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Determinant factors of learning quality in Indonesian junior high schools

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Abstract: Learning quality in schools is the core of efforts to improve the quality of national education. In this view, teachers play an important role as knowledge facilitators, helping students through the learning process and providing an environment that promotes growth and critical thinking. This study aimed to describe how the learning quality in junior high schools of South Papua Province, Indonesia, is predicted by teacher training quality, teacher self-efficacy, and teacher collaboration. We utilized a quantitative research approach with a survey research design to obtain research data from 184 teachers working in junior high schools in South Papua Province, Indonesia. The collected data were thoroughly analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS). The results of the data analysis indicate that the quality of learning in junior high schools of South Papua Province was significantly predicted by all the independent variables, both direct and indirect. These findings underscore the importance of fostering teacher training quality, teacher self-efficacy, and teacher collaboration to improve the quality of student learning.

Keywords: *Learning quality, Self-efficacy, Teacher collaboration, Teacher training quality.*

1. Introduction

The quality of learning in schools serves as the basis for improving the overall standards of national education. The quality of learning empowers students to take ownership of their educational journey. It involves students developing the ability to manage and guide their learning process, utilizing strategies to reflect on their progress and identify areas for improvement [1-2]. With a clear understanding of how the brain works, they become more adept at recognizing the steps involved in learning, which are intentionally made transparent to them. This fosters a deeper comprehension of their cognitive processes and enhances self-regulation, ultimately promoting their learning autonomy [3-5].

Despite growing expectations for educational quality, a significant gap remains between desired learning outcomes and the reality in classrooms, particularly in the Southern Papua Province area [6-8]. The region continues to lag in several key educational indicators. South Papua's junior high school net enrollment rate (APM) stands at just 65.3%, considerably lower than the national average of 79.4%. Additionally, the student-teacher ratio in the region is at 1:40, which far exceeds the national standard of 1:20. Key barriers facing junior high school teachers in South Papua Province include challenging geographic conditions, inadequate infrastructure, and limited opportunities for ongoing professional development for teachers. These factors not only restrict the attainment of quality education but also substantially impact student achievement, exacerbate academic inequalities, and perpetuate cycles of educational unfairness. The consequences of these issues go beyond the classroom, influencing the region's long-term socio-economic curve and limiting chances for sustainable growth and social mobility [9].

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In the context of improving the quality of learning, the role of teachers in guiding students to success is undeniable. Teachers emerge as the primary creators of effective and meaningful teaching and learning processes [10]. In today's era of globalization and swift technological advancements, the demand for high-quality learning has escalated, necessitating the need for teachers to continually enhance their competencies in designing, implementing, and evaluating effective instructional practices[11]. This ongoing professional development is essential for teachers to effectively meet the diverse needs of learners and to adapt to the evolving educational landscape.

Studies have documented several factors influencing the quality of learning, both internal and external. Internal factors refer to factors such as student intelligence, communication skills, good memory, and self-regulation In contrast, external factors refer to factors such as culture, parental socioeconomic status, school physical conditions, teacher pedagogical competency, and teacher self-efficacy. For this study, we only focus on the following three external factors. The first factor is teacher training quality. Teacher training encompasses the courses and certifications teachers undertake and receive during their careers, including occasional intensive courses designed to meet short-term, targeted learning goals [12]. High-quality teacher training should include advanced pedagogical strategies as well as subject-specific information. This confirms that teachers are prepared to address their students' various and developing needs.

Training programs should extend beyond the regular curriculum to effectively prepare teachers for the challenges of the modern classroom. This includes providing opportunities to develop specialized knowledge and skills beyond the scope of traditional teacher preparation programs, such as special education, inclusive teaching strategies, and the incorporation of technology into learning environments [13-14]. Comprehensive and targeted professional development improves teachers' skills and makes them adaptable and capable of providing a high-quality learning experience for all students. The quality of training teachers receive is essential in equipping them with current knowledge and skills[15]. Kennedy [16] emphasized that practical teacher training can improve teaching practices and student learning outcomes. Training that focuses on specific content provides active learning, supports collaboration, and tends to be more effective in improving the quality of learning [10]. Desimone [17] argued that professional training significantly predicted pedagogical practices and, in turn, impacted the quality of learning.

