lesson. The teachers who participated in lesson study, stated that lesson study enhanced their confidence and creativity which ultimately improved their instructional practices and professional development.

**E. Themes Relevant to Research Question #4**

**Engagement in Lesson Study and Observation/Reflection**

**1. Engaging in the Lesson Study Process**

The numerous benefits that teachers can bring together from lesson study confirm the value of engaging in the process to improve teaching practice. However, like any new development, especially in education, there are many factors that can lead to its ultimate successful adoption or its being incorporated aside. The EFL teachers as member of this project found the opportunity to engage in a continual period of time to focus on planning instruction and lesson delivery to be an essential and valuable component of lesson study. The previous description was typical of what frequently happened in lesson study activity which provides collaborative activity, participation, sharing knowledge and experience, community learning, all are purposed to advance instructional practice especially to increase teaching and learning English at JSS in Jayapura city.

Lesson study teams are not as likely to succeed if the members have been required or coerced to participate. Teachers must be willing to talk about their beliefs and their practices, to collaborate with their colleagues, to learn from each other and their students, and to make changes to their teaching and try new ideas. Teachers not need be true believers from the start, but making lesson a required, rather than a voluntary, effort is less likely to lead to an effective and sustainable program.

Lesson study is acquiring momentum in EFL MGMP at Junior Secondary School (JSS) in Jayapura City as a practice that can inspire profound changes in teaching and school organization, leading to improvements particularly in student English learning and achievement. Much of what is known about the impact of LS comes from Japan, where it is an established practiced. According to Japanese teachers, the results of lesson study include improved instruction, improved understanding of subject matter, tighter connection between their daily work and long-term goals for students, and improved ability to 'see children' (Lewis, 2002; Stepanek, et al., 2007).

When teachers have already accustomed to working together, lesson study is more likely to take off quickly. Positive relationships and group norms will already be established and teachers will be less isolated than they typically are in their schools. Hopefully, teachers will have sense of collective responsibility for student learning and the belief that their work together can improve outcomes for students. Where such qualities are not already in place, more time will be needed as teachers begin lesson study.

Based on the findings of this study and the admissions of EFL teachers who engaged in this LS project stated that LS has delivered inspiration to improve their pedagogical knowledge, valuable experiences to organize classroom focused on student-centered learning, sustained mutual collegial understanding among EFL teachers. Ade mentioned that she gained valuable experience in involving of LS project. Komariah also stated that she acquired many lessons and experiences particularly in case of pedagogical knowledge. Further she declared, “ In two open classes of LS I involved as a guest observer many lessons and experiences I have gained as how students learning and how teachers teaching.”

Regarding to the involvement and role of participants in the lesson study process, all EFL teachers felt proud because they have had two roles, as a model teacher and an observers. Ade stated that she had multiple roles and about her involvement in the LS was her own desire. On the other occasion, Adawiyah expressed her pride as a member of LS. She took two roles in this LS project, as a model teacher and as an observer. Based on these two roles, she stipulated that she expanded valuable pedagogical knowledge. She said, “I am proud , I am happy to be given this role because I think it's an incredible opportunity, I can learn and collaborate with senior teachers for…particular pedagogical knowledge.” The same as Adawiyah, Danreng also stipulated the benefit of engaging in LS project. She admitted that she could learn and explore of her teaching knowledge by watching her colleagues’ teaching practice, She mentioned, “... I can learn from my shortcomings as a model teacher and on the other side, I also can explore and gain knowledge of teaching from my friends’ teaching practice.”The numerous benefits that teachers can bring together from lesson study confirm the value of engaging in the process to improve teaching practice.

Lesson Study in Indonesia can be interpreted as a model of coaching (training) for educator profession through studies and ongoing collaborative learning based on the principles of collegiality and mutual learning to build a learning community. If it is observed seriously at the definitions of LS, then we find seven important underlying keywords, namely: professional guidance, assessment of learning, collaborative, sustainable, collegiality, mutual learning, and the learning community (Hendayana, et al., 2007; Syamsuri & Ibrohim, 2008; Supriatna, 2010; UPI, 2010). Lesson study project has just been conducted aims to conduct coaching educators/teachers profession on an ongoing basis in order to be able to increase the professionalism of educators or teachers continuously that reflected from the improvement of learning quality.

