

## Improving Rural Teachers' Pedagogical Competence Through Peer Coaching Approach: A Transformational Approach in Academic Supervision

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**ABSTRACT** : This study investigates the effectiveness of the peer-coaching approach as a transformational strategy in academic supervision to enhance the pedagogical competence of rural junior high school teachers in Nagekeo Regency, East Nusa Tenggara, Indonesia. Recognizing the limited access to professional development resources in rural areas, the study focuses on implementing the TIRTA peer-coaching model, a structured framework that emphasizes collegial collaboration, reflective dialogue, and instructional improvement. Employing a qualitative case study methodology, data were collected through structured interviews, focus group discussions, and pedagogical competence assessments involving ten certified teachers at SMPN 1 Boawae Satap. Findings revealed significant improvement across all nine indicators of pedagogical competence post-intervention, including mastery of learning theories, curriculum development, ICT integration, student-centered instruction, and authentic assessment practices. The results indicate that peer coaching not only fosters a supportive professional learning environment but also addresses instructional gaps by promoting reflective teaching and mutual feedback. The study concludes that the peer-coaching approach, when supported by adequate supervision and contextualized to the needs of rural educators, can serve as an effective model for sustainable teacher professional development and improved educational quality in under-resourced regions.

**KEYWORDS:** *Academic Supervision, peer coaching, pedagogical competence, rural teachers*

### I. INTRODUCTION

Teacher plays a crucial role in education implementation. As a professional occupation, teacher's profession is supported by Law in Indonesia. The Law of Teachers and Lecturers Number 14 Year of 2005 stating that teacher's competence as stated in chapter 8 consisting of Pedagogical competence, professional competence, social competence and personal competence. Pedagogical competence has become a majority for teachers to perform a well-conditioned effective and dynamic learning process (Saleh, S., et.al., 2019; Sarlota, 2021) in the learning process, teachers perform their good pedagogical competence by understanding the learning principles, learning theory to mastering teaching materials (Gervals, 2016; Sarlota, 2021).

The Indonesia Ministry of Education through the National Laws of Indonesia Educational Ministry Year of 2007 points out that teacher must develop continuously their competence in for domains, pedagogical, professional, social and personal. It has been stated that the development of the competence should be supported by a well-structured supervision and personal development programs (Sergiovanni, 2022; Satria, et.al., 2025). Law of student's achievement, teacher burnout and challenges with diverse learners are the problems encountered by teachers who are lack of pedagogical competence. However, teacher should increase their pedagogical competence to overcome these problems.

Many studies have been conducted that academic supervision has impacts on the pedagogical competence development (Satria, et.al., 2025). Academic supervision activity is not an assessment for evaluating teacher's performance, which focusing not only for main task to teaching and guiding students in learning process but also to helping teacher to develop their ability to manage the learning for the achievement of learning objectives (Fauzon, 2020; Memeh, et.al., 2019; Sarlota, 2021). In the other hand, the academic supervision helps teachers to develop their professional skills. In line with that, the main purpose of academic supervision is merely to improve the quality of learning which ultimately hopes for student's achievement (Erpidawati, et.al., 2019; Sarlota, 2021). Consequently, schools should provide an effective approach of academic supervision to fulfill teacher's pedagogical competence. Similarly, Marwati (2020; Satria, et.al., 2025) revealed that the implementation of systematic academic supervision in schools can improve teacher performance, especially if it is combined with professional development initiative such as workshop and peer

coaching. Coaching is a process of upgrading professionalism quality (Ali, et.al., 2018; Ina Fatina Dewi, 2021) although the coach has no expertise in the coach's area. Moreover, coaching focus more on goal setting for a short-term achievement rather than approaches for professional improvement (Ina Fatina Dewi, 2021). Peer-Coaching is defined as a process of two or more professional colleagues work together for specific predetermined purpose which aims to enhance teaching performance as well as it is validated (Beker, 2007 as cited in Amal Alsaleh, et.al., 2017). In case of that, this can be used as an approach to collaborative academic supervision in a learning community of teachers in school. One method of peer coaching developed by Balai Guru Penggerak (BGP)/The Board of Teacher Actuating Association is TIRTA coaching. It is an innovation approach to provide a systematic framework for the coaching process.

