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Research Article

MGMP Teacher Organization Empowerment in Improving Students' Problem Solving Ability

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Abstract

This study aims to determine the effect of MGMP teacher organization empowerment on the quality of teacher learning, and its impact on improving students' ability to solve problems. The writing is part of a study on the empowerment of MGMP conducted in five cities in Indonesia in mid-2019. The sample of this study was teachers with each MGMP taken 25 of those classified as seniors (more than 10 years) as teachers (125 people in total). Data collection was carried out through questionnaires, focus group discussions (FGD) and interviews. The results showed that the empowerment of MGMP was influenced by the training variables of increasing competency and parents' participation. The empowerment of MGMP itself has a positive influence on the quality of teacher learning, so that it has a positive impact on improving students' ability to solve problems. On that basis the government must encourage the empowerment of teacher organizations on an ongoing basis, not temporary. In addition, the government needs to review the regulations prohibiting schools from raising funds from parents, because it is indeed necessary to encourage the implementation of quality improvement programs in schools, including assisting teachers in participating in MGMP activities and forming professional communities.

Keywords: *competence, professionalism, teacher organization, empowerment, quality of learning, students' problem solving abilities*

1. Introduction

The Government (read: MOEC Republic of Indonesia) is committed to empowering the Subject Teachers' Consultative Organization (MGMP) as a forum to improve the ability of teachers at secondary education (junior and senior high school). Especially since 2016. the Directorate General of Teachers has utilized the MGMP forum to provide training programs called the Learner Teachers program by involving 400 thousand junior and senior high school teachers. The use of MGMP will continue in 2019 with the hope that it will be able to empower MGMP as a place to share knowledge. solve joint learning problems. continue professional development. and so on to build a professional teacher community. This training program focuses on improving teacher skills through the

application of zoning boundaries. By involving this organization. the government considers it can be a trigger for the MGMP to function optimally. This expectation to empower MGMP is naturally based on the reality that MGMP activity is considered successful in improving the quality of student learning outcomes.

Through the empowerment of MGMP it is also expected to be able to improve students' high-level thinking skills (HOTS). especially in dealing with and solving problems around them. This indeed received serious attention in the implementation of education in Indonesia. The 2016 PISA study shows the low ability and creativity of adults in Indonesia in problem solving. One of them is thought to be caused by the application of an education system that is less directed at developing higher-order thinking skills (Blooms et al. 1956; Krulik and Rudnick. 1999; Anderson and Krathwohl. 2001). especially in analyzing. evaluating. synthesizing. and being creative in problem solving. The teachers themselves seem to lack mastery and ability in problem-based learning approaches. In the 2019 national exam many students complained of being unable to answer questions that required critical thinking and problem solving (Detik News. 2019; Antaranews. 2019).

The problem is that the MGMP organization has been established for a long time in every district / city. but most of it is still less active. The MGMP mechanism has not been able to encourage teacher participation as expected. especially as a forum for improving teaching ability. Teachers meeting in this place is often just a matter of carrying out routine activities. fulfilling administrative tasks for promotion. being instructed by the School Principal. and others. Various factors still hamper the implementation of this MGMP. if not addressed it will only lead to the lack of empowerment. On that basis. it is necessary to analyze the factors that influence the implementation of the MGMP. so that conclusions and actions can be drawn to increase the role and function optimally.

This paper intends to examine the influence of teacher competency training factors. school management. and parental participation in empowering MGMPs and implementing quality learning. as well as their impact on developing students' competencies in thinking HOTS and solving problems. The first mentioned factor (teacher competency training. school management. and parental participation) became an exogenous latent variable that had an effect on endogenous latent variables (MGMP empowerment and the quality of teacher learning). while the quality of teacher learning was thought to have an influence on student competency development. Based on the results of statistical analysis about the relationship of the influence of exogenous latent variables to endogenous latent variables. it will be discussed and conclusions drawn in an effort to provide input to interested parties.

