



Enhancing junior high school teachers' innovation through independent training and learning communities

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ABSTRACT

The lack of teacher innovation due to limited need-based training and insufficient collaboration necessitates efforts to enhance innovation in junior high school teaching. This study examines the relationship between Independent Training and Learning Communities and their combined contribution to Teacher Innovation in Subang Regency, West Java, public junior high schools. This research employs a quantitative approach with correlation regression analysis. The sample consists of 296 civil servant teachers, selected purposely from a population of 1,132 teachers across 38 public junior high schools. Additionally, the results of questionnaires for 38 school principals were conducted to provide supporting data. The findings indicate that teachers actively participating in Independent Training tend to demonstrate greater innovation in their teaching practices. Learning Communities also foster innovation by facilitating discussions and exchanging best practices. The two variables exhibit a reinforcing relationship, where their simultaneous implementation results in a more substantial impact on teacher innovation. This study recommends optimizing Independent Training and Learning Communities, alongside strengthening the role of school principals in supervision, to promote sustainable innovation in teaching practices.

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ABSTRAK

Minimnya inovasi guru akibat terbatasnya pelatihan berbasis kebutuhan dan kurangnya kolaborasi menuntut peningkatan daya inovasi guru guna mendukung kualitas pembelajaran di SMP. Penelitian ini menganalisis hubungan antara pelatihan mandiri dan komunitas belajar terhadap daya inovasi guru di SMP Negeri Kabupaten Subang, serta kontribusi keduanya secara bersama. Penelitian ini menggunakan metode kuantitatif dengan analisis regresi korelasi. Sampel terdiri dari 296 guru ASN yang dipilih secara purposive dari populasi 1.132 guru di 38 SMP Negeri. Selain itu, hasil kuesioner terhadap 38 kepala sekolah digunakan sebagai data pendukung. Hasil penelitian menunjukkan bahwa guru yang aktif dalam Pelatihan Mandiri lebih inovatif dalam pembelajaran. Komunitas Belajar juga berperan dalam mendorong inovasi melalui diskusi dan berbagi praktik baik. Kedua variabel ini memiliki keterkaitan yang saling menguatkan, di mana penerapan secara bersamaan berdampak lebih signifikan terhadap daya inovasi guru. Penelitian merekomendasikan optimalisasi Pelatihan Mandiri dan Komunitas Belajar serta penguatan supervisi kepala sekolah untuk meningkatkan inovasi pembelajaran secara berkelanjutan.

Kata Kunci: inovasi guru; komunitas belajar; pelatihan mandiri; Platform Merdeka Mengajar; SMP

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INTRODUCTION

Pedagogical competence and teacher innovation power are important factors in improving the quality of learning in Indonesia. The discourse on Merdeka Belajar in the Indonesian Education Roadmap (2020-2035) departs from the problem of primary and secondary education, which continues to experience a decline in literacy, numeracy, and science trends. From 2015 to 2021, PISA (*Programme for International Student Assessment*) stated that students' learning outcomes were inadequate due to the gap between teaching effectiveness and teaching methods (Alwi & Indriyani, 2023). The decline in PISA scores is also due to a content-based, rigid curriculum, and the teacher competency score in the UKG (Uji Kompetensi Guru), which is still at 54.8%. RISE (Research on Improving Systems of Education) in the Schooling and Learning survey in 2000-2014 explained the decline in learning levels by 10% in each grade in elementary school. Learning levels have been low since grade 1, and there has been a slight improvement in learning outcomes between grades.

Improving the quality and professionalism of teachers in educational creativity is a common focus to overcome this learning crisis. Reconstruction of basic education programs and curricula and renewal of educational science utilizing e-learning and Open Educational Resources (OER) based on Learning Management System (LMS) needs to be expanded. This is considering the affordability of access, independence in managing their learning (andragogy) needed by teachers to improve the quality of Indonesian education (Ikram & Anaguna, 2023). One concrete form of utilizing e-learning and OER to improve teacher professionalism is the presence of the Platform Merdeka Mengajar (PMM). PMM is a learning application launched by the Ministry of Education, Research, and Technology (Kemendikbudristek) on February 11, 2022. With Kurikulum Merdeka, PMM is Episode 15 of the entire episode of Merdeka Belajar policy, which has reached Episode 26. This application aims to support teachers in implementing Kurikulum Merdeka learning.

The development of PMM will not only be directed to become a platform containing materials and content from the Ministry. However, it will become a platform owned by teachers, from teachers, and for teachers. Furthermore, the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) designs PMM to be a friend of teachers in teaching and to help teachers innovate to create and develop learning in response to the challenges of the times. In addition, PMM also aims to develop teacher careers based on increasing social, personality, and professional competence (Elpin *et al.*, 2024). These competencies must also be prepared to be mastered by teachers when studying (Hadiapurwa *et al.*, 2021). One real form of developing teacher professional competence is their ability to compile teaching modules aligned with learning objectives. This ability is part of a teacher's main task in designing effective and meaningful student learning experiences. The success of Independent Training is highly dependent on the extent to which teachers can master these skills. However, no research shows explicitly the effectiveness of the 'Independent Training' feature in increasing teacher innovation in PMM. Quantitative survey research can be conducted to collect data from many teachers and analyze it statistically to prove the effectiveness of the 'Self-Training' feature in improving teachers' innovation power.