The second factor is teacher self-efficacy. Teacher self-efficacy refers to the collective belief of teachers about their capacity to perform needed responsibilities[18] that influence their motivation, persistence, and teaching effectiveness[19]. Self-efficacy determines how teachers respond to challenges, such as students' behavioral or academic difficulties, by encouraging perseverance and creative problem-solving. Teachers who believe they have the potential to influence student learning are more willing to change their teaching methods, seek new resources, and supply individualized support. As a result, this proactive approach enhances student engagement and achievement.

Various studies[20-22] revealed that teachers' self-efficacy is important in predicting diverse essential features of learning quality. Teachers with high self-efficacy tend to create engaging and challenging activities, provide student success, and persevere with students who face problems. These acts improve student accomplishment and strengthen teachers' confidence in their capacity to promote learning quality. In contrast, teachers with low self-efficacy tend to shy away from organizing activities they regard as beyond their capacity, fail to continue with problematic students, make little effort to realize resources, and avoid reteaching learning materials in ways that might improve student comprehension [23].

The third factor is teacher collaboration. Teacher collaboration is essential in shaping students' learning quality, as teachers demonstrate teamwork and cooperative learning by working together, effectively teaching collaboration by "leading by example" [24]. Strong collaborations among teachers are crucial for successfully introducing innovative, student-centered, and collaborative learning approaches [25-26]. Teacher collaboration occurs when teachers jointly develop creative lesson

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strategies, address issues related to student performance or conduct, assess student development and difficulties, and provide mutual support and motivation within an organized setting.

Teachers advance collective self-efficacy through collaboration efforts to achieve shared goals by learning from one another and collaborating to manage challenges and reduce stress. Since collective self-efficacy increases, teachers stay motivated to continue collaborating to improve student learning and teacher job satisfaction [27]. Various types of collaboration, whether structured or casual, are crucial for enhancing student learning achievement. Given the geographical and professional challenges, teachers' collaboration is an important catalyst for transforming individual expertise and pedagogical convictions into effective learning practices [28-29]. Teachers who work together have a clearer understanding of student learning preferences. This allows them to tailor their teaching approaches to each student, culminating in a successful and personalized learning environment [30].

Despite the existing literature examining the potential impacts of the quality of teacher training, self-efficacy, and collaboration on learning quality, we are driven to explore this topic further to address the persistent underachievement of Indigenous Papuan students compared to their peers in other regions of Indonesia. Unlike previous studies that investigated the individual impact of each variable on learning quality, this study aims to address the gap in understanding the intricate relationships among various factors influencing learning quality. To our knowledge, no empirical studies have specifically examined this topic within the South Papua Province. Thus, this study intends to fill the gap by examining the impact of teacher training quality, self-efficacy, and collaboration on learning quality, taking junior high school teachers as the population and samples. By resolving the complexities of learning quality in junior high schools of South Papua Province, this study aims to contribute to the existing literature on teacher professional development and the enhancement of learning outcomes, particularly in the context of remote areas.

This study aimed to describe how learning quality in the junior high schools of South Papua Province is predicted by teacher training quality, self-efficacy, and collaboration. To attain this objective, we proposed the following seven research questions: (a) Does the quality of teacher training have a significant direct impact on teacher collaboration in junior high schools in South Papua Province? (b) Does the quality of teacher training have a significant direct effect on learning quality in junior high schools in South Papua Province? (c) Does teacher self-efficacy significantly affect teacher collaboration in junior high schools in South Papua Province? (d) Does teacher self-efficacy have a significant direct impact on learning quality in junior high schools in South Papua Province? (e) Does teacher collaboration significantly affect learning quality in junior high schools in South Papua Province? (f) Does the quality of teacher training significantly affect learning quality through teacher collaboration in junior high schools in South Papua Province? (g) Does teacher self-efficacy significantly affect learning quality through teacher collaboration in junior high schools in South Papua Province? To answer these research questions, we employed a quantitative approach using a survey research design.