LS is one approach to developing the professionalism of teachers continuously. If the fostering is not done continuously, the professionalism of teachers can decrease along with the increasing of time (Stepanek, et al., 2007; Lewis, 2011; Dudley, 2011; Gutierez, 2015). How to foster them? namely by carrying out lesson study continuously and collaboratively. Research lesson should be done continuously for several reasons (UPI, 2010; Supriatna, 2010; Saito, et al., 2015) among others: (1) there is no study is perfect, and there is a pathway to improve it; (2) every student has the right to learn; (3) the instruction has to pay attention to the balance between the increasing of ability to think and the improvement of attitude; and (4) the instruction should be student-centered.

Building a learning community is to build a culture that facilitates members to learn from each other, mutual correction, mutual respect, mutual aid, mutual restraint ego. Building a culture cannot be for a while and not as easy as turning the palm of the hand, it necessarily takes a long time (Hendayana, et al., 2007; Stepanek, et al., 2008; Supriatna, 2010; UPI, 2010.How long it takes to build a culture of learning community? There is no boundaries. Instructional study intended to seek the solution of the learning problem in order to improve the quality of continuous learning. The objects of lesson study may include: teaching materials, methods, strategies, approaches, student worksheet, instructional media, classroom setting, and assessment. Why research lesson conducted collaboratively? Because of more improvement inputs will advance the quality of learning itself. Sometimes, according to our own feeling that our preparation is good but when it gets input from others, it can improve the quality of learning preparation.

The principle of collegiality and mutual learning is applied in collaborating when conducting LS (Lewis, 2002; Fernandez, 2002; Lewis, 2005; Stepanek, et al., 2007; Hendayana, et al., 2007; UPI, 2010). In other words, participants of lesson study project should not feel superior (feel most clever) or emperor (low self-esteem) but all participants of lesson study activities should be intended to learn from each other. Participants who already know or have more knowledge must be willing to share with the participants who do not understand, otherwise participants who have not understood to be willing to ask the participants who already understand. The existence of an instructor in lesson study forum should act as a facilitator, not an instructor (Stepanek, et al., 2007; Hendayana, et al., 2007; Syamsuri & Ibrohim, 2008). The facilitator should be able to motivate the participants to develop their potency in order the participants can move forward together.

If conventional training top-down approach, meaning that the training material was prepared and given by an instructor, conversely training through lesson study is bottom-up because of training materials based on problems faced by the teachers in the school, then studied in a collaborative and sustainable (Hendayana, et al., 2007; Syamsuri & Ibrohim, 2008; Supriatna, 2010; UPI, 2010). Lesson study was conducted in three stages, namely the first stage is the planning (collaborative search for innovative solutions to the problems in learning to activate students, the second stage is the implementation (try out innovative teaching a real class, a teacher teaches and the other teachers observe / record the student activity) and the third stage is a reflection (discuss findings on student activity and designing follow-up) are sustained. In other words Lesson Study is a way of improving the quality of education that never ends (Lewis, 2002; Rock & Wilson, 2005; Cerbin & Kopp, 2006; Stepanek, et al., 2007; Syamsuri & Ibrohim, 2007; Hendayana, et al., 2008; Dudley, 2011).

**2. Observation and Reflection**

Based on the findings of this study, all EFL teachers took part to observe, reflect, and share their current instructional practices in LS as professionals and professional development. Their experiences in conducting observation brought about the quality of professional development to display their work as EFL professional teachers. Kuntari and Ira stated their impression of being apart of LS that could directly observed their colleagues to deliver instructional process. At the end of each open class – instructional process conducted by the their colleagues (model teachers) they immediately reflected and shared their data gained from the classroom observations. This part of LS components have given contribution to the members of LS (EFL teachers) to acquire and improve their pedagogical knowledge and professional development. Kuntari who took role as model teacher and an observer of this project stated, “I acquire many new kinds of knowledge, such as planning research lesson collaboratively, how to anticipate students’ behavior in instructional process, and how to experience to be observed and to observe.”