2. Literature Review

2.1 Teacher Competency Training

The implementation of teacher training programs has been carried out by the Indonesian government since 1970. in the form of face-to-face or via radio for elementary school teachers. In the 1990s the training program for teachers was implemented through the Teacher Job Training program (in-on service). after which teacher training could be said to stagnate until 2007. The latter is related to the implementation of competency tests for teachers by teacher education institutions (referred to as : LPTK) to obtain a certificate of recognition has been competent and professional in accordance with the mandate of Teacher Law No. 14/2005. Only since 2016 has been re-trained by the teacher directorate general - MOEC to improve teacher competency through the Teacher Learning program. Competency improvement consists of activities aimed at improving and growing abilities. attitudes. and skills. The training approach is done through face-to-face. on-line. and a combination of face-to-face and on-line (directorate general of teachers. 2017).

In 2016 the training was aimed at 400 thousand teachers. and in 2017 against 300 thousand teachers with a name change to a continuous competency development program and only implemented a face-to-face approach. In 2019 the training program will be continued with the name

Continuous Professional Development through Zoning-Based Learning Competency Enhancement. In this program design it is said. if in 2016 - 2017 training is more focused on efforts to improve teacher competence. then since July 2019 training is emphasized on the process of learning management to improve students' thinking skills (HOTS) in problem solving that comes from the reality of life (directorate general teacher. 2019).

Explicit implementation of the training is an acknowledgment that teacher competencies need to be improved. especially if faced with low achievement of educational goals and outcomes. Various studies show the importance of teacher competence in the implementation of education in schools. Kunter et al (2013) and Gore et al (2017) show an increase in teacher competency and professionalism has an impact on the quality of learning. Syaidah. Suyadi. and Ani (2018) show the magnitude of the positive influence of teacher competence on student economic learning outcomes. The same thing was shown by Azzahra (2015) and Sutardi and Sugiharsono (2016) that teacher competence has a positive influence on student learning outcomes. In essence. the competency of the teacher will significantly influence the high or low student learning outcomes.

2.2 School Management

Management is simply defined as the utilization of resources (human and non-human) through the process of planning. organizing. implementing. and monitoring. to achieve certain goals (see: Terry. 2010; Priyono. 2016). Schools as organizations need systematic planned management to influence, mobilize and direct the behavior of members within it to achieve the expected goals. Organizational management will achieve maximum results and achievement. if individuals and groups will realize activities in accordance with the objectives and expected results (Manullang 2013; Stoner. 2013). In Indonesia the importance of elements of school management has been realized by the government by issuing the concept of School Based Management (Law No. 20 of 2003). SBM is a manifestation of the spirit of decentralization of education by giving schools greater authority and flexibility in managing all aspects of education in their institutions that lead to school progress

School management is largely determined by the Principal. whether he is a visionary and able to be an agent of change or vice versa. If the principal supports the vision. direction. and goals to be achieved. then he tends to be active. caring. creative. innovative. and pay serious attention to the performance of his subordinates. He will act as a provider of values to be achieved by schools, act as agents of change, and support the courage to take risks. Efforts to achieve vision, goals, and better results will be the basis for continuing to improve the performance of subordinates. especially teachers.

A visionary school principal tends to support his teacher who is involved in MGMP activities and even motivates. Encourages, facilitates, supervises, and evaluates the results of teacher involvement, if the involvement is considered beneficial. On the other hand. they will be pessimistic if deemed useless. and tend to look for other efforts. for example seeking expert guidance or practice that comes from universities or from other institutions. Field findings often show that quite a number of school principals do not want to send teachers in MGMP activities on the grounds that they are interrupted learning at school. there are no substitute teachers. limited funds to support teacher activities. are considered less effective and therefore on (Agung. 2019). On that basis. it is suspected that the empowerment of MGMP is also influenced by the leadership of the school principal in managing his educational institutions and encouraging teacher participation in the activities of this organization. Priyastutiningrum (2014) stated the importance of the principal's leadership in encouraging English teachers to take part in MGMP activities. Similar findings were found by Lidia (2016), Muhajirin et al (2017), Aminudin (2017), and Sumedi (2018) in their research on the role of principals in motivating their teachers to participate in MGMP activities.

