

Lesson Study Contributions: EFL Teachers' Competences Model in Teaching English at High School 21st-Century Learning Approach

Adi F. Mahmud¹, Abdurrahman Hi. Usman², Fitria Wulan Sari³, & Suratman Dahlan³

¹ Universitas Muhammadiyah Maluku Utara, Indonesia

² Institute Agama Islam Negeri, Ternate, Indonesia

³ Universitas Khairun Ternate, Indonesia

Correspondence: Adi F. Mahmud, Universitas Muhammadiyah Maluku Utara, Indonesia.

Received: May 5, 2023 Accepted: June 16, 2023 Online Published: July 6, 2023

doi:10.5430/wjel.v13n7p10

URL: <https://doi.org/10.5430/wjel.v13n7p10>

Abstract

The quality of learning relies on the teacher, serving as a critical factor in determining its effectiveness. This study aims to develop a teacher competency model through Lesson Study (LS) activities. Model competence refers to the regulation of Indonesian Ministry of Education and Culture No 6565 in 2020. This study applied the qualitative descriptive research design. It utilized the lesson study approach in developing EFL teacher's professional knowledge competence, professional learning practice competence, and career professional development. The participants involved four EFL Teachers at Senior High School 10 Ternate City Indonesia. They consisted of one male and three females. Four EFL teachers were selected through purposive sampling with four criteria: (a) sex, (b) age, (c) teaching experience (d) educational background, and, (e) job status. Furthermore, the study data were obtained through three LS phases (plan, teach/do, and reflect/see) for four cycles. A 4-point Likert scale ((1=Thriving; 2= Capable; 3 = Worth; and 4 = advanced) was utilized to measure lesson study profile aspects on the development of EFL Teachers' Model competencies and it is an effect on students' communication and critical thinking skills. Data was gained by a 4-point Likert scale calculated with frequency and presentation formula through Microsoft Excel Windows 10. The result showed that LS activities impacted the development of knowledge competencies, professional learning practices, and professional development of EFL teachers in learning English. It also improves communication, critical thinking, and student enthusiasm for English learning in class. This study provides opportunities for teachers to share knowledge, good learning practices, and experience, as well as reflect and learn to collaborate professionally. This study represents a unique contribution by integrating three models of teacher competence as an effort to adjust the Independent Curriculum.

Keywords: lesson Study, EFL teachers, model competencies, 21st learning approach

1. Introduction

1.1 Teaching and Learning in 21st Century

Teachers play a critical role in determining the quality of education and the caliber of graduates. The effectiveness of teachers in designing, implementing, and assessing learning, as well as personal development programs, is evaluated to determine their competence. This topic is a subject of intense discussion and debate in Indonesia, engaging the government, educational practitioners, academic communities, and other relevant parties. Moreover, the changing landscape of education in the 21st century, with its increasing demand for diverse competencies, presents complex challenges for the educational system that require the involvement of all stakeholders. For instance, the competition has shifted from mere knowledge to the concept that prioritizes collaboration, creativity, critical thinking, problem-solving skills, and the ability to adapt to volatile, uncertain, complex, and ambiguous situations ("Pedoman Program Kemitraan Dosen LPTK dengan Guru di Sekolah", 2022). In response, 21st-century learning poses a challenge for teachers to create educational experiences that cultivate the three components of life skills, as outlined by the World Economic Forum (2015).

The accomplishment of the three life skills outlined in Figure 1 is a significant challenge for teachers in Indonesia, who must blend their teaching approach with literacy, knowledge, skills, attitudes, and proficiency in technology (Dit. PSMA Directorate General. Elementary and Secondary Education: Implementation of 21st Century Skills in Preparing RPP, 2017). To achieve this, the pedagogical vision of the 21st century emphasizes learning that focuses on the following elements, (a) utilization of appropriate tools, such as asking strategic questions and leveraging mobile technologies and social media, (b) contextual learning experiences, as context-based learning is crucial for student motivation, (c) development of metacognitive skills since metacognition plays a vital role in guiding the learning process, (d) fostering positive relationships, (e) student-centered approach, as 21st-century learning, must be relevant, engaging, effective, and centered around the student, (f) learning without limitations, by taking advantage of technology, and (g) conducting meaningful assessments, which should be linked to learning and inspire deeper student engagement.