In addition to independent training, learning communities play an important role in supporting the development of teacher professionalism, especially in the context of implementing Kurikulum Merdeka. If independent training allows teachers to improve their competence individually, then learning communities provide space for teachers to solve various problems related to Kurikulum Merdeka through discussion and exchanging experiences. Teachers of learning communities will find it easier to understand materials related to Kurikulum Merdeka. The synergy between independent training and learning communities will enable teachers to gain insight independently and collective support that strengthens their understanding of the principles of Kurikulum Merdeka. The implementation of Kurikulum Merdeka can be more effective

because teachers have access to individual and collaborative learning, which will ultimately increase innovation to improve classroom learning quality (Arifin & Hanif, 2024).

Based on data from the Balai Besar Penjaminan Mutu Pendidikan (BBPMP) West Java Province in the List of Kurikulum Merdeka Implementation in Educational Units on the PMM Usage Dashboard, there is data for three implementation year periods, namely 2022/2023, 2023/2024, and 2024/2025. The recorded Educational Units (State Junior High Schools) are 16, 22, and 38. The total number of State Junior High Schools in Subang Regency is 78. Only 50% of all State Junior High Schools are recorded on the PMM usage Dashboard. This shows that the growth in the use of PMM in junior high schools is still low (an average of 9.65% per implementation period. The Implementation of Kurikulum Merdeka (IKM) data page released by the West Java Province BBPMP in the 'Learning Community' data section states that there are only 8 Educational Units in junior high schools in Subang Regency. This means that only 7.92% of all junior high school education units, both public and private, participated in IKM in the 2024/2025 implementation year.

Based on various previous studies, it appears that the 'Independent Training' feature in PMM has contributed to improving teacher competence, improving the quality of learning, and supporting innovation in education (Utomo & Kusumawati, 2024). On the other hand, the 'Learning Community' feature in PMM contributes to strengthening collaboration between teachers by creating discussion forums that encourage the exchange of ideas and best practices (Salamah *et al.*, 2024). However, these studies tend to separate these two features and have not explored how the interaction between the two can affect teacher innovation. Previous studies have focused more on teachers' perceptions of their innovation without involving the perspectives of other parties, such as the Principal, who play an important role in assessing and supporting the innovation. The Principal's assessment can provide external validation of the teacher's innovation (Isnayetti & Susanto, 2024), including the application of the innovation in classroom learning and its contribution to achieving the vision and mission of the education unit. This perspective is critical because it reflects real action from the results of teacher competency development in the field compared to the subjective perceptions of the teachers themselves (Jarir *et al.*, 2022).

This study attempts to fill this gap by analyzing the relationship between Independent Training and Learning Community contained in PMM towards teacher innovation power individually and simultaneously. The simultaneous approach generated by the independent variables, when combined with the dependent variable in this study, is carried out by measuring the combined relationship of the two features towards teacher innovation power through multiple linear regression analysis that allows identification of the contribution of each feature and its synergy. This approach is unique because it considers how the interaction between individual development and team collaboration relates to each other. This study aims to analyze and describe the relationship between Independent Training as an independent variable (X_1) and Learning Community (X_2) in PMM towards increasing the innovation power of junior high school teachers (Y) in Subang Regency separately and together.

LITERATURE REVIEW

Teacher Innovation Power

Teacher innovation is the ability of a teacher to create new ideas, tools, methods, strategies, or techniques in learning to achieve learning goals. Teachers do not have to make absolute innovations or take an entirely new path; innovation can be done by combining several methods or strategies that are common or old, into a unique proportion of learning strategies, and are appropriate for achieving learning goals in the classroom (Silaswati, 2022). Teacher innovation is significant in Kurikulum Merdeka because this curriculum gives freedom to Education Units and teachers to develop a curriculum according to the conditions of students, the characteristics of the school environment, and the potential of their respective

regions (Pertiwi *et al.*, 2023). The presence of Kurikulum Merdeka can be a call for innovation for all education units, the community, and education policy makers to explore and process their strategic potential into advantages (Cantika *et al.*, 2022).

Independent Training on the Merdeka Mengajar Platform

On the Platform Merdeka Mengajar (PMM), an 'Independent Training' menu provides various training topics, short and relevant materials, and is easy to practice. This feature can be accessed by teachers anytime and anywhere, so that teachers can develop their potential. Experts have designed the available materials and have gone through a curation process so that they are relevant for teachers to apply in daily learning activities (Setiariny, 2023). This feature aims to increase teachers' innovation in developing the curriculum through teaching methods and strategies aligned with educational units' characteristics and potential in their respective regions (Liana *et al.*, 2023). Teachers can access various materials to improve their professional abilities as educators (Utomo & Kusumawati, 2024). The participation and serious learning carried out by teachers will impact a deep understanding of the concept and approach of Kurikulum Merdeka and the ability to implement it in the classroom (Amiruddin *et al.*, 2023).

Learning Community on the Merdeka Mengajar Platform

Learning Community is a group of teachers, education personnel, and educators with the same passion and concern for learning transformation, especially in the Implementasi Kurikulum Merdeka (IKM) (Nugraha, 2022). Teachers, educators, and education personnel have regular online and offline meetings to discuss learning issues and teacher self-development (Giyanto *et al.*, 2023). Kemendikbudristek wants the 'Learning Community' feature on the Merdeka Mengajar Platform to increase teacher innovation through collaboration and discussion activities. In the 'Webinar' and 'Resource Person' features, teachers can open insights, gain new knowledge, and share their experiences with teachers from Indonesia (Fatihah *et al.*, 2024).