2. Research Method

2.1. Research Design

This study adopted a quantitative approach, utilizing a survey research design to explore how learning quality was predicted by teacher training quality, teacher self-efficacy, and teacher collaboration in junior high schools of South Papua Province. The quantitative research framework emphasizes the use of numerical data, metrics, and statistical procedures, offering a solid basis for uncovering patterns, forecasting results, examining causal connections, and deriving conclusions that can be generalized to larger populations [31].

At the heart of this approach is surveys, which play a crucial role in gathering quantitative data through structured, systematic questioning of participants [32]. The selection of a survey research design was strategic, as it facilitates the collection of precise, quantifiable data, offering comprehensive insights into the subject by measuring opinions, behaviors, attitudes, and other relevant variables. The

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decision to adopt a survey research design was denounced by the existing current studies [33-36], which accentuates the key benefits of this research design: cost-effectiveness, ease of implementation, quick data accumulation, and the capacity for detailed statistical analysis. Optimizing these benefits, the survey design allowed for a deep investigation into the impact of teacher training quality, teacher self-efficacy, and teacher collaboration on learning quality in the junior high schools of South Papua Province.

2.2. Research Participants

The study was conducted in junior high schools in South Papua Province, with a total population of 1169 teachers. Using a multi-stage sampling technique, 184 junior high school teachers were established as samples. There were 91 males and 93 women. Their ages ranged from 35 to 55 years old, and their experience as a teacher spanned from fifteen to 25 years. As the study took place in Indonesia, Institutional Review Board (IRB) approval was not required for this study as it is not obligatory in an Indonesian context. Nonetheless, informed consent was obtained from the participants, and strict confidentiality of the data was ensured. Participation in the study was voluntary, and the questionnaires were administered in Indonesian.

2.3. Data Collection and Analysis

Data collection utilized four survey questionnaires, incorporating key indicators from previous studies. Indicators for assessing teacher training quality were sourced from Raj and Mousumi [37]. A questionnaire of 5 items was distributed to 184 established samples. Teacher respondents rated their perspectives on a four-point Likert scale, where 1 indicated 'Strongly Disagree', 2 indicated 'Disagree', 3 indicated 'Agree', and 4 indicated 'Strongly Agree'. To further improve clarity, all questionnaire items were provided in Bahasa Indonesia. Below are examples of the items in the English version:: "The training content I attended is relevant to my teaching needs," "The instructional design in the training helps me easily understand the learning material," and "I receive support in implementing the training outcomes in the classroom."

Indicators for assessing teacher self-efficacy were derived from Albion [38]. A questionnaire of 4 items was distributed to 184 established samples. Teacher respondents rated their perspectives on a four-point Likert scale, where 1 indicated 'Strongly Disagree', 2 indicated 'Disagree', 3 indicated 'Agree', and 4 indicated 'Strongly Agree'. To further improve clarity, all questionnaire items were provided in Bahasa Indonesia. Below are examples of the items in the English version: "I can adapt to the different learning needs of each student," "I am confident in applying various effective instructional strategies," and "I am capable of managing the classroom well in various situations."

Indicators for assessing teacher collaboration were taken from Robbins [39]. A questionnaire of 5 items was distributed to 184 established samples. Teacher respondents rated their perspectives on a four-point Likert scale, where 1 indicated 'Strongly Disagree', 2 indicated 'Disagree', 3 indicated 'Agree', and 4 indicated 'Strongly Agree'. To further improve clarity, all questionnaire items were provided in Bahasa Indonesia. Below are examples of the items in the English version: "I regularly share best teaching practices," "My colleagues and I assist each other in resolving teaching challenges," and "I am involved in collaborative curriculum development,"

Indicators for assessing learning quality were drawn from Juščáková [40]. A questionnaire of 5 items was distributed to 184 established samples. Teacher respondents rated their perspectives on a four-point Likert scale, where 1 indicated 'Strongly Disagree', 2 indicated 'Disagree', 3 indicated 'Agree', and 4 indicated 'Strongly Agree'. To further improve clarity, all questionnaire items were provided in Bahasa Indonesia. Below are examples of the items in the English version: "I foster a classroom environment that promotes optimal learning," "I consistently give formative feedback to enhance student understanding, " and "I employ differentiated instruction tailored to meet the diverse needs of my students."