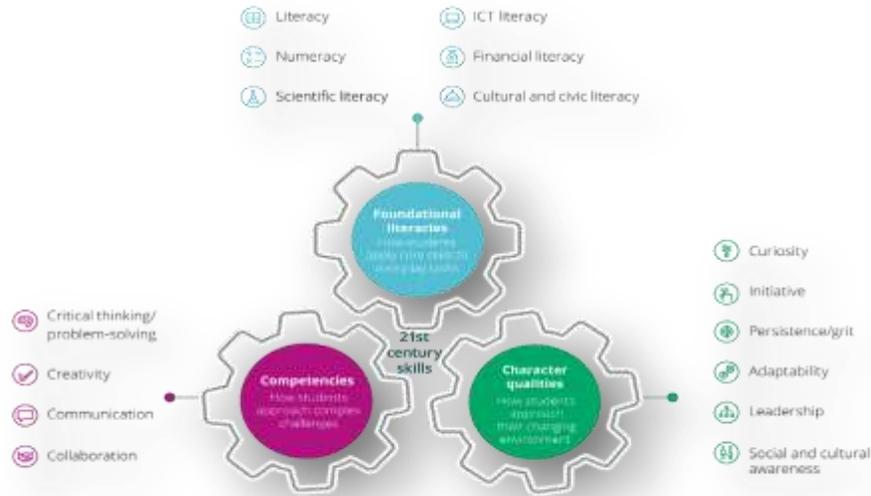


Figure 1. Three Components of Life Skills Challenges of the 21st Century

1.2 Development of Indonesia Teachers’ Competences Nowadays

The complexity discussed earlier highlights the critical role of competent teachers in addressing the challenges faced in education. However, the current situation reflects a lack of teacher competence. Even though the proportion of teachers with an undergraduate degree has increased to 85% due to the requirements outlined in the Law on Teachers and Lecturers of the Republic of Indonesia No. 14 of 2005, it does not guarantee an improvement in the quality of education. The National Teacher Competency Test (UKG) results showed that the average competence is 50-64 (“Jawa Pos”, 2021). Only 30% of teachers score above average or pass the UKG with a minimum of 80% (“Pikiran Rakyat”, 2019). This lack of competence has negative implications for student learning outcomes. Furthermore, the OECD’s PISA survey indicated that Indonesian students rank 72nd out of 77 countries, 72nd out of 78 countries, and 70th out of 78 countries, with 70%, 71%, and 60% falling below the minimum competency for reading, mathematics, and science, respectively (“OECD”, 2019). Furthermore, Indonesia’s Human Development Index is the lowest among ASEAN countries, ranked 111th with a schooling average of 8.0 years, while Singapore, Brunei, Malaysia, and Thailand ranked 9th, 43rd, 61st, and 77th out of 189 countries (“Human Development Report”, 2019).

1.3 Education System in Indonesian Context

The issues pose a substantial challenge for the government, educators, academics, and other stakeholders to work toward enhancing the competency of teachers, including English teachers. Despite various efforts made by the government in partnership with private and state tertiary institutions, such as certification programs, training sessions, and scientific seminars, the impact has been limited. To improve teachers' competencies today, the Indonesian Minister of Education changes the curriculum to apply at all school levels. Curriculum 13 which was implemented in 2013 was changed to an Independent Curriculum which has been implemented in all schools since 2021. The change in Curriculum 13 to an Independent Curriculum encourages adjustment of the teacher competency model which is adapted to the demands of the new curriculum. The teacher competency model based on Curriculum 13 consists of professional competence, pedagogic, personality, and social competence. Meanwhile, in the Independent Curriculum, the development of teacher competencies is more explicit with three main competency models including; professional Knowledge Competency, Professional Learning Competency, and Career Development Competency (Perdirjen GTK No. 6565, 2020). The recent studies focused more on the four main competency models that were developed in Curriculum 13. Yennizar & Librianty, (2022) conducted a study by implementing a Lesson Study that showed that the pedagogical competence and professional competence of teachers increased significantly. Teachers' knowledge competency can improve well with the implementation of lesson study-based learning (Elipane, 2022). However, the three competency models developed in the independent curriculum have not been developed massively through research. These three competency models have just been developed through training conducted by the Indonesian Minister of Education for teachers at all levels of the education unit with the Mobilize School Program (PSP) and the implementation of the new Curriculum independently. The government also provides the Merdeka Teaching Platform (PMM) to encourage the development of these three competencies. A study to develop these three competency models is urgently needed to encourage the development of current teacher competencies. The development of these three competency models is very suitable for implementing Lesson Study (LS) activities.