The implementation of discussion, collaboration, collaborative learning, and reflection activities supports teachers in gaining a better understanding of Kurikulum Merdeka, as well as being able to develop their teaching skills innovatively (Adyanto, 2024). The positive impact obtained by teachers is not only on increased innovation, but also on professional aspects. Learning communities can significantly improve teachers' pedagogical abilities and skills in selecting and implementing various learning strategies (Arifin & Hanif, 2024). Joining a learning community can increase teachers' self-efficacy (confidence and awareness), thus having a positive impact on the development of students' character (Novita & Radiana, 2024).

METHODS

Quantitative method with correlational design to identify and measure the relationship between two or more variables without manipulating the variables. The study was conducted in Subang Regency, West Java Province, using a purposive sampling. The population studied was junior high school teachers with ASN status. PNS and P3K, who worked at public junior high schools in Subang Regency, had a learning account and actively interacted with the Merdeka Mengajar Platform (PMM). Based on data from the Kurikulum Merdeka Implementation Dashboard of the West Java Province BBPMP for 2024/2025, the desired population in this study was 1,132 people. Calculations using the Slovin Formula resulted in a sample size of 296.

The study also analyzed the assessment questionnaire data of 38 Principals on teacher innovation power. The data obtained from the Principal questionnaire were analyzed descriptively to describe their perceptions of teacher innovation power based on four aspects, namely 1) Innovation in learning; 2) Collaboration in learning communities; 3) Implementation of independent training; and 4) Impact on students. The indicators in these aspects were analyzed using descriptive statistics such as frequency distribution and percentage to provide an overview of the level of respondent agreement. Furthermore, the Principal questionnaire data was compared to see the consistency and validity between data sources. This data comparison process provides a more comprehensive view of teacher innovation power.

The proposed hypothesis is 1) There is a positive relationship between Independent Training (X_1) on the Merdeka Mengajar Platform and the increase in the Innovation Power of Junior High School Teachers (Y) in Subang Regency; 2) There is a positive relationship between the Learning Community (X_2) on the Merdeka Mengajar Platform and the increase in the Innovation Power of Junior High School Teachers (Y) in Subang Regency; 3) There is a positive relationship between Independent Training (X_1) on the Merdeka Mengajar Platform and the Learning Community (X_2) on the Merdeka Mengajar Platform; and 4) There is a positive relationship between Independent Training (X_1) and the Learning Community (X_2) on the Merdeka Mengajar Platform together and the increase in the Innovation Power of Junior High School Teachers (Y) in Subang Regency. Primary data comes from a questionnaire with a Likert Scale and an assessment instrument from the Principal regarding respondents' performance, a parameter of innovation power.

Validity test was conducted using the Corrected Item Total Correlation formula (2-tailed) with an r table value with a significance level of 0.05 (r table with 296 respondents is 0.106). The next reliability test was conducted using Alpha Cronbach. Descriptive analysis was conducted to obtain a frequency distribution; a normality test was conducted to determine whether the data follow a normal distribution. The technique used in the normality test is the Kolmogorov-Smirnov's Test with the SPSS for Macintosh 29.0 Version program. Then, a linearity test was conducted to determine the form of the relationship between the independent and dependent variables with variance analysis. Furthermore, a hypothesis test was conducted using Pearson's product-moment correlation analysis. The analysis was then improved by finding the relative contribution (SR) and effective contribution (SE). Effective Contribution aims to show how much variation in the dependent variable is explained by the regression model using the coefficient of determination. Meanwhile, Relative Contribution (SR) shows the percentage contribution of each independent variable to the total variation explained by the model using the regression coefficient.

RESULTS AND DISCUSSION

The validity and reliability tests' results show that most of the instrument items have moderate to high validity and high reliability for the three research variables.

Table 1. Validity and Reliability Test of Research Instruments

No	Variables	Index Cronbach's Alpha	Categories
1	Independent Training (X_1)	0,729	High
2	Community (X_2)	0,735	High
3	Teacher Innovation Power (Y)	0,730	High

Source: Primary Data of Research Processed 2024

Table 1 presents the results of the validity and reliability tests on the research instruments. Based on these findings, the research instruments were deemed suitable due to their demonstrated reliability in measuring the investigated variables. Subsequently, the Normality Test was conducted using the Kolmogorov-Smirnov Test. The test results indicated that the data were normally distributed, with an *Asymp. Sig* (2-tailed) = 0,295 > 0,05, thus fulfilling the normality assumption.

Table 2. Hypothesis testing to measure the relationship between variables

No	Variables	Correlation Coefficient (r)	Determination (Variance Explained)
1	Independent Training (X ₁) towards Teacher Innovation Power (Y)	0,590 (moderate)	34,80%
2	Learning Community (X ₂) towards Teacher Innovation Power (Y)	0,485 (moderate)	23,50%
3	Independent Training (X ₁) towards Learning Community (X ₂)	0,490 (moderate)	24,00%
4	Independent Training (X ₁) and Learning Community (X ₂) collectively towards Teacher Innovation Power (Y)	0,631 (good)	39,90%

Source: Primary Data of Research Processed 2024

Table 2 presents the results of the hypothesis testing, which was conducted using Pearson correlation and regression analysis to measure the relationships between the variables.