Rural area is the specific area which has limitation in facilities and human resources. In education field, teachers of rural areas are lack of professional community to build teachers culture of developing their profesional and pedagogic competence. The teachers of rural areas definitely encountered the problems in learning process because of the lack of pedagogic competence development. Regarding the issue above, this study aims to conduct research on the implementation of peer-coaching approach as a transformational approach in academic supervision to enhance the pedagogical competence of teachers in rural area. The same study has been conducted by other researchers, Sarlota (2021) conducted research on the impact of academic supervision on teacher's performance and teacher's pedagogical competence but this study focusing on how teacher's self efficacy can moderate the two competences. The study stated that academic supervision can affect the teacher's pedagogical competence. The other research by Ina Fatina Dewi (2021), applied the Mentoring-Coaching approach to improve teacher's pedagogical competence. The findings indicated that teacher's pedagogic competence was risen using this combined technique, although not all subjects were successfully being improved. Thus, this study is aimed to figure out any problems encountered by the teachers before the peer-coaching implementation and how effective is the peer-coaching approach in academic supervision to improve teacher's pedagogical competence.

## II. LITERATURE REVIEW

Many studies have been conducted to figure out the implementation of academic supervision in order to improve teacher's instructional quality and it can effect the teacher's pedagogical competence. One technique of academic supervision is peer coaching approach which is used by teachers of rural school to improve their pedagogical competence. This section provided the theories, supporting ideas and studies that support the research of this study. This review is organized into four main areas as based-literature review into academic supervision, peer coaching approach, pedagogical competence and school of rural area.

### 2.1. Academic Supervision

Supervision is a part of education quality improvement. This activity is aimed at improving the learning process. Sagala (2013, cited in Sehan, 2024) states that supervision is essentially profesional aid to assisting and guiding teachers in carrying out instructional tasks for the improvement teaching learning process by providing continuous stimulation, coordination and guidance, taken place individually or grouply. However, academic supervision is held as a series of activities to help teachers developing their ability to manage the learning process to obtain the learning objectives (Glickman, C. D., 1981 as cited in Sehan, 2024). It means that academic supervision is conducted by observing the problems encountered by teachers in the learning process as the obstacles to achieve the learning goals. As stated by Rahabav (Rahabav, P, 2016, cited in Sehan, 2024) that one of the goals of academic supervision is to helping teachers develop their competencies namely pedagogical, personal, social and professional. It is also supported by Rusdiman (Rusdiman, A. B., et.al, 2022) that academic supervision can help developing a better learning and teaching situation through coaching. A line with that, the academic supervision also has impact on the development of teacher's pedagogic competence. Some previous research revealed that academic supervision has a significant positive effect on pedagogical competence (Aswindah, et.al., 2019; Bafadal, et.al., 2019; A. Istiningsih, et.al., 2019; Porniadi, et.al., 2019; Saleh & Arhas, 2019; Sarlota, 2021). According to the research conducted by Mugih et.al. (2025), one method often proposed in academic supervision is coaching which indicates the use of coaching in academic supervision. It emphasizes on a collaborative approach between the supervisor (coach) and the teacher (coachee). Then, they discuss to identify problems, formulate the solutions and support teacher's continuous professional development. It means that the use of coaching plays the role of giving feedback to the teachers to improve their teaching skills which can help them to provide a better-quality learning process in the classroom.

### 2.2. Peer-coaching Approach

Coaching and mentoring is actually similar in its purpose to serving individual's growth by having a mutual and close relationship (Klages, et.al., 2019; Tonna, et.al., 2017; Ina, 2021). The difference is mentor and mantee has long-term relationship and goal setting that the mentor is the expert of the mantee's area (Chu, 2014; Ina, 2021) while coaching is more focus on the short-term achievement rather than for professionalism quality