A learning community through Lesson Study (LS) activities across all educational levels. LS has the potential to impact teacher competence and improve student learning outcomes significantly (Mahmud et al., 2023). Furthermore, it provides an opportunity for teachers to collaborate and discuss relevant curriculum topics and student learning issues, analyze curriculum documents and teaching materials, prepare and present study lessons, as well as reflect on their teaching practices (Ponte and Quaresma, 2016). It promotes

professional collaboration and enables teachers to plan and teach lessons, observe student learning in the classroom, and reflect on their teaching (Ponte & Quaresma, 2016; Cañete et al., 2023). Additionally, teachers' participation in LS activities enhances their knowledge and understanding of responsibilities (Barber, 2018; Verhoeve et al., 2015). Several studies have shown that implementing life skills (LS) in teacher development initiatives can result in positive outcomes, enhancing teachers' pedagogical competence in a variety of areas. This includes understanding student behavior, mastering educational theory and principles, effective communication and interaction in the classroom, and improving professional competence in teaching (Suleman et al., 2022; Gana et al., 2018). Additionally, Samaniego and Espinosa, (2022) discovered that the concept promotes the acquisition and deepens the knowledge by enabling teachers to learn from each other's perspectives and adopt effective learning strategies. Winarto (2018) has noted that LS is a highly effective approach to improving the quality of English language learning in high schools. This is because the concept engages teachers in sharing their pedagogical and professional experiences and focuses on high-quality student learning. The implementation of the activities provides opportunities for teachers to use various methods and fosters a continuous and systematic teacher-learning community, which encourages individual self-improvement and effective management (Perry & Lewis, 2009; Fikri, 2014). Meanwhile, multiple studies have reported that LS has a positive impact on English learning outcomes, pedagogical competence, and teacher professionalism (Nashruddin & Nurrachman, 2016; Coşkun, 2017; Goh & Fang, 2017; Özgehan et al., 2019; Y. Remzi et al., 2019; Laoli et al, 2022).

The implementation of learning through LS prioritizes student outcomes, teacher pedagogical competence, and professional competence. The competencies developed align with conventional learning and are based on the four parameters outlined in the Indonesian Minister of National Education's Regulation Number 16 of 2007, which include professional, pedagogical, social, and personality competencies. Therefore, this study offers a fresh perspective by exploring a 21st-century teacher competency model using the parameters outlined in Regulation 6565/Year 2020 of the Indonesian Ministry of Education, Culture, Research, and Technology. The resulting model encompasses three categories, namely (1) professional knowledge, (2) professional learning practices, and (3) professional development. This model is based on the Indonesian government's adjustment of the 2013 curriculum.

2. Method

2.1 Research Design

This study applied the qualitative descriptive research design. It utilized the lesson study approach in developing three EFL teacher's model competencies namely; professional knowledge competence, professional learning practice competence, and career professional development with four competency performance level achievement Indicators (thriving 1, capable 2, worth 3, and advanced 4). Teachers' model competence was developed based on regulation No. 6565 in 2020 created by the Education minister of Indonesia. It was taken place at Senior High School 10 Ternate City, Indonesia. This study followed three-phased of the lesson study framework namely the plan phase, teach/do phase, and reflect/see phase. Lesson Study activities were done for four cycles.

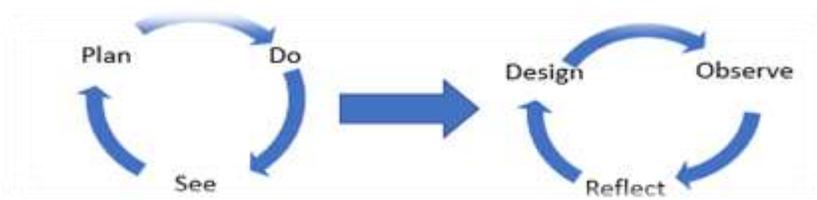


Figure 2. The Steps of the LS Cycle

2.2 Participants of the Study

Participants involved four EFL Teachers at Senior High School 10 Ternate City Indonesia. They consisted of one male and three females. Four EFL teachers were selected through purposive sampling with four criteria: (a) sex, (b) age, (c) teaching experience (d) educational background, and, (e) job status.