The purpose of observation is to learn from the observation experience. In order to do this, the observer cannot simply depend on memory. Procedures are needed that can be used to record information about the observation. We have made use of the following procedures, depending on the purpose of the observation (Richards & Farrell, 2005). In order the process of observations in the instruction of LS can run well, then there are several things that must be prepared by the teacher and the observer before the learning begun. Before the learning process, teacher (model teacher) of facilitator can give a general idea of what will happen in the classroom, which includes information about lesson plans and instructional design, learning objectives, how the relationship between the subjects of the day with subjects in general, how the position of teaching materials in the applicable curriculum, and the possibility of student responses will appear or anticipate unexpected response from students. In addition, observers should be given information about the student worksheets and maps depicting seating position setting the class to be used .

Typically, the meeting begins with introductions and a review of the day’s schedule. The agenda of the pre-observation meeting suggested included the following items: (1) understanding the content addressed in the lesson; sharing the team’s goals; (2) introducing the lesson plan; (3) providing observation guidelines (protocols); and (4) framing the observation (Lewis, 2002; Fernandez, 2002; Lewis, 2005; Rock & Wilson; Cerbin& Kopp, 2006; Stepanek, et al., 2007; Wiberg & Brown, 2007).

Observation is a basic part of the learning of many occupations, particularly in vocational and technical fields, but learning through the observation of practitioners at work also plays a role in other fields, such as business, law, and medicine. In teaching, observation provides an opportunity for novice teachers to see what more experienced teachers do when they teach a lesson and how they do it. But experienced teachers can also benefit from peer observation. It provides an opportunity for the teacher to see how some one else deals with many of the same problems teachers face on a daily basis. A teacher might discover that colleague has effective teaching strategies that the observer has never tried (Richards & Farrell, 2005; Wiburg & Brown; Saito, et al., 2015).

Observing another teacher may also trigger reflection about one’s own teaching, for the teacher being observed, the observer can provide an objective view of the lesson and can collect information about the lesson that the teacher who is teaching the lesson might not otherwise be able to gather (Richards & Farrell, 2005). For teachers, educators, administrators, or researchers, whereas observation has multiple benefits such as mutual social communication, tight collegiality friendship, knowledgeable others (Lewis, 2011; Saito, et al. 2015). It brings teachers together who might not normally have a chance to interact and provides an opportunity for the sharing of ideas and expertise, as well as a chance to discuss problems and concerns. Observation provides a chance to see how other teachers teach, it is a means of building collegiality in a school, it can be a way of collecting information about teaching and classroom process, it provides an opportunity to get feedback on one’s own teaching (Richards & Farrell, 2005; Stepanek, et al, 2007; Wiburg & Brown, 2007).

The nature of observation might seem to be self-evident, yet the process of observation is more complex than it might appear. Lessons are dynamic and, to some extent, unpredictable events. They involve many different participants and often several different things are happening simultaneously. Classroom events sometimes unfold very quickly, so taking note of multiple events in real time is often impossible (Richards & Farrell, 2005).

Immediately after the teaching practice and observation, it conducted reflection,but the American people prefer to use the term ‘debriefing’ to reflection (Lewis, 2002; Lewis 2006; Stepanek, et al., 2007). Reflection session held immediately after the presentation of the lesson and the observation is to ensure that a team member is prepared record reflection comments. In addition, teachers should bring all the resources (such as text- books, teacher’s manuals, and manipulative) that they used to develop the lesson, as well as data collected from the lesson (such as observation notes, students’ worksheets and notebooks, and notes from pilot lessons).