improvement then the coach has no expertise in the area of coaches (Ina, 2021). Peer-coaching is somehow different with mentoring as it focuses on relationship building in trust and mutual sharing between coach and coachee (Diaz Maggioli, 2004; Veenman & Denesen, 2001; Alsaleh, et.al., 2017). In the implementation, It has three steps. The first step is pre-conference with teachers as the coach and coachee. In this step, they will share and discuss about the instruments and selection of the goal lesson and observation area. The second observation stage is the lesson observation by the coach. It takes place when the coachee is teaching the lesson and the coach is doing observation and using the documents of lesson tools as examples the instruments, written note, audio or video recording). The last stage is the reflective conference. It takes place as the class is over. Then, the coach and coachee meet privately to discuss the findings in the written-observation notes and reflect them all in a reflective manner (Diaz-Maggioli, 2004; Neubert & Stover, 1994; Alsaleh et.al., 2017). Some studies have demonstrated that the use of peer coaching strategy can improve the teacher's professional development by exploring teaching and learning complex problem that are practice centered, enhancing a reflecting activity on teaching and stimulating a scholarship of teaching and learning (Bruce and Ross, 2008; Murray et.al., 2009; Slater & Simmons, 2001; Alsaleh et.al., 2017).

Based on research conducted by Setianingsih, et. al. (2024) on the use of peer coaching of TIRTA Model could improve the learning quality. TIRTA model of peer coaching is also implemented into three phases, i.e. pre-observation, observation and post-observation. It also supports the principle of peer coaching in a collegial mutual relationship in order to investigate creative ideas of coachee to maximize the coachee's best potential teaching to improve the learning process (Setianingsih, et.al., 2024). The research result showed that academic supervision using the TIRTA coaching model can be an innovative strategy of the quality learning on school. The other research conducted by Mugih Handayani, et.al (2025) focuses on the use of the TIRTA coaching model as an innovative model of supervision academic to improve the professional competence of the elementary school teachers in Dab in, Dr. Wahudin Sudiro Husodo. In addition, the percentage of coaches and coachees who were satisfied with the TIRTA-Innovative flow coaching-based academic supervision model was at 80%. In case of that, this research is conducted to figure out how effective peer coaching is used as a transformational strategy in academic supervision to improve the competence of teachers in rural areas concentrated on pedagogical competence. Thus, The TIRTA coaching method is chosen to figure out the research questions.

### 2.3. Pedagogical Competence

There are four competences that should be mastered by a professional teacher as stated in National Laws on Teachers and Lecturers, those are personality competence, social competence, pedagogical competence and professional competence (Republic Indonesia, 2005 as cited in Saleh et.al., 2021). Yasin (2008, as cited in Fitria, 2022) defined that pedagogical competency related to the way teacher managing learning condition in the classroom. Those are the ability to understand the learners; The ability to create learning design, with indicators, among others; The ability to implement the learning; The ability to evaluate learning outcomes; The ability to develop learners to actualize its potential. Moreover, Ministry of Education Number 16 Year 2007 Academic Standards and Competency Qualifications:

- 1) Mastering the physical, moral, spiritual, social, cultural, emotional, and intellectual and characteristics of learners,
- 2) Mastering learning theories and appropriate instructional principles,
- 3) Developing subject-matter curriculum,
- 4) Conducting educational learning,
- 5) Making use of information and communication technology for the sake of learning,
- 6) Facilitating the development of students' potentials,
- 7) Communicating in an effective, empathetic, and polite manner towards the students,
- 8) Assessing and evaluating instructional processes and learning outcomes,
- 9) Making use of the assessment and evaluations result for the instructional purpose.

Pedagogical competence has been proved directly influencing how teachers engage with the students, design instructional activities and how the learning results assessed (Heri, et.al, 2025). It means that pedagogical competence has been the major competence for teacher to design a quality of learning process for the students. In other words, these should be competences that come from a well-structured supervision and a professional development program (Sergiovanni, 2022 as cited in Heri, et.al., 2025). In relation this research conducted, the rural teacher's pedagogical competencies will be evaluated based on the ninth indicators stated by The Ministry of National Education Number 16 Year 2007 Academic Standards and Competency Qualifications. Those indicators will be defined for the improvement as the teacher done the peer coaching for learning evaluation in academic supervision.