2.3 Parents Participation

In simple terms. participation can be interpreted as the involvement of a person or group of people to strive for the success of an activity, so as to achieve the expected goals. Davis and Newstrom (2004) argue that participation is the mental and emotional involvement of a person to achieve goals and take responsibility in them. Participation is the mental and emotional involvement of someone who is motivated to contribute and achieve group goals.

In the Law of the Republic of Indonesia Number 20 of 2003 emphasizes that education is a responsibility between the government. the community and the family. Explicitly said that the implementation of the national education system is also determined by the participation of parents, namely mental and emotional participation in supporting activities in schools, especially learning. There are at least 4 (four) forms of parental participation in the administration of education in schools. namely: financial participation to support and facilitate the achievement of school needs. property participation (for example: personal computer assistance, laptops, props, procurement of wifi. etc.), participation in physical services (for example: building classrooms. maintaining the security of the school environment. etc.), and participation in skills (for example: as a resource person, looking for experts to provide guidance, and so on).

As a forum for student parents, the government formed an organization called the School Committee. In the Minister of Education and Culture regulation No. 44 of 2012. The School Committee is prohibited from collecting funds in any form from students' parents. However. many parties argue that the implementation of education in schools and MGMP really requires the active participation of parents of students. Specifically MGMP various forms of participation can be given by parents of students, ranging from supervision of activities in schools and MGMPs, the provision of experts to increase knowledge, abilities, and mastery of teacher learning methods; learning facility assistance; and transportation funds and teacher allowances to participate in MGMP activities.

Putri's (2010), Mutodi and Ngirande (2014), Islami (2016), Muryati (2017), Persada et al (2017) show that active participation of parents in supporting activities in schools, especially in the form of financial assistance and learning facilities can improve the quality of learning. Considering the importance of education funding support, and the limited ability of the government, Minister of Education and Culture Regulation No. 75 of 2016 which enables fundraising from students' parents and the community. This regulation requires that schools are given the freedom to receive funds from the community (individuals, community leaders, entrepreneurs, etc.) on the basis of voluntary principles.

2.4 MGMP Organization Empowerment

MGMP is an organization. which is based on principles. by. and for teachers. to maintain and develop skills continuously and be an entry point for improving the quality of national education (Agung. 2017). Botung (2008) states that MGMP activities can provide a number of benefits. including as a place for discussion. problem solving for teachers who experience difficulties in learning activities. increasing joint professionalism. disseminating information about educational reform. developing centers for classroom administration. providing opportunities for teachers who creative and innovative, and so on. Suhardi (2009) argues that MGMP basically functions as a forum for teacher professional development. fosters work morale in order to improve student learning outcomes. and development of teacher abilities.The MGMP organization for junior and senior high school teachers so far has not shown the expected results. Noor (2019) notes that there are still many teacher organizations that have not shown active activities and there are still many teachers who have not participated in MGMP activities. The reasons given by the teacher are. among others. because the teaching time is already dense, to coincide with the teaching time, is prohibited by the school, the location of the activity is far away, is considered to be less useful, and others. From the external side is the lack of financial support for teachers to participate in activities, fulfill administrative tasks in

schools that take up time. and others. The USAID study (2009) concluded that the MGMP forum was not yet effective in improving teacher ability and increasing student learning achievement.

The use of MGMP by the government as a place for teacher training is an effort and commitment to empower this teacher organization in the long run. Various studies in a number of areas show that the government's commitment to MGMP as a teacher professional development forum shows success and is expected to be sustainable (Chepy. 2016). Winingsih (2016) believes that the assistance provided by the government to MGMP can make this forum at the school or district / city level a strategic tool to improve teacher competency. Of course MGMP empowerment efforts must be carried out continuously until this forum becomes independent and professional. In addition, a strong and empowered MGMP must support collaborative work with activities that are scheduled regularly, have a vision and goals going forward, have a division of work in the implementation of the program, develop a systematic and directed learning plan, and evaluation to find out the results and make revised is required.

The use of MGMP should be avoided only as a forum for the implementation of programs / activities that are temporary and less serious. After the training program ends MGMP returns to its original condition which tends to be passive, less passionate, boring, and has no benefit to improve the ability of teachers and student learning outcomes.