Stepanek, et al., (2007) states that during an observation, much experienced and enormous quantities of data are usually collected. Immediately following the lesson, it is useful to provide time for the observers to reflect. This will enable everyone to collect any thoughts that they have not yet recorded and to review their notes. They will look back at the goals and the points of evaluation from the lesson plan (Takahashi & Yoshida, 2004; Hurd &Musso, 2005). Most important, the observers should consider the evidence they want to share and the questions they want to raise during the debriefing. Having observers write their personal reflections following the observation helps focus and deepen the debriefing conversation and increases the value for the lesson study team. The observers should select the comments that will have the most impact on the learning of everyone involved. Sharing a few comments is more effective than reading of a long list of points (Lewis, 2005; Stepanek, et al., 2007, Guterez, 2015).

The sharing of the research lesson is a time for learning and for celebration [colloquium]. Lewis (2002) and Hurd &Musso (2005) also add their explanations the process that a lesson study team follows to synthesize and communicate the lessons they learn during the planning, implementation, observation, reflection, and revision stages provides lesson services the research team to reflect on what they learned from the process. Wiburg & Brown (2007) mention that the metacognitive step of reflecting on one’s own learning is a powerful component of the overall professional development that occurs for teachers who engage in the lesson study process.

During this phase, teachers consolidate the learning that occurred during earlier stages and take the professional step of organizing this learning in such a way that it can be shared with other members of the education community. This sharing may take the form of demonstration lessons, professional presentations, and/or written research reports. Teachers also gain as professionals, because like other professionals, such as doctors and lawyers, what they learn can contribute to their field (Wiburg & Brown, 2007; Stepanek, et al., 2007)).

If possible, the lesson debriefing (reflecting) is facilitated by an outside visiting teacher [researcher], so that each member of the planning team can focus on the data collected during the lesson and consider its implications. The facilitator follows a protocol for the debriefing session (Lewis, 2002). First, the person who taught the lesson reflects on the lesson, commenting on the strengths of the lesson, changes made to the original lesson plan, surprises, and evidence that the lesson met the instructional goals (Lewis, 2002; Hurd & Musso, 2005; Stepanek, et al., 2007). Next, members from the planning team individually report data that they have collected relevant to the goals.

Teachers revealed through their interviews, observations, reflection records, documents (artifacts) and lesson study sessions that their participation in this project (lesson study) impacted their pedagogical knowledge. All teachers found that the collaborative planning was essential to teaching effectively. Teachers believed that attending to student learning through observations and delivering reflections of their instruction and evidence of their lessons effectiveness. In attending other teachers’ classes, the teacher – observer in lesson study just paid attention to a few students or only for a group, as well as other observer – not observe whole students in the class, that’s why the pedagogical process became more effective. As the participants began to see themselves more as facilitators of knowledge and facilitate learners to build their own knowledge (Lewis, 2002; Dudley, 2011).

**F. Theme Relevant to Research Question # 5**

**Barriers in Implementing Lesson Study**

Even though the findings of the research empirically convincing, but does not mean that in its implementation leaving no barriers at all from the experience of the researcher during the research process, there are a few small notes as a reflection of concerns are emerging around the implementation of LS, including issues related to psychological dimensions. Typically the implementation of a new innovation, the implementation of LS was initially also faced some problems related to teachers psychological attitude to the presence of LS as a new learning pattern in the school environment. At least the attitude of the teachers in the MGMP of English at Jayapura City in responding and addressing LS polarized into two groups, namely; The first group that refuses, generally come from the senior teachers who had been quite 'satisfied' with the pattern of teaching that has been carried out for years. Secondly, the group opened up to accept LS as a new pattern of learning in the school environment. The response generally comes from the junior teachers who psychologically feel to gain a new challenge to try new patterns of instruction which considered more variative.

The problems identified by EFL MGMP lesson study are too general and applied to all English teachers both in urban areas and rural areas, both for teachers from developed schools and from underdeveloped schools. For example, the members of EFL MGMP are reluctant to joint lesson study project because they are not accustomed to work hard and discipline but they used to do simple thing in their MGMP community, such as only discuss about test indicators (items), instead of discussing about very specific problems faced by teachers in the process of teaching and learning. Therefore, the proposed programs are district-based MGMP and do not directly deal with the real problems faced by each teacher in the field.