Table 1. The characteristics of Participants

Name of Participants	Age	Sex	Teaching Experience	Educational Background	Job Status
AM	49 year old	Male	22 years	English Bachelor	Civil Servant
SN	44 Years old	Female	16 years	English Bachelor	Civil Servant
FS	28 Years old	Female	5 years	English Bachelor	Civil Servant
SRF	47 years old	Female	20 years	English Bachelor	Civil Servant

2.3 Procedures of Collecting Data

Data were obtained through three LS phases (plan, teach/do, and reflect/see) for four cycles. In the cycle, I, the LS teachers started with setting teaching goals, material, teaching steps, and arranging lesson plan gathering. After arranging the lesson plan, teacher AM pointed to using lesson plan in teaching to third-grade students of science major I, and then other teachers and researchers observed the class. Furthermore, it continues to reflect the classroom activities. The reflection finds out some weaknesses of the lesson by observers. All observers' recommendations consider bringing out in cycle II. In t cycle II, teachers modified lesson plans by changing teaching goals,

materials, and teaching steps, then applied by teacher SN in teaching to third-grade students of science major II. Other teachers and researchers attended to observe classroom activities. After it, all teachers went to the reflection phase to discuss and give recommendations to plan cycle III. The recommendations of the observers were taken into consideration, and minimal changes in the lesson plan were applied for the next cycle. In Cycle III, LS teachers minimal changed the lesson plan involved teaching goals, materials, and some teaching procedures, and used teacher FS to teach third-grade students of social major I. Hereafter, LS Teachers and researchers observed teaching and learning took place. After all, LS teachers did reflection and gave input to design the next cycle. The LS teachers started with a meeting to plan the different procedures for the next phase. It was agreed to revise some points such as; teaching goals, materials, and procedures. The results of designing lesson plans used by teachers SRF to teach the third-grade students of social science II in cycle IV.

2.4 Data Analysis

Data analysis was used to find out the development of EFL teachers' competence preferred three models competence categories through Lesson Study activities for four cycles, and it is an effect on students' communication and critical thinking skills. A 4-point Likert scale ((1=Thriving; 2= Capable; 3 = Worth; and 4 = advanced) was utilized to measure lesson study profile aspects on the development of EFL Teachers' Model competencies and it is an effect on students' communication and critical thinking skills. Data was gained by a 4-point Likert scale calculated with frequency and presentation formula through Microsoft Excel Windows 10.

3. Findings

The improvement of teacher expertise through LS activities is achieved through four learning cycles, each consisting of the *plan-do-see* circles. In the *plan* stage, teachers in the LS group work together to create lesson plans for learning activities. The preparation involves collaboration in its creation and the analysis of teaching goals, materials, learning objectives, media, tools, learning methods, and assessments appropriate for the lessons. The following is a summary of the activities involved in lesson plan preparation by LS group member teachers.



Figure 3. Plan steps of Lesson Study Activities

Do-The implementation of the learning process in class will be carried out in collaboration, with four teachers taking turns teaching based on the jointly prepared plan. The fifth teacher acts as an observer during the class activities. The following is a brief overview of the implementation plan (*do*).



Figure 4. Do step-in lesson study activities

See, the teachers and an observers engage in a collaborative reflection on the learning that has taken place in the classroom. The observers,

acting in a supportive capacity, presents their findings from observations made during the learning process. These findings serve as valuable input for future redesign and improvement of the experience. The following outlines the observed activities in a formal manner:



Figure 5. See step in lesson plan activities

3.1 Findings Based on Document Analysis (Lesson Plan)

A lesson plan analysis from learning cycle I to IV shows gradual development in Professional Knowledge Competence, Learning Practices, and Development based on each indicator of the teacher competency model. These themes are depicted in the following table:

Table 2. Finding the development of teacher competence through the study of cycle I-IV lesson plans

No	Teacher Competency Model Category	Cycle I (%)	Cycle II (%)	Cycle III (%)	Cycle IV (%)
1	Professional Knowledge	41.66 %	58.33%	83.33 %	91.66%
2	Professional Learning Practice	56.25 %	62.5 %	75 %	87.5%
3	Professional Development	55%	65%	75%	85%

The data in Table 2 indicates a steady increase in the development of the three teacher competency models across each cycle. For the competency category of new professional knowledge, the lesson plans increased from 41.66% to 91.66% in cycle I to IV. The competency category of professional learning practices also increased from 56.25% to 87.5% in cycle I to IV. Furthermore, a similar trend was observed in the development of competence in the professional development category, which increased from 55% to 85% in cycle I to IV.