2.5 Learning Quality

In simple terms the quality can be interpreted as a description or content of a product or service that is able to provide satisfaction as expected. The quality of learning can be said to be the quality of service performed by schools and teachers in the teaching-learning process to produce competent and useful student output. The quality of learning is carried out by the teacher through the interaction of all learning components which include learning objectives. learning materials. teaching preparation. learning methods. class management. and so on. which are delivered to students. The interaction between the learning components must run efficiently and effectively. Quality learning is effective learning that is measured based on customer satisfaction (students) for the learning process received (see: Sallis. 2015).

The essence of learning quality is to produce students' outputs in running a better future life. Quality refers to how well the implementation of learning for students helps them to become knowledgeable human beings. have problem solving skills, relevant work skills, and good interpersonal skills. Quality learning focuses on preparing students at school and their future benefits. On that basis the quality of learning is related to the construction and management process in preparing teaching and learning activities to achieve satisfying learning outcomes. Sallis (2006) says that the issue of education quality is a commitment to continuous improvement. In the context of quality learning means the efforts of teachers to make continuous improvements, both in terms of the process and the achievement of student learning outcomes. But we ourselves argue that to produce a quality of learning that is constantly increasing, a teacher must have the ability to develop ongoing professionalism, improve performance, carry out classroom action research, use varied learning methods in accordance with learning material, and be able to develop and utilize media and digital technology (Leithwood et al,1998; Agung, 2017; Agung, 2018).

2.6 Problem solving skill

The development of the global environment in the 21st century is marked by the rapid advancement of digital technology in the field of information and communication that makes life open. The era of globalization has an impact on the emergence of an increasingly fierce competition situation between countries in fighting for employment opportunities at home and abroad. Without qualified and skilled labor. a country will not be able to exploit competition and take the opportunity to improve their standard of living. So the challenges faced by education are to produce quality and competitive

human resources. Education must be able to produce creative students. critical thinking. can collaborate. and able to convey innovative thoughts and ideas (Pearlman, 2006; ISTE. 2008; National Institute of Education, 2015).

In other words the implementation of education must produce the ability of students to solve problems faced in the surrounding environment. That ability not only shapes the mastery and development of science and technology, but also creative and critical thinking in capturing issues of one's own life and community environment, then collaboratively looking for solutions. Through the emergence of creative and critical thinking students will become creators. have high competitiveness. be part of problem solving (not the other way around is the burden of problems that must be overcome by the government). A number of education experts have suggested that it is important to apply problem-based learning approaches and project-based learning in teacher and student learning to improve students' ability to overcome problems (see. De Graff and Kolmos, 2003; Cindy and Hmelo, 2004; Barge, 2010).

Students are not only built because they memorize theories, understand, or just apply what they know. The point is students must have the ability to think at a higher level (HOTS) in problem solving. Anderson & Krathwohl (2001) has mapped the level of thinking skills and the description of their use to measure the thinking skills of a person or group. Someone has low level thinking ability. if they are in the realm of cognitive remembering (C-1), understanding (C-2), and implementation (C-3), instead they have a higher level of thinking ability if they have the domain of analysis (C-4), evaluate (C-5), and Creating (C-6).

Strictly education must produce outputs of students who are able to solve problems faced, through creative principles and critical thinking in capturing phenomena, understanding problems, developing a framework for approaching problems, analyzing the factors that influence, proposing alternative solutions to problems, and communicating thoughts / ideas innovative.

3. Theoretical Model

Based on the description above the study framework is designed to approach the problem as stated in diagram 1. Diagram 1 shows the alleged influence of exogenous latent variables Teacher Competency Improvement (PP), School Management Principal (PS), and Parent Student Participation (PO) on latent variables endogenous Teacher Learning Quality (MPG) and MGMP Teacher Organization Empowerment (PPK). Furthermore, Teacher Learning Quality (MPG) variables are thought to have an influence on Improving Problem Solving Ability of Students (PKS).