Participation not all subject English teachers are able to take part in lesson study of EFL MGMP programs because the schools only send their representatives. Those joining the programs do not share their experience with their colleagues within their own schools. In other words, there is an interrupted communication. Actually all teachers should take part in all LS activities, but the school budget is sometimes not adequate so they only send some teachers as representatives. When these teachers return to their schools, they should share what they learn from LS to other teachers.

Some school principals do not support EFL of LS programs by assigning teachers to teach on LS activity days which accidently the same as EFL MGMP days. Especially teachers from private schools are facing this problem. Distance From geographical point of view, the venue for LS EFL MGMP meetings and activities for open classes or open lessons is relatively distant especially for teachers from rural areas so it is hard for them to join LS of EFL MGMP meetings and activities.

Teachers motivation, there are cases where LS of EFL MGMP programs are already scheduled and school principals allow English teachers not to teach on those days, but some teachers do not attend the LS of EFL MGMP activities because they assume that LS of EFL MGMP days are time for them to take a rest so that they have no enthusiasm to attend the LS activities . The situation is even worse when they assume that LS activities are not interesting for them.

Related to technical problems, the researcher found a problem that needed enough patience which was related to the commitment of teachers to implement LS with the high commitment. As known, the implementation of LS on EFL MGMP at Jayapura city was carried out with a new paradigm that commonly English teachers had never done this before and this case required seriousness of the various parties for designing instruction for the sustainability of LS program. Without the commitment of all parties, it's unlikely a similar learning patterns of LS could be held.

**G. Theoretical Implication of Lesson Study Activity**

Constructivism is an epistemological view of knowledge acquisition emphasizing knowledge construction rather than knowledge transmission and the recording of information conveyed by others. The role of the learner is conceived as one of building and transforming knowledge. But what does it mean to construct knowledge? Within constructivism there are different notions of the nature of knowledge and the knowledge construction process. Moshman (1982) has identified three types of constructivism: exogenous constructivism, endogenous constructivism and dialectical constructivism.

In exogenous constructivism, as with the philosophy of realism, there is an external reality that is reconstructed as knowledge is formed. Thus one’s mental structures develop to reflect the organization of the world. The information processing conceptualizations of cognitive we construct and elaborate schemata and networks of information based on the external realities of the environments we experience.

Endogenous constructivism or cognitive constructivism (Cobb, 1994; Moshman, 1982) focuses on internal, individual constructions of knowledge. This perspective, which is derived from Piagetian theory (Piaget 1977), emphasizes individual knowledge construction, stimulated by internal cognitive conflict as learners strive to resolve mental disequilibrium. Essentially, children as well as older learners must negotiate the meaning of experiences and phenomena that are discrepant from their existing schema. Students may be said to author their own knowledge, advancing their cognitive structures by revising and creating new understandings out of existing ones. This is accomplished through individual or socially mediated discovery-oriented learning activities.

Dialectical constructivism or social constructivism (Brown, Collins, &Duguid, 1989; Rogoff, 1990) views the origin of knowledge construction as being the social intersection of people, interactions that involve sharing, comparing and debating among learners and mentors. Through a highly interactive process, the social milieu of learning is accorded center stage and learners both refine their own meanings and help others find meaning. In this way knowledge is mutually built.

This view is a direct reflection of Vygotsky’s (1978) sociocultural theory of learning, which accentuates the supportive guidance of mentors as they enable the apprentice learner to achieve successively more complex skill, understanding, and ultimately independent competence. The fundamental nature of social constructivism is collaborative social interaction in contrast to individual investigation of cognitive constructivism. Through the cognitive give and take of social interactions, one constructs personal knowledge. In addition, the context in which learning occurs is inseparable from emergent thought. This latter view known as contextualism in psychology becomes a central tenet of constructivism when expressed as situated cognition. Social constructivism captures the most general existing perspective on constructivism with its emphasis on the importance of social exchanges for cognitive growth and the impact of culture and historical context on learning.