## 2.4. School of Rural Area

Rural area is the location in a remote area which is limited in resources and infrastructure. Consequently, the rural area often experiences the limitation in terms of access of adequate educational resources, including lack of physical facilities, learning equipment and qualified teacher. This also affects the quality of learning process itself which is far from expectation. However, the schools of rural area in Indonesia are also based on the classification stated by the Ministry of National Education (KEMDIKBUD). It is stated that schools are categorized into rural areas based on Regulation of the Minister of Education, Culture, Research, and Technology Number 14 of 2021 which establishing the categories of special regions based on geographical conditions, such as remote or underdeveloped areas, areas inhabited by isolated indigenous communities, regions bordering other countries, or the smallest and outermost islands. This regulation serves as an amendment to Regulation of the Minister of Education and Culture Number 23 of 2020 concerning Guidelines for Determining Special Regions in the Implementation of National Education Policy. SMPN 1 Boawae Satap is including into rural school, it is stated in the School Data of DAPODIK of KEMDIKBUD. Meanwhile based on the latest Village Development Index (IDM) data, Nagerawe Village, located in Boawae Sub-district, Nagekeo Regency, East Nusa Tenggara Province, is categorized as a severely underdeveloped village. This is indicated by an IDM score of 0.4571 (Data from Ministry of Villages, Development of Disadvantaged Regions, and Transmigration), reflecting low levels of social, economic, and ecological resilience in the village into a rural village.

## III. RESEARCH METHODS

In order to collect data, the research will be conducted in a school of rural area as a case study of rural schools in Nagekeo Regency, especially in junior schools. According to Yin (2018, cited in Nadhila, et.al., 2022), when the focus of the research is on phenomena that are current (present) in the context of real life, case studies are a better strategy.

The primary goals of the case study are to improve analytical, problem-solving, and decision-making skills, as well as to gain a better understanding of the system. For the data collection, interviews, and observation. The interviews were based on a common set of questions, with some follow-up questions as the teachers raised issues so that their knowledge and beliefs could be explored in depth (Faridi, 2011, as cited in Nadhila, et.al., 2022). By using structured interviews, the interviews lasted 30 to 40 minutes and will be conducted in Indonesian because the researcher is a native speaker of the language.

The research informants were selected using purposive sampling technique. There were ten teachers from the school of SMPN 1 Boawae Satap was selected as a participant for the piloting process as the school is located in a rural area. This school was selected for the research because it has 10 certified teachers of all subjects and 5 of them are from "Guru Penggerak" program as those are taken as the purposive sampling. "Guru Penggerak" program a developing professional teacher program of KEMDIKBUD which trains teachers to practicing a peer-coaching in academic supervision using the model of TIRTA peer coaching.

This research will be conducted in a descriptive qualitative approach. As the data will be taken from individual interview with the teachers and Focus Group Discussion (FGD). Then, the data will be analyzed and reported as it is naturally. This research focus on figure out how effective is the peer-coaching approach in academic supervision to enhance teacher's pedagogical competence and the problems encountered by the rural teachers before the implementation of peer-coaching approach in academic supervision.

## IV. FINDINGS AND DISCUSSIONS

### 4.1 The teacher's pedagogical competence before the implementation of peer-coaching approach in academic supervision

Based on individual interview, the data then was analyzed as findings as follows:

**Table 1. Pedagogical competence percentage of the teachers before the implementation of peer coaching approach in academic supervision**

No.	Pedagogical Competences	Result
1.	Mastering the physical, moral, spiritual, social, cultural, emotional, and intellectual and characteristics of learners	50 %
2.	Mastering learning theories and appropriate instructional principles	40 %
3.	Developing subject-matter curriculum	60%
4.	Conducting educational learning	70%
5.	Making use of information and communication	60%

	technology for the sake of learning	
6	Facilitating the development of students' potentials	45%
7.	Communicating in an effective, empathetic, and polite manner towards the students	50%
8.	Assessing and evaluating instructional processes and learning outcomes	75 %
9	Making use of the assessment and evaluations result for the instructional purpose	40%

The competence of mastering of physical, moral, spiritual, social, cultural, emotional and intellectual and characteristics of learners was found in the data 50 % as the teachers before the implementation of peer-teaching were using negative- discipline in teaching, they tend to use anger and emotional perspective in teaching to students who misbehaved in the classroom, teachers did not pay attention to children needs in the classroom.

The competence of mastering learning theories and appropriate instructional principles was found in the data 40 % as the teachers before the implementation of peer-teaching were never get introduced to a renewal-knowledge of their lesson and also, they never shared ideas, techniques and strategies of teaching in classroom.