Table 3. Principal's Assessment of Junior High School Teachers' Innovation Power

Aspects	No	Indicators	Agreement Percentage				
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Learning Innovation	1	Teachers create new teaching methods tailored to students' needs.		44,73%	39,7%	10,52%	
	2	Teachers frequently use technology to support the learning process in the classroom.		39,47%	2,63%	42,10%	15,78%
	3	Teachers demonstrate creativity in developing relevant teaching materials aligned with Kurikulum Merdeka.		52,63%	5,26%	42,10%	
	4	Teachers apply innovative learning approaches to enhance student engagement.		39,47%	2,63%	44,73%	
	5	Teachers frequently reflect on strategies to improve learning.		39,47%	7,89%	52,63%	
Collaboration and Participation in Learning	1	Teachers actively participate in Learning Communities at the school or cluster level.		57,89%	39,4%	2,64%	
	2	Teachers contribute to sharing best practices and experiences with fellow teachers.		47,36%	18%	5,28%	

Aspects	No	Indicators	Agreement Percentage				
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Communities	3	Teachers demonstrate collaborative skills with colleagues to solve learning problems.		50%	23,68%	26,31%	
	4	Teachers serve as resource persons in training or discussions about Kurikulum Merdeka.		52,64%		47,36%	
	5	Teachers consistently contribute new ideas in Learning Community activities.		42,10%		55,26%	
Implementation of Independent Training	1	Teachers complete Independent Training modules on PMM, demonstrating understanding of the content.		50%	42,10%	10,52%	
	2	Teachers implement learning outcomes from Independent Training in their classroom instruction.		55,26%	44,73%	5,26%	
	3	Teachers submit reports or evidence of tangible work from the Independent Training they attended.		47,36%		52,63%	
	4	Teachers demonstrate initiative to participate in relevant additional training.		57,89%		36,84%	
Impact on Students	1	Teachers encourage students to participate in learning activities actively.		50%	47,36%		
	2	Teachers consider the individual learning needs of students when developing lesson plans.		52,63%	2,63%	44,73%	
	3	Teachers utilize student assessment results to design innovative learning.		42,10%		57,89%	
	4	Teachers create a supportive learning environment that encourages student learning.		60,52%	29,47%		

Source: Research Result Data processed 2024

Table 3 presents the analysis of principal assessment data regarding teachers' innovation power in their schools.

Discussion

Independent Training and Teacher Innovation Power

The obtained correlation coefficient of 0.590 indicates a positive relationship between independent training and the innovation power of junior high school teachers. Based on **Table 2**, the value of 0.590 falls within the interval of 0.400-0.559, suggesting that this relationship can be categorized as a moderate correlation. This implies that increased independent training tends to increase teachers' innovation power. Several

ways in which independent training contributes to enhancing teachers' engagement in innovative learning include: 1) the improvement of digital literacy, which equips teachers with better knowledge to design more engaging and interactive learning experiences (Liana *et al.*, 2023); 2) the exposure to varied teaching methods that teachers can implement in the classroom, thereby preventing boredom and increasing student participation (Amiruddin *et al.*, 2023); 3) the facilitation of collaboration and discussion, leading to a process of experience sharing, feedback provision, and mutual learning. This participation can enhance the exchange of ideas and best practices among teachers, which supports innovation (Widiastuti *et al.*, 2023); and 4) the encouragement of project-based learning, which familiarizes teachers with creating novel approaches to contextualize their teaching and tends to attract students to learn. These findings are related to teachers' efforts in creating a learning environment that supports the holistic development of students (Syawalia *et al.*, 2023).

Learning Community and Teacher Innovation Power

The obtained correlation coefficient of 0.485, with a significance level of 0.01 (2-tailed), indicates a moderately strong positive relationship between the two variables: Learning Community (X_2) and Teacher Innovation Power (Y). This implies that a higher level of learning community engagement within a school tends to be associated with greater innovation power among its teachers. The significance level of 0.01 suggests that the identified relationship is statistically highly significant, indicating a low probability of this relationship occurring by chance. Learning communities provide a collaborative space for teachers to share best practices and pedagogical solutions. Interactions within these communities enable teachers to gain new insights, enhance motivation, and foster creativity in their teaching approaches. Furthermore, learning communities offer a supportive environment for teachers to develop professionally and overcome challenges. Engagement with peers with similar interests and goals can bolster motivation and the impetus for continuous learning and innovation (Rafli *et al.*, 2024).

Learning Communities face challenges that must be addressed, namely suboptimal participation and insufficient documentation of discussion outcomes (Miftah *et al.*, 2024). The launch of the 'Learning Community' feature within the Merdeka Mengajar Platform (PMM) represents a positive and relevant step in addressing the challenges encountered by face-to-face learning communities. PMM offers innovative solutions to overcome several constraints that have historically hindered the effectiveness of learning communities by providing broader reach, flexibility, accessibility, robust and universally accessible documentation, and more active engagement through various interactive features in activities and discussions. However, several aspects warrant attention in the online implementation, including connectivity, digital literacy, habits, and content quality (Ilham *et al.*, 2024).

Data from the 'Kurikulum Merdeka Implementation' dashboard by the BBPMP in 2024 recorded that only 22 schools out of 178 junior high schools had learning communities, with 17 of these being state junior high schools. Compared to the research sample population, only 44.73% of the 38 state junior high schools possessed Learning Communities. The government has undertaken several measures to optimize the role of learning communities, including: 1) Issuing a legal framework for Learning Communities, namely the Circular Letter of the Director-General of Teachers and Education Personnel, Ministry of Education, Culture, Research, and Technology Number 4263/B/HK.04.01/2023 concerning the Optimization of Learning Communities, published on July 18, 2023, which stipulates that to enhance the quality of learning practices, educational units must accommodate efforts to improve teacher competence regularly through Learning Communities; 2) Integrating learning communities on the Merdeka Mengajar Platform (PMM) with the teacher professional development programs of the Ministry of Education, Culture, Research, and Technology on December 19, 2023 (Siagian *et al.*, 2024); 3) Focusing on community development by requiring school principals to issue a Decree on the establishment and management of internal Learning

Communities within their schools; and 4) Conducting regular evaluations through the 'Learning Community Reflection' feature within PMM.