“While there are several interpretations of what [constructivist] theory means, most agree that it involves a dramatic change in the focus of teaching, putting the students’ own efforts to understand at the center of the educational enterprise” (Prawat, 1992). Thus despite the differences sketched above, there is important congruence among most constructivists with regard to four central characteristics believed to influence all learning: 1) learners construct their own learning; 2) the dependence of new learning on students’ existing understanding; 3) the critical role of social interaction and; 4) the necessity of authentic learning tasks for meaningful learning (Bruning, Royce, & Dennison, 1995; Pressley, Harris, & Marks, 1992).

For the learner to construct meaning, he must actively strive to make sense of new experiences and in so doing must relate it to what is already known or believed about a topic. Students develop knowledge through an active construction process, not through the passive reception of information (Brophy, 1992). In other words, learners must build their own understanding. How information is presented and how learners are supported in the process of constructing knowledge are of major significance. The pre existing knowledge that learners bring to each learning task is emphasized too. Students’ current understandings provide the immediate context for interpreting any new learning. Regardless of the nature or sophistication of a learner’s existing schema, each person’s existing knowledge structure will have a powerful influence on what is learned and whether and how conceptual change occurs.

Dialogue [communication] is the catalyst for knowledge acquisition. Understanding is facilitated by exchanges that occur through social interaction, through questioning and explaining, challenging and offering timely support and feedback. The concept of learning communities has been offered as the ideal learning culture for group instruction (Brown, 1994; Brown and Campione, 1994). These communities focus on helping group members learn, by supporting one another through respectful listening and encouragement. The goal is to engender a spirit and culture of openness, exploration and a shared commitment to learning. Weinstain (2001) adds that instruction will be strongest when teachers are supported in taking time to discuss program goals, reflect collectively on their practice, frame questions, explore them systematically, and take action based on what they have learned. Such sharing may take many forms, whether it is through sharing lesson plans, peer observation, ‘study circles’ about teaching issues, or collaboration on projects (p.184).

Situated cognition or learning is a concept advocated in social constructivist approaches and is a natural extension of the importance attached to the context, social and cultural, in which learning is believed to be born. Knowledge is conceived as being embedded in and connected to the situation where the learning occurs. As a consequence, thinking and knowledge that is constructed are inextricably tied to the immediate social and physical context of the learning experience. And what is learned tends to be context-bound or tied to the situation in which it is learned (Lave & Wenger 1991). Evidence for the situational nature of learning can be seen in numerous cases where students’ school learning fails to transfer readily relevant tasks outside of school.

Lesson study is viewed as a collaborative process and modern constructivist thought provides the theoretical basis for cooperative learning, project or problem based learning and other discovery oriented instructional approaches, all of which appeal to the powerful social nature of learning (Lewis & Hurd, 2011; Dudley, 2011). As students are exposed to their peers’ thinking processes, appropriation of others’ ideas and ways of thinking is possible. Therefore, constructivists make extensive use of cooperative learning tasks, as well as peer tutoring or peer coaching, believing that students will learn more readily from having dialog with each other about significant problems (Emerling, 2013; Gutierez, 2015; Saito, et al., 2015).

A second key concept derives from Vygotsky’s concept of zone of proximal development (Kozulin, 1986). When children work on tasks that cannot be accomplished alone but can be successfully completed with the assistance of a person competent in the task, they are said to be working within their zone of proximal development. Children working in cooperative groups will generally encounter a peer who possesses a slightly higher cognitive level, one within the child’s zone of proximal.

Substantial aspects of lesson study is socialization into the norms and professional conduct of teachers for motivating students to learn actively with the choice of many tasks or provide varied learning experiences (Stepanek, et al., 2007; Cerbin & Kopp, 2006). More generally, one can say that lesson study is a perceptive mutual social relationship and collaboration exists between teachers and students to the extent that teachers provide framework or mediate learning for students which giving democratic choice of learning tasks without any intervention or pressure from other people including the teachers (Fernandez, 2002; Wiburg & Brown, 2007; Lewis & Hurd, 2011; Saito, et al., 2015). At the same time that students are given complex, authentic tasks such as projects, simulations and problems involving community issues, they are also given sufficient assistance to achieve the desired outcomes and ensure them that making mistake is not a sin or unsuccessful.