The growth in these competencies can be attributed to designing lesson plans, which start with analyzing the English subject syllabus, selecting learning materials, setting objectives, and determining methods, media, and assessments. Meanwhile, teachers also plan their preliminary, core, and closing activities. The competency in the lesson plan design stage was developed and proficient in cycle I and II. It became increasingly feasible and proficient in cycle III and IV.

3.2 Findings Based on Observations of the Teacher’s Learning Process in the Classroom

The teacher has compiled four lesson plans, organized into four LS cycles, to be utilized in the classroom. Cycle I, II, III, and IV were designed for AG, FS, SN, and SRF teachers, respectively. The implementation of these collaborative lesson plans resulted in a positive impact on the learning outcomes, as shown in Table 3:

Table 3. Findings of teacher competency development through cycle I-IV learning

No	Teacher Competency Model Category	Cycle I (%)	Cycle II (%)	Cycle III (%)	Cycle IV (%)
1	Professional Knowledge	58.33%	66.66%	83.33%	91.66%
2	Professional Learning Practice	50%	68.75%	87.5%	93.75%
3	Professional Development	55%	75%	85%	95%

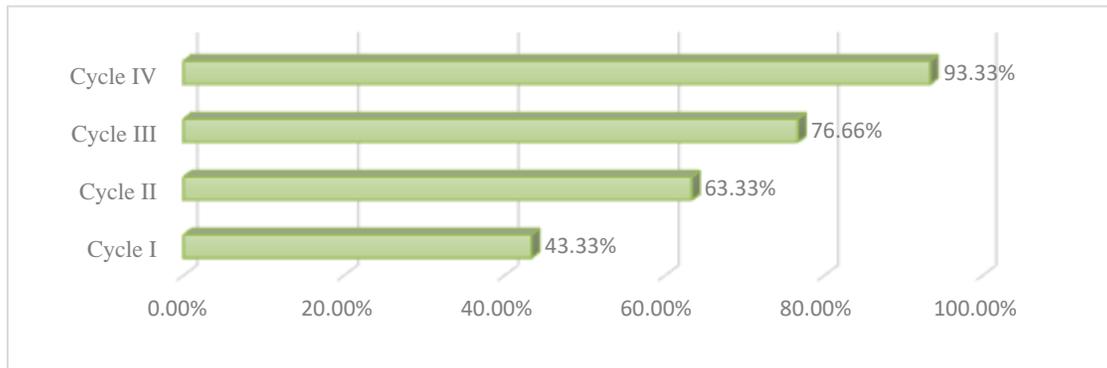
The findings in Table 3 show that AG teachers displayed proficiency in developing knowledge competencies, professional learning practices, and development during the implementation of cycle I. Specifically, 58.33%, 50%, and 55% of AG showed competence in the development of knowledge, professional learning practices, and development. However, the results were not considered significant. In Cycle II, the learning was redesigned in collaboration with FS teachers. This collaborative effort positively impacted the teachers’ professional knowledge competence, learning practices, and development, which increased to 66.66%, 68.78%, and 75%. Despite this improvement, the average FS teacher only achieved proficiency, not increasing to the advanced category.

Building upon the weaknesses identified in Cycle II, SN, and SRF, teachers further improved and implemented cycle III and IV learning. The results showed significant development of the three teacher competencies. The professional knowledge competency development was 83.33% and 91.66% in cycle III and IV, while the development of professional learning practices was 87.5% and 93.75% in cycle III and IV. Furthermore, professional development competence was 85% and 95% in cycle III and IV. The overall development of the three teacher

competencies in cycle III and IV is considered to be at a proficient level.