Independent Training and Learning Community on the Merdeka Mengajar Platform

The data reveal a Pearson correlation coefficient of 0.490 with a significance level of <0.01 , indicating a statistically significant positive relationship between Independent Training and Learning Community engagement. This suggests that a higher level of teacher involvement in Independent Training is associated with greater activity within Learning Communities. Based on the interpretation of the correlation coefficient, the value of $r = 0.490$ falls into the "moderately strong" category (interval 0.400 – 0.599), demonstrating that the established relationship is not weak, although not classified as very strong, thus reflecting a substantial influence that warrants further exploration. The coefficient of determination (R Square) of 0.240 indicates that independent training contributes 24% to the activity within learning communities. This figure suggests that independent training plays a significant role as one of the drivers of engagement in learning communities. Potential mechanisms through which independent training fosters learning community participation include enhanced competence, motivation (Pratama & Patras, 2024), self-efficacy (Hidayati *et al.*, 2024), and the contextual design of PMM, which integrates the 'Independent Training' and 'Learning Community' features.

The understanding gained from independent training is subsequently applied in group interactions within learning communities (Hidayati *et al.*, 2024). In the 'real action assignment' after each training topic, teachers are tasked with presenting their understanding, implementing the content of the training topic within their school, and obtaining feedback from at least three peers. The relationship between Independent Training (X_1) and Learning Community (X_2) is statistically mediated by other potential influencing factors. These include teachers' motivation, principal support, school infrastructure and facilities, and collaborative culture (Putra *et al.*, 2024). These factors have the potential to either strengthen or weaken the relationship between independent training and learning community engagement. This will be further discernible through principal assessment data on collaboration and participation in Learning Communities and the implementation of Independent Training (Ambawani *et al.*, 2023).

Personal motivation is a crucial element in teachers' participation in independent training and learning communities (Novita & Radiana, 2024). Teachers who exhibit a strong sense of responsibility towards enhancing their competence tend to complete independent training enthusiastically and integrate these new insights into group discussions. Principal support plays a significant role in weakening or strengthening the relationship between independent training and learning communities. As instructional leaders, principals are strategically positioned to foster an environment conducive to teacher participation. School infrastructure, such as internet access and technological devices, constitutes a vital factor influencing the success of independent training and learning communities. Limited facilities can impede teachers' ability to complete independent training modules and diminish their contributions within learning communities. Conversely, schools that provide comprehensive facilities cultivate a more supportive learning environment, thereby enabling a stronger relationship between independent training and learning community engagement (Utaminingsih *et al.*, 2024).

Collaborative culture within a school represents another supplementary factor that has the potential to either strengthen or weaken the correlation between independent training and learning communities (Hidayati *et al.*, 2024). Schools that prioritize collaboration and utilize the outcomes of independent training as material for productive discussions foster a synergy between individual and group learning. Conversely, in schools with an individualistic culture, the results of independent training tend not to be disseminated optimally. The analysis of various supplementary factors, encompassing teachers' motivation, principal support, infrastructure, and collaborative culture, constitutes a reinforcing or hindering element in the

correlation between independent training and learning communities. It can be asserted that the successful implementation of programs relies not solely on the technical design of the platform but also on the social and professional context in which the program is applied, supporting the strength and synergy between independent training and learning communities.

Independent Training and Learning Community on the Merdeka Mengajar Platform together towards Teacher Innovation Power

Table 2 demonstrates that the correlation between Independent Training (X1) and Learning Community (X2) collectively towards Teacher Innovation Power (Y) is stronger than the individual contribution of each variable. The combined correlation coefficient is 0.631, which falls into the good category, whereas the correlation between X1 and Y is 0.590, and the correlation between X2 and Y is 0.485. This suggests that combining both variables yields a more significant relationship with enhancing teacher innovation. The improved correlation resulting from the combination of Independent Training (X1) and Learning Community (X2) can be attributed to four key aspects: the synergy between competence and collaboration, enhanced motivation and sustainability, the complexity of innovation requiring a multi-layered approach, and the presence of a reinforcing effect (Ikram & Anaguna, 2023).

Independent Training focuses on developing individual teacher competence through module mastery and self-reflection. Simultaneously, Learning Communities provide a platform for teachers to integrate this competence through peer interaction. This combination fosters a synergy wherein the learning outcomes from Independent Training can be enriched through discussions, mutual feedback, and collaborative practices within Learning Communities (Rachman *et al.*, 2024). Learning becomes more meaningful in social interaction (Liana *et al.*, 2023). Independent Training establishes the foundation for individual learning, culminating in competence, while Learning Communities serve as a space for inter-individual learning (collaboration). Independent training often represents an initial step in building teacher confidence and developing innovation power. However, challenges in implementing the acquired understanding can diminish motivation if teachers work in isolation (Anrichal & Pramono, 2023).