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The use of the above-validated measures strengthens the study's conceptual framework and allows for meaningful comparisons with existing literature. All questionnaire items were confirmed to be both valid and reliable. The collected data were statistically analyzed using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) approach. Based on the proposed research questions, seven hypotheses were formulated in this study.

Hypothesis 1: The quality of teacher training has a significant direct impact on teacher collaboration in junior high schools in South Papua Province.

Hypothesis 2: The quality of teacher training has a significant direct impact on learning quality in junior high schools in South Papua Province.

Hypothesis 3: Teacher self-efficacy has a significant direct impact on teacher collaboration in junior high schools in South Papua Province.

Hypothesis 4: Teacher self-efficacy has a significant direct impact on learning quality in junior high schools in South Papua Province.

Hypothesis 5: Teacher collaboration has a significant direct impact on learning quality in junior high schools in South Papua Province.

Hypothesis 6: The quality of teacher training significantly impacts learning quality through teacher collaboration in junior high schools in South Papua Province.

Hypothesis 7: Teacher self-efficacy significantly impacts learning quality through teacher collaboration in junior high schools in South Papua Province.

These hypotheses will be statistically tested using an alpha (α) coefficient 0.05, corresponding to a 95 % confidence level.

3. Results

3.1. Validity and Reliability

To ensure that the research instrument has adequate quality and reliability, a validity and reliability evaluation was conducted on four primary constructs: Teacher Training Quality, Teacher Self-Efficacy, Teacher Collaboration, and Learning Quality, The test results covering factor loadings, Cronbach's Alpha values, Average Variance Extracted (AVE), and Composite Reliability for each construct and its indicators are presented in Table 1.

Data in Table 1 showed a strong validity and reliability coefficient for all constructs. Teacher Training Quality, Teacher Self-Efficacy, Teacher Collaboration, and Learning Quality demonstrated high internal consistency, with Cronbach's alpha values ranging from 0.859 to 0.878, exceeding the recommended level of 0.7. The composite reliability for all constructs surpassed 0.9, demonstrating exceptional reliability. Additionally, the Average Variance Extracted (AVE) values for each construct exceeded 0.5, which affirms adequate convergent validity. A significant finding of this study was the prominence of specific indicators. Content relevance (TTQ1) emerged as the most robust indicator for Teacher Training Quality, underscoring the critical importance of training materials tailored to meet teachers' needs. In the context of Teacher Self-Efficacy, classroom management demonstrated the highest loading, emphasizing the essential role of classroom management skills in enhancing teacher confidence.

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Table 1.
Validity and reliability criteria for each construct.

Concept	Indicator	Item	Loading Factors	Cronbach's Alpha	AVE	Composite reliability
Teacher Training Quality	Content relevance	TTQ1	0,845	0,861	0,645	0,900
	Instructor quality	TTQ2	0,785			
	Learning design	TTQ3	0,799			
	Implementation support	TTQ4	0,779			
Teacher Self-Efficacy	Instructional strategies	SE1	0,820	0,859	0,705	0,904
	Classroom management	SE2	0,879			
	Student engagement	SE3	0,846			
	Instructional adaptation	SE4	0,807			
Teacher Collaboration	Collaborative planning	TC1	0,842	0,878	0,672	0,911
	Sharing practices	TC2	0,802			
	Collective reflection	TC3	0,801			
	Collaborative curriculum development	TC4	0,852			
	Collaborative problem solving	TC5	0,800			
Learning quality	Classroom climate	LQ1	0,825	0,865	0,649	0,902
	Clarity of instruction	LQ2	0,815			
	Formative feedback	LQ3	0,796			
	Differentiation of instruction	LQ4	0,810			
	Student engagement	LQ5	0,782			

Teacher Collaboration exhibited a well-distributed pattern of loadings, with collaborative curriculum development taking precedence. This finding underscores the significance of teacher engagement in the curriculum development process. In the context of Learning Quality, classroom climate emerged as the most influential indicator, highlighting the essential role of a supportive learning environment.