3.3 The Finding is Based on Observing the Impact of LS on Student Learning Outcomes Cycle I-IV

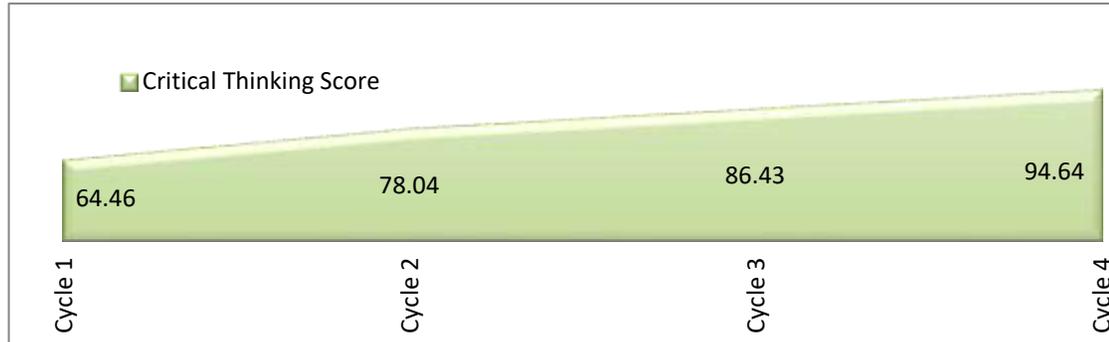
A teacher’s competence is enhanced through classroom learning and its effect on improving students’ communication skills. The increase in professional knowledge and skills, as well as their continued professional development, has a significant impact on enhancing students’ communication abilities. This is evident in the graph showcasing the progression of communication skills, which has been measured using the 8 indicators of communication skills as modified by Mahmud et al. (2023):



Graph 1. Percentage of the development of student’s communication skills cycles I-IV

The results in Graph 1 suggest that the enhancement of teacher competence through the implementation of learning design and cycle I to IV significantly impacts the growth of students’ communication skills. The data shows a steady increase in communication skills presentation, with a 43.33%, 63.33%, 76.66%, and 93.33% improvement in cycle I, II, III, and IV.

Moreover, the development also significantly affects critical thinking skills. The results were evaluated through learning activities conducted by four English teachers using six indicators adopted from Fisher (2011) and applied by Zubaida (2018). The results demonstrate a positive impact of teacher competence on critical thinking skills, as evidenced by the improvement in necessary reasoning abilities. The development of critical thinking skills can be characterized as follows:



Graph 2. Percentage of the development of students’ critical thinking skills cycle I-IV

Graph 2 illustrates a progressive enhancement of critical thinking skills from cycle I to IV. The proficiency of the students in cycles I, II, III, and IV was 64.46%, 78.04%, 86.43%, and 94.64%. These findings indicate the substantial impact of teacher’s competence on the student’s critical reasoning growth through LS designed learning activities.

3.4 Discussion

The LS activities implemented at Senior High School 10 Ternate City have profoundly impacted the development of the competency models of four English teachers. These activities have enhanced each teacher’s professional knowledge, learning practices, and overall development. The process of designing a lesson plan involves determining the learning materials, objectives, methods, media, steps, and assessments. Teachers engage in a reciprocal exchange of ideas and best practices through sharing their knowledge and practical experience. These lesson plans are then used in actual learning activities, allowing teachers to improve knowledge competence, practice, and experience in conducting assessments. Moreover, teachers are encouraged to reflect on their learning, contributing to the gradual development of the competency model. This result aligns with the findings of Ponte and Quresma (2020), where LS activities provide opportunities for teachers to collaborate, analyze curriculum and teaching materials, as well as reflect on their lessons and teaching practices.

Professional development and collaboration can be fostered through engaging in learning activities. Teachers can plan and implement hands-on lessons that incorporate their learning experiences and highlight the role of students in the classroom. Observations of students’ activities during these lessons can provide valuable insights into their learning processes. Participating in learning activities can also aid

teachers in developing reflective practice and enhancing pedagogical competence, particularly in understanding student behavior, mastering teaching theories, improving communication and interaction, as well as refining overall teaching abilities (Quaresma & Ponte, 2016; Cañete et al., 2023; Suleman et al., 2022; Gane et al., 2018). Furthermore, participating in learning activities allows teachers to expand their knowledge as educators (Barber, 2018; Verhoef et al., 2015). This study shows that engaging in learning activities can positively impact English learning outcomes, teacher competence, and professional growth (Nashruddin & Nurrachman, 2016; Coşkun, 2017; Goh & Fang, 2017; Özgehan et al., 2019; Y. Remzi et al., 2019; Laoli et al., 2022).