Participation in Learning Communities often enhances teachers' motivation to complete independent training. Learning Communities provide a social impetus that assists teachers in remaining committed to their professional development. Conversely, experiences from independent training supply relevant discussion material within communities, thereby rendering collaborative activities more meaningful and focused (Mea, 2024). **Table 3** indicates that Independent Training contributes 34.80% to Teacher Innovation Power, while Learning Communities contribute 23.50%. When both variables are combined, their contribution increases to 39.90%, demonstrating an amplification effect. This reflects that teachers' success in enhancing their innovation power is more assured when they are supported by both individual learning (Independent Training) and collective learning (Learning Communities) (Ikram & Anaguna, 2023).

Alignment between Principal Assessment Data and Correlation Test Results

Three dimensions of alignment, derived from principal assessment data, reinforce the correlation findings: 1) the dimension of creativity in learning; 2) collaboration and reflection within learning communities; and 3) the dimension of impact on students. Regarding the dimension of creativity in learning, principal assessments (as presented in **Table 3**) indicate that most teachers are perceived as capable of creating novel teaching methods tailored to students' needs (44.73% agree). Independent Training modules focusing on developing new learning strategies can be leveraged, increasing teachers' confidence in creating innovative and impactful teaching methods. However, the low agreement on the utilization of technology in learning (42.10% disagree) reflects limitations in applying the outcomes of Independent

Training. This suggests that the contribution of Independent Training may not yet be fully reflected in technology implementation (Rachman *et al.*, 2024).

The dimension of collaboration and reflection within Learning Communities yielded principal assessments indicating that most teachers actively participate in Learning Communities (57.89% agree). This supports the correlation findings suggesting that Learning Communities contribute significantly to teachers' innovation power. A challenge arises, however, in the consistency of teachers in contributing novel ideas (55.26% disagree). This suggests that while Learning Communities are effective as collaborative platforms, teachers' individual contributions still require enhancement (Kusmaniar *et al.*, 2024). The dimension of impact on students produced principal assessments revealing that most teachers create a learning environment that supports the holistic development of students (60.52% agree). This indicates that the combination of Independent Training and Learning Communities has been successfully translated into learning innovations that impact students (Realitawati *et al.*, 2024).

Mismatch of Correlation Results with Principal Assessment and Opportunities for Improvement

Several discrepancies exist between the Principal Assessment data and the correlation results, which warrant reflection and recommendations. Three notable inconsistencies include: 1) Reflection and implementation of Independent Training outcomes; 2) Utilization of technology; and 3) Consistency within Learning Communities. **Table 3** indicates that reflection on and implementation of independent training significantly contribute to teachers' innovation power; however, Principals noted that 52.65% of teachers did not submit reports or evidence of tangible work resulting from the training they attended. This suggests a gap between the learning outcomes from independent training and their actual application in the classroom. Low utilization of technology is reflected in the Principal Assessments in **Table 3**, with teachers frequently using technology to support classroom learning showing disagreement (42.10%) and strong disagreement (15.78%).

The limited utilization of technology in learning may stem from inadequate facilities, technical obstacles, or insufficient teacher digital literacy (Anggara, 2024). While Learning Communities demonstrate a positive contribution to innovation, **Table 3** reveals that 21 Principals (55.26%) assessed teachers as inconsistent in contributing novel ideas. This reflects that communities' contribution to innovation remains sporadic and necessitates more effective management (Azhari *et al.*, 2024). A comparison between the Principal Assessment data and the correlation results indicates that Independent Training and Learning Communities significantly impact teachers' innovation power. However, implementing learning outcomes from Independent Training, the consistency of contributions within Learning Communities, and teachers' technological proficiency require attention to ensure that the potential correlations align with the realities in practice.

CONCLUSION

Enhancing teachers' innovation power constitutes a crucial factor in developing learning quality. Self-directed learning through independent training and teachers' engagement in learning communities available on the Merdeka Mengajar Platform (PMM) can be leveraged to augment teachers' innovation power. Independent training allows teachers to enhance their competence flexibly, aligning with their individual needs and interests, while learning communities offer a space for collaboration, discussion, and shared reflection with peers. Implementing learning within independent training and teachers' participation in learning communities on PMM holds a strategic role in fostering more creative and responsive teachers who can address the challenges of classroom instruction. Both features, namely 'Independent Training' and 'Learning Community' on PMM, have demonstrated a positive relationship with teachers' innovation

power, individually and in combination. Teachers actively engaging in independent training tend to exhibit greater confidence in applying more varied and technology-based teaching methods. Similarly, involvement in learning communities enables teachers to inspire one another and gain support in developing innovative teaching strategies. The synergy between self-directed learning and community collaboration is a primary driver in promoting more sustainable educational innovation. Future research could explore factors beyond independent training and learning communities that may influence teachers' innovation power, such as infrastructure support, principal leadership, or intrinsic motivation. Employing qualitative methodologies could be considered to delve deeper into teachers' experiences with Independent Training and their engagement in Learning Communities.

AUTHOR'S NOTE

The author declares that there are no conflicts of interest regarding the publication of this article. The author affirms that the data and content of this article are free from plagiarism.