3.2. Discriminant Validity in the Model

This study employs the Fornell-Larcker criterion to assess discriminant validity within the educational research framework focused on South Papua Province. The correlation matrix elucidates the interrelationships among core constructs, Learning Quality, Training Quality, Teacher Self-Efficacy, and Teacher Collaboration. Table 2 provides a clear understanding of the strength and validity of these constructs, helping to explain the key dynamics of the model.

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Table 2.
Fornell-Lacker Criteria.

	Learning Quality	Training Quality	Self- Efficacy	Teacher Collaboration
Learning Quality	0,805			
Training Quality	0,393	0,802		
Self -Efficacy	0,348	0,313	0,838	
Teacher Collaboration	0,458	0,355	0,365	0,820

The data in Table 2 demonstrate strong discriminant validity across all constructs, with the square root of AVE values on the diagonal exceeding the inter-construct correlations. The strength of the relationships was varied, with Learning Quality showing the strongest correlation with Teacher Collaboration (0.458), followed by Training Quality (0.393) and Self-Efficacy (0.348). The high square root of AVE values (ranging from 0.802 to 0.838) indicates strong construct reliability and internal consistency for all variables. All variables exposed positive correlations, suggesting that an increase in one variable is associated with an increase in the others. Teacher Collaboration showed the highest correlation with Learning Quality, suggesting a potentially stronger impact on learning quality than the other variables. Overall, the model demonstrated solid validity and reliability, with positive interrelationships between all variables, positioning Teacher Collaboration as the most closely linked factor to Learning Quality in this study.

3.3. Hypotheses Testing

This study reveals the complex relationship between training quality, teacher self-efficacy, teacher collaboration, and learning quality in private junior high schools in South Papua. The analysis results show significant direct and indirect influences between variables. These findings emphasize the importance of a multidimensional approach to improving the quality of education, involving quality training, developing self-efficacy, and facilitating collaboration between teachers (see Table 3 and Figure 1).

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Table 3.
Path beta, t-value, and P-value.

Path	Path Beta	Stdev	T-Value	P-Value	Conclusion
Direct Impact					
Quality Training → Teacher Collaboration	0,230	0,067	3,428	0,001	Significant
Quality Training → Learning Quality	0,267	0,068	3,900	0,000	Significant
Self-Efficacy → Teacher Collaboration	0,160	0,062	2,586	0,010	Significant
Self-Efficacy → Learning Quality	0,281	0,072	3,890	0,000	Significant
Teacher Collaboration → Learning Quality	0,318	0,070	4,556	0,000	Significant
Indirect Effect					
Quality training → Teacher Collaboration → Learning Quality	0,085	0,029	2,976	0,003	Significant
Self-Efficacy → Teacher Collaboration → Learning Quality	0,089	0,032	2,832	0,005	Significant