The competence of developing subject-matter curriculum was found 60 % as the teachers got information and ideas from online learning web based (Webinar). The teacher joined he webinar individually because to pursue the certificate for their teacher appraisal evaluation done each semester but they never discussed or evaluate it in groups of teachers.

The competence of conducting educational learning was found 70 % as the teachers did the educational learning based on the lesson plan made. It was done only a part of it because in the implementation of lesson plan there was changing made by teachers due to limited time, students' learning-problem in understanding the material and also the learning source was adequate and lack of learning aid prepared by teachers.

The competence of making use of information and communication technology for the sake of learning was found 60 % as the teachers already used technology in classroom teaching learning, for example the use of downloaded learning video, online learning-game and material presentation using application but the use of technology was not routine because the internet connection problem was bad in village and also there were less of sharing good practices of well-technological equipped teachers in school.

The competence of facilitating the development of students' potential was found 45 % as the teachers were not sensitive to students basic-needs and learning problem because they just focused on finishing their teaching lesson rather than facilitate students' needs and also, they never discussed in a formal professional discussion for the solutions.

The competence of communicating in an effective, empathetic, and polite manner towards the students was found 50 % only as the teachers were influenced by their culture of using "rude" words to discipline the students so they can do as the directions and being polite in the class. The classroom management was too difficult for teachers in a polite manner towards some uncontrolled-students. It also affected the learning result as the students did not accomplish the learning goals.

The competence of assessing and evaluating instructional processes and learning outcomes was found 75 % as the teachers did the evaluation well until got the final result for the learning result but they got problem in giving the final evaluation for classroom goal achievement in each lesson. It happened because the teachers thought it wasted time to did analysis on each student's achievement.

The competence of making use of the assessment and evaluations result for the instructional purpose was found 40 % as the teachers did only the evaluation as the learning assessment but never did the feedback as reinforcement and less practice of reflective teaching based on students assessment as improvements of instructional purpose.

#### **4.2. The improvement of teachers' pedagogical competence after the implementation of peer-coaching approach in academic supervision**

Based on the individual interview to sampling teachers, The data were found to describe the result of implementing peer-coaching as an effective technique in academic supervision as follows:



**Table 2. Pedagogical competence percentage of the teachers after the implementation of peer coaching approach in academic supervision**

No.	Pedagogical Competences	Result
1.	Mastering the physical, moral, spiritual, social, cultural, emotional, and intellectual and characteristics of learners	80 %
2.	Mastering learning theories and appropriate instructional principles	70 %
3.	Developing subject-matter curriculum	90%
4.	Conducting educational learning	100%
5.	Making use of information and communication technology for the sake of learning	90%
6	Facilitating the development of students' potentials	75%
7.	Communicating in an effective, empathetic, and polite manner towards the students	80 %
8.	Assessing and evaluating instructional processes and learning outcomes	100 %
9	Making use of the assessment and evaluations result for the instructional purpose	70%

After the use of peer-coaching in academic supervision, the teachers were improved to make change in their learning instructional as explained in the interviews, the competence of mastering of physical, moral, spiritual, social, cultural, emotional and intellectual and characteristics of learners was found in the data 80 % as the teachers before the implementation of peer-teaching started to using positive and polite discipline in teaching, they tend to use motivational feedback and friendly learning consultation to students who had learning problems in the classroom, teachers started to confirm feedback from students during learning process. It is dealing with the impact of peer coaching to improvement of teacher's competence managing students' basic needs and connects them to students learning needs.

The competence of mastering learning theories and appropriate instructional principles was found in the data 70 % as the teachers after the implementation of peer-teaching, they shared in a renewal-knowledge of their lesson and also, they shared new ideas, positive information and practicing a collegial partnership discussion to sharing techniques and strategies of teaching in classroom to overcome teaching learning problems. According to Becker (n.d. cited in Lee, 2016), peer coaching has contributed to an overall improvement in teaching and learning in the US schools which means that their pedagogical competence getting improved by the collaboration supporting each other

The competence of developing subject-matter curriculum was found 90 % as the teachers were often and effectively exposed to some individual learning webinar and seminar to enhance their pedagogical and professional competence and also teachers joined their professional learning community in the regional level so that enable them to enrich their insight about subject and curriculum implementation in varies practice. In case of that, they could use that information while doing peer-coaching to give mutual feedback to their college. It is aligned with the research conducted by Lee (2016) that peer coaching helps to develop a better understanding of best practices and better-articulated curriculum for they can shared their ideas and solutions or even predictable problems of learning encountered.