An important aspect of teacher guidance relates to the constructivist notion of generative learning. Since constructivists believe that the learner must transform or appropriate whatever is learned, one can say that all learning is discovered (King, 2002). To appropriate new understandings from one’s social environment and to become an efficient maker of meaning requires the adoption of specific intellectual skills, ones that should be modeled from more competent adults and peers. Thus generative learning strategies (learning-to-learn) may be explicitly taught to students or may be discovered by students as they are trying to find strategies for solving problems.

The principles of lesson study are to develop effective learning strategies and knowledge of when to use them. The types of tasks that are selected for students to engage in (complex, problem-based, real-life, contextual, student centered learning) reveal the emphasis of constructivists on a top-down view of instruction. Students are intentionally confronted with complex tasks that can only be performed with a teacher’s guidance and that create an immediate need to develop relevant skills (Stepanek, et al., 2007; Wiburg & Brown, 2007). The students are faced with the task of English skills (listening, speaking, reading and writing). So, students learn what they need to know in order to figure out how to accomplish authentic learning materials but, difficult tasks at the upper range of their zone of proximal development.

The more previous traditional approach in instructional activity has born innovative inspiration, lesson study offers a bottom-up strategy, involves isolating the basic skills, teaching these collaboratively, cooperatively, actively centered on student learning activity and building these incrementally before tackling higher order tasks (Lewis, 2005; Hubbard, 2005; Ermeling, 2013). Constructivists turn this highly sequential approach on its head. Instead of carefully structuring the elements of topics to be learned, learning proceeds from the natural need to develop understanding and skills required for completion of significant tasks.

Learning occurs in a manner of collaborative, cooperative, and empowering student centered learning, and learning community which also prepared and designed by professional teachers in team work group (Dudley, 2011, Wiburg & Brown, 2007; Saito, et al., 2015). As Fosnot (1996) puts it, “Constructivism is fundamentally non-positivist and as such it stands on completely new ground - often in direct opposition to both behaviorism and maturationism. Rather than behaviors or skills as the goal of instruction, concept development and deep understanding are the foci; rather than stages being the result of maturation, they are understood as constructions of active learner organization.” (p. 10).

Consequently, the core of Vygotsky's theory emphasizes on the interaction between the internal and external aspects of learning and the emphasis on social learning environment. According to the theory of Vygotsky, cognitive functions of humans come from social interaction of each individual in a cultural context. Vygotsky also believes that learning occurs when the learner does the tasks that have not been studied, but these tasks are still within the range of abilities or tasks that are within their zone of proximal development. The Zone of proximal development is the area between the actual level of development is defined as the ability to solve problems independently and the level of potential development are defined as problem solving skills under the guidance of 'adult' or colleagues who are more capable, in this case is the teacher.

Specific findings based on the researcher observations to all LS participants in LS collaboration and collegial activities, they were categorized into three level of EFL performance.

1. Highly collaborative collegiality Teachers (HCTL), whereas five EFL teachers always attended the LS activities indicated that their pedagogical competence and professional development got greatest progress.
2. Medium collaborative Collegiality Teachers (MCTL), whereas six EFL teachers sometimes attending the LS activities showed that their pedagogical competence and professional development got relatively increase.
3. Low Collaborative Collegiality Teachers (LCCT), whereas four EFL teachers almost never followed pre LS activities and just attended open class cycles indicated that their pedagogical competence and professional development got poor progress.

These three level outcomes of LS can be stated that the more collaborative and collegial of the teachers, the more competence they are in pedagogic and the more professional they are in developing their career in EFL area.

Teachers in this study indicated that by working collaboratively based on the collegial principle and using the Lesson Study process they built a stronger set of pedagogical and professional competence, became more aware of student learning needs, and developed strategies to meet those needs. As other studies demonstrate, teaching success with students and positive interactions with colleagues help to reinforce teaching confidence and as a result supports continued improvement in student achievement. With an increased sense of teaching effectiveness, teachers are more likely to work harder to continue to improve their practice and will likely be more resilient to setbacks (Bandura, 2000).