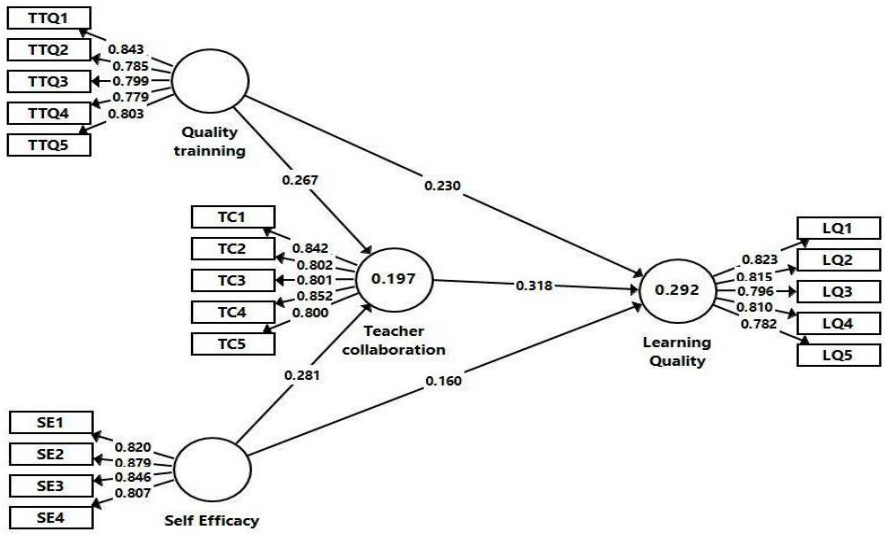

Figure 1.
Loading factor values.

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Data in Table 3 and Figure 1 revealed that all the direct and indirect impacts in the research model were proven significant. The following is the breakdown of the findings for each variable.

1. Training Quality directly affects Teacher Collaboration (β = 0.267, p = 0.000). This suggests that better training quality enhances collaboration among teachers.
2. Training Quality directly affects Learning Quality (β = 0.230, p = 0.001). This suggests that better training quality enhances the overall quality of learning.
3. Training Quality indirectly affects Learning Quality through Teacher Collaboration (β = 0.085, p = 0.003). This indicates that improving the quality of training enhances learning quality by fostering better collaboration among teachers.
4. Teacher Self-Efficacy directly affects Learning Quality (β = 0.160, p = 0.010). This suggests that when teachers feel more confident in their abilities, the quality of learning improves.
5. Teacher Self-Efficacy directly impacts Teacher Collaboration (β = 0.281, p = 0.000). This means that the better the teacher's self-efficacy, the more effective teachers' collaboration.
6. Teacher self-efficacy indirectly affects Learning Quality through Teacher Collaboration (β = 0.089, p = 0.005). This indicates that the better the teachers' self-efficacy, the better the learning quality by fostering better collaboration among teachers.
7. Teacher Collaboration directly affects Learning Quality (β = 0.318, p = 0.000). This demonstrates that the more effective the teachers' collaboration, the better the learning quality. This means that Teacher Collaboration appears to be the strongest predictor of Learning Quality.

4. Discussion

This study reveals the complexity of factors influencing the quality of learning in junior high schools of South Papua Province. The results of data analysis showed a significant impact of training quality on both teacher collaboration teacher collaboration (β = 0.267, p < 0.001) and learning quality (β = 0.230, p < 0.01). It demonstrates that for every point increase in training quality, teacher collaboration improves by 267 points while learning quality rises by 0.230 points. Conversely, a decrease in training quality by one unit results in a corresponding decline of 267 points in teacher collaboration and a 0.230-point drop in learning quality. In essence, higher training quality directly enhances teacher collaboration and learning outcomes, while a reduction in training quality adversely affects both metrics. This highlights the crucial role of training quality in improving teacher collaboration and learning quality.

The results emphasize the critical role of high-quality training in fostering both professional collaboration among teachers and the quality of student learning. These findings accentuate the urgent need for teacher training programs that fit the local context, supporting Desimone's [17] research, which shows that professional development is most effective when it meets the specific needs of teachers and their schools. In contrast to previous studies focusing on the quality of teacher training in general [16], this study underscores the critical need for high-quality training programs tailored to address the distinctive challenges facing junior high school teachers in South Papua Province.

Teacher self-efficacy emerged from the study as another critical factor impacting teacher collaboration (β = 0.281, p < 0.001) and the quality of learning (β = 0.160, p < 0.05). It means that for every point increase in teacher self-efficacy, teacher collaboration improves by 0.281 points while learning quality rises by 0.160 points. Conversely, one unit decrease in teacher self-efficacy results in a corresponding decline of 0,281 points in teacher collaboration and a 0.160-point drop in learning quality. In other words, the higher the level of teacher self-efficacy, the more effective the teacher collaboration becomes, leading to a corresponding improvement in the quality of learning; the lower teacher self-efficacy diminishes the collaboration effectiveness, resulting in a decline in learning quality.