The competence of conducting educational learning was found 100 % as the teachers did the learning successfully based on the lesson plan made. The planning was made together also the improvement made after peer-coaching if the teacher got teaching learning problem. A better lesson plan was made and discussed in peer-coaching to avoid usual predictable problems of instructional learning process. As stated by (Rahabav, P: 2016; cited in Sehan, 2024) Peer coaching can assist teachers in developing their curriculum, namely syllabus, Lesson Plan (RPP), main activities, methods/strategies, learning tools/media, assessment and others. It means that, by peer coaching teachers are initiatively supported and encouraged to manage their pedagogical competence by complementing all the needs of teaching the lesson prepared well.

The competence of making use of information and communication technology for the sake of learning was found increasing to 90 % as the teachers already used technology in classroom teaching learning increasingly and routinely getting exposed by technology information after peer-coaching because they get positive feedback from the coach and improve their class instructional with innovative approach of vary learning video, online learning-game and material presentation and they get discussion of implementing new teaching techniques based on many best practices on teacher professional platform. As the research conducted by Dasilva, et.al (2025) finds out that peer coaching can encourage and support teacher to use basic technology

such as online platform learning or downloaded video and offline classical games for interactive and innovative learning in the era 4.0 in case the feedback observation made by the coach can be the practical solutions for coachee.

The competence of facilitating the development of students' potential was found increasing to 75% as in the peer-coaching, the teachers were directed comfortably to dig their common sense of finding out the learning problems faced by students and the cause of them. However, in the peer-coaching discussion, the teachers were built simultaneously to create solutions as their pedagogical competences enhanced based on student's needs. It is aligned to research conducted by Alsaleh, et.al., (2017) that in peer coaching approach, a coach and coachee are sharing ideas and also comments and feedback are given as free embracement and sensitivity without judgmental comments to the coachee figuring out facilitating the development of students' potential during learning process. So, the teacher can improve their pedagogical competence continually and easily through peer coaching.

The competence of communicating in an effective, empathetic, and polite manner towards the students was found increasing to 80% as the teachers were influenced by their new perspective of positive discipline culture as new habits of teaching found in peer-coaching. It changed their way of communicating and behaved politely to students and also influenced this habit to students to as classroom instructional in class. It was seen as the teachers and students are in a better relationship than before and students were freely and openly expressed their feelings to teacher and consulted their learning problem to teachers. It could create a positive better learning which also affected the improvements of students' learning result. Such practices are also in line with Glickman's assertion (2021, cited in Satria, 2025) that a collaborative and supportive supervision can improve teacher's pedagogical competence and also figuring out specific pedagogical weaknesses.

The competence of assessing and evaluating instructional processes and learning outcomes was found increasing to 100 % because it got improved well for the teachers as they discussed a lot in the peer-coaching about the proper techniques of assessing and evaluating instructional processes and learning outcomes. They also practiced and did together the simple assessment and evaluation after the peer-coaching session. They prepared spare time to peer-teachers who needs aid to instrument of assessment and evaluation. According to Podgursky, M.J., & Springer, M.G. (2007, cited in Sehan 2025) that a good teacher's performance was under one of the indicators which is teacher's ability in conducting learning outcomes through various evaluation methods in order to ensure the achievement of learning goals. In case of that, peer coaching through observation cycle can observe any weaknesses of the learning evaluation and provide feedback and follow up as improvement.

The competence of making use of the assessment and evaluations result for the instructional purpose was found increased to 70 % as the teachers started to evaluate and do assessment of the learning process not only the learning result. It was called authentic assessment as the new way of peer-coaching solution come up to teachers' new insight to do evaluation based on reflection and constructive feedback of their peer teachers. This technique briefly improved their pedagogical competence in doing assessment and improvements of teaching instructional quality. This is as stated in Rahabav, P. (20016) that academic supervision can help teachers to discover their students' learning difficulties and plan corrective actions. By peer coaching approach in academic supervision, these are facilitated through implementing the three cycles of peer coaching, reflective teaching and continual follow up of the colleges and principal to ensuring the improvements and corrections made by teachers.