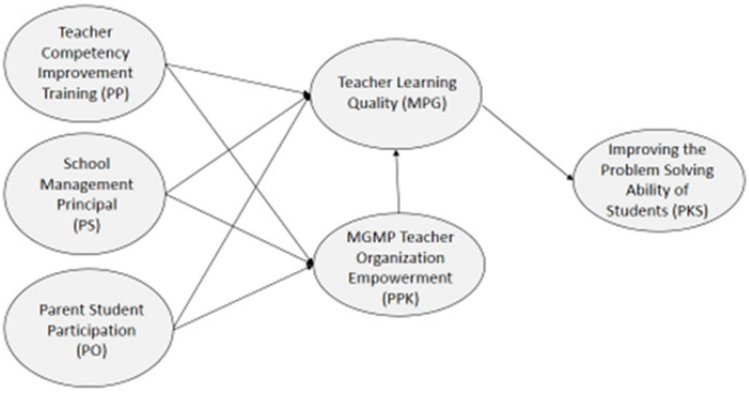

Diagram 1. MGMP Teacher Organization Empowerment in Improving Students' Problem Solving Ability

Hypothesis:

- Teacher Competency Improvement (PP), School Management Principal (PS), and Parent Student Participation (PO) have an influence on Teacher Learning Quality (MPG) and MGMP Teacher Organization Empowerment (PPK)
- MGMP Teacher Organization Empowerment (PPK) has an influence on Teacher Learning Quality (MPG)
- Teacher Learning Quality (MPG) influences Improving Problem Solving Ability of Students (PKS).

4. Methodology

This manuscript is part of the results of research in five cities in Indonesia with the topic of MGMP empowerment conducted in mid-2019. The five cities are Jambi City - Jambi Province. Semarang City - Central Java Province. Mataram City - West Nusa Tenggara Province. Makassar City - South Sulawesi Province. and Ternate City - North Maluku Province. From the five cities. one MGMP subject was chosen which was able to involve the teacher and show the activity. MGMP were chosen respectively for Indonesian subjects (Jambi city). Physics (Semarang city). Social Sciences (Mataram city). Mathematics (Makassar city). and Economics (Ternate city).

The sample of this study was teachers with each MGMP taken 25 of those classified as senior (more than 10 years) as teachers (125 people in total). Data collection was carried out through questionnaires. focus group discussions (FGD). and interviews. Specifically the questionnaire. before being applied in the field of research. was actually tested to determine the validity and reliability of the question items with the Pearson and alpha Cronbach correlation coefficient criteria using the SPSS program version 24.0. The minimum validity criterion for the validity test is = 0.361. and the reliability test is ≥ 0.6. Questions in the invalid and unreliable questionnaire were not used. and only questions that proved to be valid and reliable were used in subsequent fieldwork. The results presented below use a valid and reliable questionnaire in the validity and reliability test. The teacher who was the respondent to fill out the questionnaire was also a FGD participant. In addition. the study conducted interviews with several school principals from schools whose teachers were members of the MGMP.

4.1 Analysis data technique

The analysis used structural equation modelling (SEM) using the Lisrel 8.80 program. SEM can be used because the number of samples meets the minimum requirement of 100 respondents (Kusnendi. 2009; Haryono and Wardoyo. 2017).

5. Finding

5.1 Characteristics of respondents

The sample of respondents in this study was aimed at teachers with more than 10 years of teaching experience. From the field it was found that the teacher respondents who answered the questionnaire and became FGD participants were over 40 years old. More than half (78.0%). were women and the rest (22.0%) were men. The age distribution of research respondents is shown in table 1.

Table 1. Age Distribution of Respondents

No.	Location	Age (%)				Total
		< 40 years	40 - 45 years	46 – 50 years	> 50 years	
1.	Jambi City	-	3 (2.40)	12 (9.60)	10 (8.00)	25 (20.00)
2.	Semarang City	-	2 (1.60)	10 (8.00)	13 (10.40)	25 (20.00)
3.	Mataram City	-	-	10 (8.00)	15 (12.00)	25 (20.00)
4.	Makassar City	-	2 (1.60)	4 (3.20)	19 (15.20)	25 (20.00)
5.	Ternate City	-	-	5 (4.00)	20 (16.00)	25 (20.00)
	Total	-	7 (5.60)	41 (32.80)	77 (61.60)	125 (100.00)

Source: Study MGMP teacher organization empowerment in improving students' problems solving ability.