The development of teacher competency models significantly impacts students' learning outcomes in the classroom. The improvement leads to an enhancement of the communication and critical thinking skills of students. Study findings indicate that these skills gradually develop from cycle I to IV. In addition, students exhibit a high level of participation in collaborative learning experiences designed by teachers. Mahmud et al. (2023) stated that LS activities notably increased teacher's competence and improved student learning outcomes. LS activities enhance teacher competency and student learning, as well as provide opportunities for teachers to collaborate and learn from one another. Samaniego and Espinosa (2022) found that LS positively increases and deepens knowledge through exposure to different perspectives and teaching strategies. Similarly, Winarto (2018) supported the use of LS as an effective solution for enhancing the quality of English language education in high schools. Teachers who engage in these activities benefit from sharing pedagogical and professional experiences and focusing on high-quality student learning. LS provides a platform to experiment with different teaching methods and fosters the formation of sustainable and systematic teacher-learning communities. It enables individual growth and improvement, as well as effective management (Perry & Lewis, 2008; Fikri, 2014)

4. Conclusion

The findings and discussion suggest that learning through LS activities significantly impacts the development of professional competencies, practices, and growth of English as a Foreign Language (EFL) teachers. The four English teachers at SMA 10 Kota Ternate have observed the following, (1) LS activities have a marked effect on the growth of professional knowledge competencies, learning practices, and development of EFL teachers in teaching English, (2) LS activities enhance students' communication skills, critical thinking, and enthusiasm for learning English in the classroom, (3) LS activities provide opportunities to share knowledge, good practices, experiences, reflection on teaching, and engaging in collaborative learning, and (4) this study is the first to integrate three models of teacher's competence as per the regulation of the Directorate General of Teachers and Education Personnel No 6565 of 2020 and serves as an effort to align with the Independent Curriculum.

References

- Adam, S., & Ali, U. S. (2022). Implementation of Lesson Study in Improving the Quality of Learning English at Bina Informatics Vocational School, Ternate City. *Online Bilingual Journal*, 12(1).
- Barber, K. (2018). Developing teachers' mathematical task knowledge and practice through lesson study. *International Journal for Lesson and Learning Studies*, 7(2), 136-149. <https://doi.org/10.1108/IJLLS-09-2017-0042>
- Cañete, A. M., Hitgano, A. R., Nuñez, E. M., Talamo, R. M., & Bellen, J. A. (2023). A Lesson Study on Teaching Impulse and Momentum in the New Normal. *Universal Journal of Educational Research*, 2(1), 57-66. Retrieved from <https://www.ujer.org/vol2no1/article127>
- Coşkun. (2017). The Application of Lesson Study in Teaching English as a Foreign Language. *Journal of the Faculty of Education*, 18(1), 151-162. <https://doi.org/10.17679/inuefd.297845>
- Dewi, F. A., Dambayana, E. P., & Namiasi, N. K. (2022). Lesson Study Using NHT Techniques in Learning English. *Journal for Lesson and Learning Studies*, 4(2), 203-207.
- Dit. PSMA Directorate General. Elementary and Secondary Education (2017). Implementation of 21st Century Skills in Preparing RPP.
- Elipane, E. L. (2022) Productive Lesson Study towards Quality Professional Development for Science Teachers. *European Online Journal of Natural and Social Sciences*, 11(4), Special Issue.
- Fikri, K. (2014). *Implementation of Lesson Study in Forming a Learning Community in the Biology Education Study Program*. Proceedings of the National Seminar on Education and SCIENCE. Jember University Mathematics Education Study Program, 16 March 2014.
- Gana, C. S., Friday, O. H., Josiah, M. M., & Mohammed, J. N. (2018). Influence of Lesson Study on the Professional Development of Teachers in Maryam Babangida Girls Science Secondary School, Minna Niger State. A paper presented at the 31st Annual National Conference on Technical Vocational Education and Training and Alternative Energy Sources for Sustainable Economy Recovery in Nigeria on the 15th -18th October, 2016, held at Yusuf Maitama Sule University, Ado Bayero House, Kano, Kano State.,354-360
- Goh, R., & Fang, Y. (2017). Improving English language teaching through lesson study: A case study of teacher learning in a Singapore primary school grade level team. *International Journal for Lesson and Learning Studies*, 6(2), 135-150. <https://doi.org/10.1108/IJLLS-11-2015-0037>
- Human Development Report (2019). Retrieved January 13, 2023, from <http://hdr.undp.org/en/composite/HDI>
- INDONESIA, P. R. UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 14 TAHUN 2005 TENTANG GURU DAN DOSEN.
- Jawa, P. (2021). *Teacher Competency Exam Results*. Retrieved January 13, 2023, from