REFERENCES

- Adyanto, P. (2024). Mewujudkan inovasi dan kompetensi antar guru PAUD dalam pembelajaran berdiferensiasi di era digital melalui budaya pendampingan komunitas belajar. *Journal Ability: Journal of Education and Social Analysis*, 5(3), 55-59.
- Alwi, R., & Indriyani, R. (2023). Analisis implementasi program kurikulum merdeka belajar sebagai strategi peningkatan mutu pendidikan. *Al-Mubini: Islamic Scientific Journal*, 6(1), 67-73..
- Ambawani, C. S. L., Kusuma, T. M. M., Sutama, S., & Sumardjoko, B. (2023). Faktor penyebab rendahnya akses Platform Merdeka Mengajar (PMM). *Journal of Education Research*, 4(4), 1880-1892.
- Amiruddin, A., Siregar, M., Anggara, A., Faridah, F., Faraidin, M., & Syafridah, N. (2023). Pelatihan mandiri kurikulum merdeka belajar dengan pemanfaatan platform merdeka mengajar di satuan pendidikan. *Jurnal Penelitian, Pendidikan dan Pengajaran, JPPP*, 4(1), 1-4.
- Anggara, E. (2024). Pemanfaatan platform merdeka mengajar terhadap peningkatan kompetensi guru sekolah dasar di era digital. *Arsen: Jurnal Penelitian Pendidikan*, 2(1), 37-44.
- Anrichal, R., & Pramono, D. (2023). Strategi adaptasi dan dampak implementasi Platform Merdeka Mengajar di SMA Kesatrian 2 Kota Semarang. *Jurnal Ilmiah Profesi Pendidikan*, 8(4), 2197-2209.
- Arifin, J., & Hanif, M. (2024). Manajemen program komunitas belajar sekolah untuk peningkatan kompetensi pedagogik guru. *Ideguru: Jurnal Karya Ilmiah Guru*, 9(3), 1421-1432.
- Azhari, H. K., Tyas, Z. W. R., & Hikmawati, H. (2024). Pemanfaatan aplikasi merdeka mengajar dalam meningkatkan mutu pembelajaran. *Jurnal Riset dan Inovasi Pembelajaran*, 4(1), 519-533.
- Cantika, V. M., Khaerunnisa, L., & Yustikarini, R. (2022). Merdeka curriculum implementation at Wonoayu 1 Junior High School as sekolah penggerak. *Curricula: Journal of Curriculum Development*, 1(2), 175-188.
- Elpin, A., Simarona, N., Aunurrahman, A., & Halida, H. (2024). Peran Platform Merdeka Mengajar (PPM) dalam meningkatkan efektivitas implementasi kurikulum merdeka. *Asatiza: Jurnal Pendidikan*, 5(1), 81-96.
- Fatihah, W., Ekawati, R., & Hadianto, W. (2024). Webinar Komunitas Belajar (KOMBEL): Berbagi praktik baik dalam meningkatkan kompetensi guru. *Jurnal Abdimas Kartika Wijayakusuma*, 5(2), 440-450.

- Giyanto, B., Kurnia, P., Julizar, K., Sari, D. K., & Hartono, D. (2023). Implementasi kebijakan komunitas belajar dalam Kurikulum Merdeka Belajar di Indonesia. *Jurnal Pembangunan dan Administrasi Publik*, 5(2), 39-52
- Hadiapurwa, A., Susilana, R., & Rusman, R. (2021). Kesiapan calon guru sekolah dasar pada pelaksanaan kurikulum dalam kondisi khusus. *Pedagogia*, 19(2), 126-138.
- Hidayati, H., Hudri, M., Rahmania, R., Wahyuni, D. E. M. S., & Afandi, A. (2024). Pelatihan pembuatan media evaluasi berbantuan G-Form bagi guru di komunitas belajar. *Selaparang: Jurnal Pengabdian Masyarakat Berkemajuan*, 8(2), 1905-1911.
- Hidayati, K., Tamrin, A. G., & Cahyono, B. T. (2024). Efektivitas penggunaan Platform Merdeka Mengajar untuk peningkatan kompetensi guru pada kurikulum merdeka. *Edukatif: Jurnal Ilmu Pendidikan*, 6(1), 232-240.
- Ikram, F. Z., & Anaguna, N. (2023). Merdeka mengajar: An ultimate platform for teachers' competence development. *Jurnal MediaTIK*, 6(3), 166-173.
- Ikram, F. Z., & Anaguna, N. (2023). The impacts of real action features in the Merdeka Mengajar Platform (PMM): Mathematics teacher's perspective. *MaPan: Jurnal Matematika dan Pembelajaran*, 11(2), 202-222.
- Ilham, M. I., Wijati, I. A., & Aji, D. C. (2024). Lokakarya komunitas belajar sebagai upaya menguatkan kerja sama guru yang berpusat pada peserta didik di wilayah Kalimantan Utara. *Jurnal Pengabdian Kepada Masyarakat Patikala*, 3(4), 963-969.
- Isnayetti, D., & Susanto, P. (2024). Pengaruh penggunaan Platform Merdeka Mengajar (PMM) dan self efficacy pada peningkatan kompetensi guru SMK Negeri di Kabupaten Pasaman: Peran kepemimpinan kepala sekolah sebagai pemoderasi. *Utility: Jurnal Ilmiah Pendidikan dan Ekonomi*, 8(2), 140-154.
- Jarir, I., Haryati, S., & Fatmasari, R. (2022). Pengaruh supervisi akademik pengawas, kepemimpinan kepala sekolah dan disiplin kerja terhadap kinerja guru. *Journal of Education, Humaniora and Social Sciences (JEHSS)*, 4(4), 2113-2123.
- Kusmaniar, K., Kasmini, L., & Sariakin, S. (2024). Pengaruh Platform Merdeka Mengajar (PMM) dan motivasi kerja terhadap kinerja guru SMP Rayon 2 Aceh Selatan. *Ranah Research: Journal of Multidisciplinary Research and Development*, 6(4), 817-826.
- Liana, M., Fitriyah, D., Hindrasti, N. E. K., Nevrita, N., Siregar, E. F. S., & Izzati, N. (2023). Pemanfaatan fitur pelatihan mandiri untuk memahami kurikulum merdeka. *Jurnal Pendidikan dan Kebudayaan*, 8(2), 138-152.
- Mea, F. (2024). Peningkatan efektivitas pembelajaran melalui kreativitas dan inovasi guru dalam menciptakan kelas yang dinamis. *Inculco Journal of Christian Education*, 4(3), 252-275.
- Miftah, M., Napitupulu, N. D., & Zaky, M. (2024). Pendampingan pemanfaatan platform merdeka mengajar dalam penguatan sekolah penggerak melalui optimalisasi peran komunitas belajar. *Indonesian Journal of Society Engagement*, 5(2), 120-137.
- Novita, N., & Radiana, U. (2024). Hubungan antara komunitas belajar dan motivasi belajar guru terhadap kinerja guru. *Jurnal Ilmiah Profesi Pendidikan*, 9(4), 2588-2596.
- Nugraha, T. S. (2022). Kurikulum merdeka untuk pemulihan krisis pembelajaran. *Inovasi Kurikulum*, 19(2), 251-262.
- Pertiwi, M. W., Sumardjoko, B., & Ghufron, A. (2023). Analisis implementasi kurikulum merdeka di sekolah sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 8(2), 404-413.
- Pratama, D. W., & Patras, Y. E. (2024). Penguatan motivasi berprestasi, team work, dan iklim organisasi dalam upaya meningkatkan keinovatifan guru di era merdeka belajar. *Else (Elementary School Education Journal): Jurnal Pendidikan dan Pembelajaran Sekolah Dasar*, 8(1), 214-226.