The finding underscores the importance of fostering strong self-efficacy in teachers to enhance collaboration and the overall learning environment. Teachers who perceive themselves as competent,

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autonomous, and connected to their peers, are more intrinsically motivated to engage in meaningful collaboration and provide enriched learning experiences. The psychological needs of **competence, autonomy, and relatedness** are foundational in nurturing a teacher's intrinsic motivation. When these three needs are met, teachers feel empowered to take initiative in their teaching practices, leading to innovative strategies that enrich students' learning experiences [41].

A teacher's intrinsic motivation, in turn, enhances professional collaboration among teachers and improves the overall quality of learning. As teachers collaborate, they share best practices, support one another, and foster a more cohesive learning community, ultimately enhancing student outcomes. This study adds to the understanding of teacher self-efficacy, particularly in remote areas where resources may be limited [42-43]. The findings highlight the importance of building teacher self-efficacy in this context, showing the potential for tailored professional development programs that meet the specific needs of teachers and students, improving both collaboration and learning quality. The finding of this study extends the knowledge of concept of teacher self-efficacy which is particularly relevant to the remote area context [22]. It emphasizes the necessity of developing high self-efficacy teachers to improve teamwork and the overall learning environment.

Another finding that emerged from the study is that teacher collaboration predicts significantly the quality of learning ($\beta = 0.318$, $p < 0.001$). It means that for every point increase in teacher collaboration, the learning quality improves by 0.318 points. Conversely, a point decrease in teacher collaboration results in a corresponding decline of 0.3188 points in the learning quality. In other words, the more effectively teachers collaborate, the higher the quality of learning becomes. Conversely, when teacher collaboration is less effective, the quality of learning diminishes. This demonstrates the pivotal role of teacher's strong collaborations in fostering an enhanced learning experience.

When teachers engage in meaningful and effective collaboration, particularly when they regard it as useful and valuable, it results in various positive outcomes for both individuals and the group. This type of teamwork enables teachers to share knowledge, resources, and strategies, resulting in a supportive environment that benefits everyone. Individually, teachers enhance their skills and teaching practices, leading to better performance in the classroom. As a group, their shared experiences and insights foster stronger connections and improve teaching practices. Effective collaboration, especially in key areas like assessment, enables teachers to understand student needs better, identify learning gaps, and apply targeted interventions. This improves student accomplishments in their classrooms and benefits the academic advancement of their colleagues' students, as best practices are shared and implemented throughout the school. The current effect of high-quality collaboration produces a culture of continual improvement in which teachers become more effective, students achieve more, and the overall learning environment becomes more dynamic and responsive to challenges [44-45].

5. Conclusion

This study examines how quality training, teacher self-confidence, and collaboration affect learning in junior high schools in South Papua Province, Indonesia. The results show that these three factors—training quality, teacher self-efficacy, and teacher collaboration—significantly influence learning quality, both directly and indirectly. The study highlights the importance of investing in quality training, developing teacher self-efficacy, and facilitating teacher collaboration to enhance the quality of learning. They suggest that interventions to improve education quality should focus on relevant training to improve teacher self-efficacy, strengthen classroom management, facilitate collaboration in curriculum development, and create a positive classroom climate. This study contributes to the literature by presenting a comprehensive model that combines teacher and learning environment factors in the unique context of South Papua Province, providing an empirical basis for developing educational policies and practices in the area.

Despite offering valuable insights, this study has important limitations that must be carefully considered. First, the research is limited to teachers working in junior high schools within South Papua Province, which restricts the geographic scope of the findings. Second, the sample size is relatively

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small, which may reduce the statistical power and limit the generalizability of the results to broader populations. These limitations suggest that caution should be exercised when applying the findings to different contexts or regions. Future studies should involve a bigger and more diverse sample of teachers from various areas to provide a more comprehensive knowledge of how factors like training quality, teacher self-efficacy, and collaboration impact learning quality. Expanding the scope and sample size would result in more reliable conclusions and greater application to various educational settings.

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