According to Galbraith and Anstrom (2003 as cited in Mashudi, 2020), peer coaching can be considered successful if it includes the following elements in its implementation which are follows, a trust-based relationship among the peer coach, the coachee, and other involved parties; an administrative support (emotional, organizational, and financial); a recognition of the need for ongoing development and formal learning processes; a clear expectations regarding participation; an assessment methods to measure differences and outcomes of the experience; a release time for the peer coach; and a funding to support training activities and involved personnel. Based on the interview and FGD with the sampling teachers, and data discussion above, the implementation of peer coaching as an effective approach to improve the rural teachers' pedagogical competence regarding with the problems encountered before the implementation of peer coaching approach.

## V.CONCLUSION

The findings of this study affirm that the implementation of peer coaching, particularly through the TIRTA model within the framework of academic supervision, serves as an effective and transformative strategy for enhancing the pedagogical competence of teachers in rural areas. Prior to the intervention, teachers exhibited considerable challenges across key pedagogical domains, including limited application of learning theories, inadequate assessment practices, minimal integration of reflective teaching, and a lack of student-centered instructional approaches. These deficiencies were largely attributed to professional isolation, limited access to structured development programs, and insufficient supervision mechanisms.

Prior to peer coaching, teachers in Nagerawe Village faced multiple challenges, including limited understanding of learning theories, poor classroom management strategies, lack of reflective teaching practices, and insufficient use of assessment results for instructional improvement. However, after the implementation of peer coaching—particularly using the TIRTA model—substantial improvements were observed across all nine indicators of pedagogical competence.

Following the structured implementation of peer coaching, significant improvements were observed in all nine indicators of pedagogical competence, as defined by the Indonesian Ministry of Education. The approach fostered a collegial and reflective professional culture, strengthened teachers' instructional planning and delivery, enhanced the use of technology, and promoted data-informed instructional decision-making. Furthermore, the establishment of mutual trust and collaborative engagement among educators proved essential in sustaining continuous professional learning. Thus, peer coaching—when supported by adequate administrative, emotional, and financial structures—can play a pivotal role in advancing teacher quality and instructional effectiveness in geographically disadvantaged areas. This study contributes to the growing body of literature supporting peer-based professional development as a viable and impactful model in the context of educational equity and school improvement.

### Recommendations

According to the findings and discussion, the following recommendations are proposed to enhance the implementation and sustainability of peer-coaching as a transformative approach to academic supervision in rural schools:

1. **Integration of Peer-Coaching into Academic Supervision Policy**  
Educational stakeholders, including school administrators and local education offices, and school principal should formally incorporate peer-coaching—particularly the TIRTA model—into academic supervision frameworks. This policy-level integration will ensure sustainability and alignment with national teacher competency standards.
2. **Continuous Professional Development for Teachers**  
Regular training and workshops on peer-coaching methods, reflective teaching practices, and the integration of ICT in instruction are essential. These capacity-building efforts will equip teachers with the necessary skills and confidence to engage effectively in peer-coaching activities. The school should provide teachers the schedule to develop their pedagogical competence through a regular school-based CPD.
3. **Provision of Institutional Support**  
Schools must allocate appropriate administrative and financial resources to support peer-coaching initiatives. This includes time allowances within teachers' schedules, coaching materials, and funding for training programs. Such support is critical to reduce resistance and encourage broader teacher participation. However, this also could create a quality mutual learning organization in school.
4. **Strengthening Professional Learning Communities (PLCs)**  
The establishment of school-based and inter-school PLCs is highly recommended to foster a collaborative culture of continuous professional learning. These communities provide a platform for sharing best practices, conducting peer observations, and engaging in reflective dialogue.
5. **Utilization of Coaching Outcomes for Policy and Practice**  
Data and insights obtained from peer-coaching implementation should be documented and analyzed to inform policy decisions at both the school and district levels. This will aid in addressing teacher quality gaps, particularly in remote and under-resourced areas.
6. **Further Research and Longitudinal Studies**  
It is recommended that future research examines the long-term impact of peer-coaching on student achievement and investigates the scalability of the TIRTA model in diverse educational settings. Comparative studies between rural and urban contexts may also yield valuable insights.

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