All teacher respondents said that they had been members for more than seven years and actively participated in MGMP activities, and felt the benefits in improving teaching abilities and student learning outcomes. Activities carried out at MGMP usually discuss learning material that is considered difficult, address problems faced by teachers in learning and administrative fulfillment, explain things that are considered new, discuss learning methods related to certain learning materials, and others. One thing that needs to be underlined is that almost all teachers say that their active participation is supported by the Principal and parents, especially in fulfilling transportation and consumption funds.

5.2 CFA Results

5.2.1 Validity test results

Latan (2012) suggests that a confirmatory factor analysis (CFA) be conducted to test the dimensionality of a construct or variable. CFA must be implemented as a test of validity and reliability to determine whether indicator variables truly form the latent variables studied (Haryono and Wardoyo, 2017). The validity test is performed to determine whether the question items meet the standardization value of the factor. If the value of the standard loading factor is greater than 0.5 the question item is valid. Table 2 shows that all items in the statement or indicator in this study are valid because they have a loading value greater than 0.5.

Table 2. CFA Validity Results

Variables	**Indicator**	***loading factor***	**Conclusion**
Teacher Competency Improvement Training (PP)	PP_1	0.72	Valid
	PP_2	0.89	Valid
	PP_3	0.60	Valid
	PP_4	0.52	Valid
School Management Principal (PS)	PS_1	0.83	Valid
	PS_2	0.69	Valid
	PS_3	0.96	Valid
	PS_4	0.68	Valid
Parent Student Participation (PO)	PO_1	0.90	Valid
	PO_2	0.87	Valid
	PO_3	0.98	Valid
	PO_4	0.54	Valid
Teacher Learning Quality (MPG)	MPG_1	0.60	Valid
	MPG_2	0.64	Valid
	MPG_3	0.59	Valid
	MPG_4	0.90	Valid
	MPG_5	0.94	Valid

Variables	Indicator	*loading factor*	Conclusion
MGMP Teacher Organization Empowerment (PPK)	PPK1	0.69	Valid
	PPK2	0.69	Valid
	PPK3	0.92	Valid
	PPK4	0.90	Valid
	PPK5	0.95	Valid
Improving the Problems Solving Ability of Students (PKS)	PKS1	0.97	Valid
	PKS2	0.90	Valid
	PKS3	0.86	Valid
	PKS4	0.99	Valid
	PKS5	0.55	Valid
	PKS6	0.58	Valid

Source: Study MGMP teacher organization empowerment in improving students' problems solving ability.

The CFA test results in the above table show that all statements or indicators in this study are valid. because it has a loading value greater than 0.5.

5.2.2 Model Match Test

Analysis of structural models in SEM begins with testing the suitability of the overall model seen based on the Goodness-of-Fit Index (GFI) statistical indicators of the LISREL output (Hair et al, 2006). Overall a summary of the critical values from model compatibility testing can be seen from the summary in Table 3.

Table 3. Model Match Test Results

Goodness of Fit	Value	Cutt of value	Conclusion
Goodness of Fit Indices (GFI)	0.96	GFI $\geq$ 0.9	Good Fit
Root Mean Square Error of Approximation (RMSEA)	0.073	RMSEA $\leq$ 0.08	Good Fit
Normed Fit Index (NFI)	0.83	NFI > 0.90	Marginal Fit
Adjusted GFI (AGFI)	0.98	AGFI $\geq$ 0.90	Good Fit
Comparative Fit Index (CFI)	0.93	CFI > 0.90	Good Fit
Incremental Fit Index (IFI)	0.93	IFI > 0.90	Good Fit
Relative Fit Index (RFI)	0.89	RFI > 0.90	Marginal Fit

Source: Study MGMP teacher organization empowerment in improving students' problems solving ability.

The model fit test shows that the RMSEA is smaller than 0.08 so it is said to be a good fit model. GFI, AGFI, CFI and IFI meet the suitability level of the model where each score greater than 0.90 means that it shows good fit. For NFI and RFI do not meet the level of suitability of the model because it gets a value smaller than 0.90, which means categorized marginal fit. But in general it can be said of a good fit model.