- <https://www.jawapos.com/nasional/dinding/19/11/2021/kemendikbudristek-juang-rata-rata-score-kompetensi-guru-5064-poin/>
- Laoli, A., Dakhi, O. Z., & M. Maria. (2022). The Application of Lesson Study in Improving the Quality of English Teacher. *Educatif Journal of Education*, 4(2). <https://doi.org/10.31004/edukatif.v4i2.2434>
- Mahmud, AF Umahuk, S., Fudji, SR, Noh, SA, Soleman, F., & Gafar, A. (2023). Building Students' Communication Skills in Learning English through Lesson Study at Senior High Schools. *JOLLT Journal of Languages and Language Teaching*, 11(1), 72-82. <https://doi.org/10.33394/jollt.v11i1.6540>
- Mohsen. (2020). From experienced to professional practitioners: a participatory lesson study approach to strengthen and sustain English language teaching and learning studies. *International Journal for Lesson and Learning Studies*.
- Nasrudin, W., & Nurrachman, D. (2016). *The Implementation of Lesson Study in the English Language: a case study*. <https://doi.org/10.21093/di.v16i2.356>
- Özgehan, U., & Iren Ç. (2019). Lesson Study for Professional Development of English Language Teachers: Key Takeaways from International Practices. *Journal on Efficiency and Responsibility in Education and Science*, 12(2), 41-50. <https://doi.org/10.7160/eriesj.2019.120202>
- Perry & Lewis. (2009). Improving Mathematics Instruction through Lesson Study: a Theoretical Model and North American Case. *J Math Teacher Educ* (2009), 12, 285-304. <https://doi.org/10.1007/s10857-009-9102-7>
- Pikiran, R. (2019). *Indonesian Teacher Competency Exam Results*. Retrieved January 13, 2023, from <https://www.mind-rakyat.com/dikducation/pr-01317844/70-guru-ntak-kompeten>
- Ponte, J. P., & Quaresma, M. (2016). Teachers' professional practice conducting mathematical discussions. *Educational Studies in Mathematics*, 93(1), 51-66. <https://doi.org/10.1007/s10649-016-9681-z>
- Regulation of the Directorate General of Teachers and Education Personnel of the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia Number 6565. (2020). Model Kompetensi Guru dan Kepala Sekolah.
- Samaniego, K. B. K., & Espinosa, A. A. (2022). Developing mathematics-enhanced chemistry research lessons through productive lesson study: Insights from in-service teachers. *Waikato Journal of Education*, 27(3), 2022. <https://doi.org/10.15663/wje.v27i3.736>
- Sulaiman, R., Mansyur, U., & Sulastri, S. (2022). Lesson Study-Based Learning of English Teachers' Pedagogic Competence. *Jurnal Sinestesia*, 12(2), 785-793. Retrieved from <https://sinestesia.pustaka.my.id/index.php/journal/article/view/276>
- Verhoef, N. C., Coenders, F., Pieters, J. M., van Smaalen, D., & Tall, D. O. (2015). Professional Development through Lesson Study: Teaching the derivatives using GeoGebra. *Professional Development in Education*, 41(1), 109-126. <https://doi.org/10.1080/19415257.2014.886285>
- Winarto, K. (2018). Efforts to Increase Teacher Professionalism Through Lesson Study Training for English Teachers at SMP Fostered in Blita Regency. *Jurnal Pendidikan: Riset dan Konseptual*, 2(4). https://doi.org/10.28926/riset_konseptual.v2i4.82
- World Economic Forum (2015). *Keterampilan Pembelajaran Abad 21*.
- Y. Remzi, Ceyhun, O., & Duygu, L. (2019). Increasing Students' English Language Learning Levels via Lesson Study. *English Language Teaching*, 12(9), 88-95. <https://doi.org/10.5539/elt.v12n9p88>
- Yennizar & Librianty, H. D. (2022). Pengaruh Lesson Study terhadap Kompetensi Guru Pendidikan Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 7123-7140. <https://doi.org/10.31004/obsesi.v6i6.3321>
- Zubaidah, S. (2018). *Get to Know 4c: Learning and Innovation Skills to Face the Industrial Revolution Era 4.01*. Paper Presented at the "2nd Science Education National Conference" Seminar at Trunojoyo University, Madura.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).