- Putra, A., Stiadi, E., Palenti, C. D., Gusti, R., Sofino, S., & Saputra, A. J. (2024). Prinsip penyelenggaraan pembelajaran orang dewasa pada Lokakarya Komunitas Belajar I Program Sekolah Penggerak Angkatan II Propinsi Bengkulu untuk mewujudkan ekosistem sekolah yang berdiferensiasi. *Jurnal Pendidikan Luar Sekolah*, 18(1), 1-17.
- Rachman, A., Amaliah, S., Imamudin, I., Atfaliyah, K. ., Novita, E., Purwatisari, A., Ningsih, P. R. ., & Pradanti, A. (2024). Resiliensi digital guru sekolah dasar terhadap platform merdeka mengajar dalam implementasi kurikulum merdeka. *Jurnal Inovasi dan Teknologi Pendidikan*, 3(1), 35-44.
- Rafli, M. F., Sidiq, F., Aprilia, R., Juliati, J., & Kenedi, A. K. (2024). Pendampingan optimalisasi komunitas belajar di SD Negeri Kabu di Platform Merdeka Mengajar (PMM). *Journal of Human and Education (JAHE)*, 4(5), 870-877.
- Realitawati, R., Ikrom, F. D., Herawan, E., & Kadarsah, D. (2024). Penerapan 4c skills dalam pembelajaran abad 21 di sekolah dasar. *Muallimuna: Jurnal Madrasah Ibtidaiyah*, 10(1), 22-32.
- Salamah, E. R., Rifayanti, Z. E. T., Trisnawaty, W., & Raharja, H. F. (2024). Membangun budaya belajar melalui komunitas belajar dalam peningkatan hasil belajar peserta didik. *Abidumasy Jurnal Pengabdian kepada Masyarakat*, 5(1), 37-43.
- Setiariny, E. (2023). Pemanfaatan platform merdeka mengajar sebagai upaya meningkatkan kualitas pembelajaran. *Jurnal Lingkar Mutu Pendidikan*, 20(1), 23-33.
- Siagian, M., Mudjisusatyo, Y., & Pangaribuan, W. (2024). Analisis kebijakan pendidikan program merdeka belajar: Studi kasus pada implementasi aplikasi Platform Merdeka Mengajar (PMM) dalam pengelolaan kinerja guru dan kepala sekolah. *Jurnal Ekonomi Bisnis, Manajemen dan Akuntansi (JEBMA)*, 4(2), 601-611.
- Silaswati, D. (2022). Analisis pemahaman guru dalam implementasi program merdeka belajar di sekolah dasar. *Collase (Creative of Learning Students Elementary Education)*, 5(4), 718-723.
- Syawalia, D., Putri, A. F. S., Fahmi, R. R., & Saputra, D. (2023). Application of project-based learning method in Entrepreneurship education (PKWU) subjects of Labschool UPI. *Curricula: Journal of Curriculum Development*, 3(1), 81-94.
- Utaminingsih, S., Sundari, S., & Mirana, A. E. (2024). The professional competency development model of science teachers through learning leadership. *Jurnal Pendidikan IPA Indonesia*, 13(1), 40-54.
- Utomo, U., & Kusumawati, D. (2024). Implementasi pelatihan mandiri platform merdeka mengajar dalam meningkatkan kompetensi guru. *Dawuh Guru: Jurnal Pendidikan MI/SD*, 4(1), 61-72.
- Widiastuti, S., Bachri, B. S., & Maureen, I. Y. (2023). The New World Kirkpatrick Model (NWKM) pada pelatihan mandiri Implementasi Kurikulum Merdeka (IKM) melalui Platform Merdeka Mengajar (PMM). *Jurnal Ilmiah Mandala Education*, 9(2), 2656-5862.