5.2.3 Hypothesis Test Results

Hypothesis testing in this study was done by looking at the critical value (CR) at a 95% confidence level or 5% error. the CR value received is greater than 0.05 (Hair et al. 2006).

Table 4. Hypothesis Test Results

No	Hypothesis	Loading Value	Conclusion
1	Teacher Competency Improvement Training (PP) on Teacher Learning Quality (MPG)	0.30	Hypothesis Accepted
2	School Management Principal (PS) on Teacher Learning Quality (MPG)	0.19	Hypothesis Accepted
3	Parent Student Participation (PO) on Teacher Learning Quality (MPG)	0.26	Hypothesis Accepted
4	Teacher Competency Improvement Training (PP) on MGMP Teacher Organization Empowerment (PPK)	0.12	Hypothesis Accepted
5	School Management Principal (PS) on MGMP Teacher Organization Empowerment (PPK)	0.04	Hypothesis Rejected
6	Parent Student Participation (PO) on MGMP Teacher Organization Empowerment (PPK)	0.68	Hypothesis Accepted
7	MGMP Teacher Organization Empowerment (PPK) on Teacher Learning Quality (MPG)	0.30	Hypothesis Accepted
8	Teacher Learning Quality (MPG) on Improving the Problems Solving Ability of Students ((PKS)	0.86	Hypothesis Accepted

Source: Study MGMP teacher organization empowerment in improving students' problems solving ability.

Table 4 explains that of the eight hypotheses proposed seven of them were declared accepted because they obtained a direction coefficient value greater than 0.05, while the other one was rejected because it obtained a smaller value of 0.05. The interesting thing from the results above is the parent participation variable (PO) which has a significant positive influence on the empowerment of the MGMP teacher organization (PPK). On the other hand the organizational empowerment of MGMP Teachers (PPK) has a significant positive influence on the Quality of Teacher Learning (MGP), while the Quality of Teacher Learning (MGP) has a considerable influence on Improving Students' Problem Solving Ability (PKS).

Diagram 2 below shows the results of the structural ecuation model (SEM) test of the variables and research indicators studied.

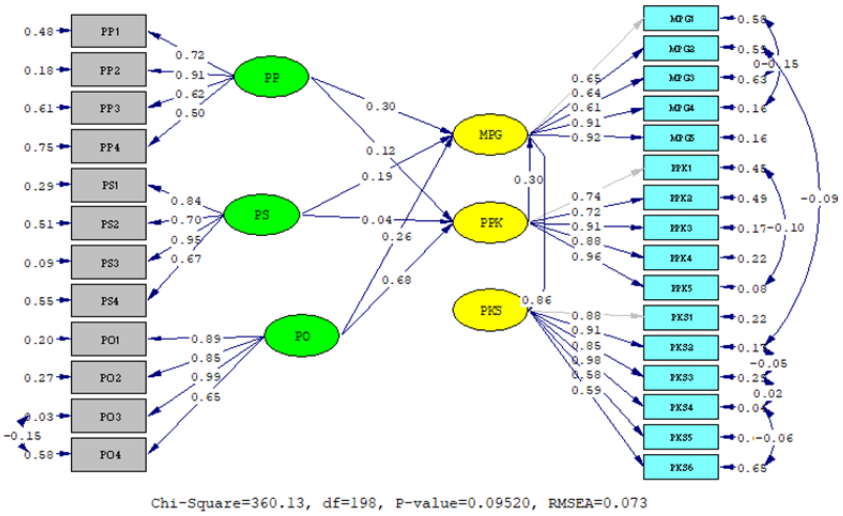

Diagram 2. Structural Equation Model (SEM) Test Results
Source: Study MGMP teacher organization empowerment in improving students' problem solving ability.

While the above analyses describe the relationship to the outcome variables, each indicator in this study also contributes to exogenous and endogenous variables. To estimate the results, the relationship between variables and indicators can be seen from the coefficient values in the model. The factor load coefficient or high coefficient is evidence that the measured variable or factor represents the underlying construction. Table 5 shows the relationship between variables and indicator variables.

Table 5. Results Test of the relationship of exogenous variables with indicators of endogenous variables

Variables	Indicators	Measurement Equations	Loading Value	Construct Coefficient	Contribution
Teacher Competency Improvement Training (PP)	x1 = Training material	$x_1 = \lambda_1$Trainingmat + δ_1	0.72	0.48	0.3456
	x2 = Instructor availability	$x_2 = \lambda_2$Instructuravail + δ_2	0.91	0.18	0.1638
	x3 = Module completeness	$x_3 = \lambda_3$Modulcompl+ δ_3	0.62	0.61	0.3782
	x4 = Support of training funds	$x_4 = \lambda_4$Supportfund + δ_4	0.50	0.75	0.3750
School Management Principal (PS)	x5 = Vision of the principal	$x_5 = \lambda_5$Vision + δ_5	0.84	0.29	0.2436
	x6 = Change agent	$x_6 = \lambda_6$Changeagent + δ_6	0.70	0.51	0.3570
	x7 = Funding quality	$x_7 = \lambda_7$FungdingAlo + δ_7	0.95	0.09	0.0855
	x8 = Evaluation	$x_8 = \lambda_8$Evaluation + δ_8	0.67	0.55	0.3685
Parent Student Participation (PO)	x9 = Supervision participation	$x_9 = \lambda_9$Supervision + δ_9	0.89	0.20	0.1780
	x10 = Expert participation	$x_{10} = \lambda_{10}$Expert + δ_{10}	0.85	0.27	0.2295
	x11 = Facilities participation	$x_{11} = \lambda_{11}$Facilities + δ_{11}	0.99	0.03	0.0297
	x12 = Funding participation	$x_{12} = \lambda_{12}$Funding + δ_{12}	0.58	0.65	0.3770
MGMP Teacher Organization Empowerment (PPK)	x17 = Collaboration	$x_{17} = \lambda_{17}$Collaboration + δ_{17}	0.74	0.45	0.3330
	x18 = Vision and goal	$x_{18} = \lambda_{18}$Visiongoal + δ_{18}	0.72	0.49	0.3528
	x19 = Division of work	$x_{19} = \lambda_{19}$Divisionofwork + δ_{19}	0.91	0.17	0.1547
	x20 = Work planning	$x_{20} = \lambda_{20}$Workplanning + δ_{20}	0.88	0.22	0.1936
	x21 = Evaluation (Revised)	$x_{21} = \lambda_{20}$Evaluation + δ_{20}	0.96	0.08	0.0768
Teacher Learning Quality (MPG)	x22 = CPD	$x_{22} = \lambda_{21}$CPD + δ_{21}	0.65	0.58	0.3770
	X23 = Job performance	$x_{23} = \lambda_{22}$Performance + δ_{22}	0.64	0.59	0.3776
	x24 = Learning outcomes	$x_{24} = \lambda_{23}$Outcomes + δ_{23}	0.61	0.63	0.3843
	x25 = Research class action	$x_{25} = \lambda_{24}$Reseclassact + δ_{24}	0.91	0.16	0.1456
	x26 = Feedback/Reflective	$x_{26} = \lambda_{20}$Reflective + δ_{20}	0.92	0.16	0.1472
Improving the Problems Solving Ability of Students (PKS)	x27 = Phenomenon	$x_{27} = \lambda_{25}$Phenomenon + δ_2	0.88	0.22	0.1936
	x28 = Understanding the problem	$x_{28} = \lambda_{26}$Undestanding + δ_{26}	0.91	0.17	0.1547
	x29 = Framework	$x_{29} = \lambda_{27}$Framework + δ_{27}	0.85	0.29	0.2465
	x30 = Data analysis	$x_{30} = \lambda_{28}$Analysis + δ_{28}	0.98	0.04	0.0392
	x31 = Alternative solutions	$x_{31} = \lambda_{31}$Alternsolutions + δ_{31}	0.58	0.06	0.0348
	x32 = Communication	$x_{32} = \lambda_{32}$Communication + δ_{32}	0.59	0.65	0.3835

Source: Study MGMP teacher organization empowerment in improving students' problems solving ability.

6. Discussion

The SEM results above show that the parent participation variable (PO) has the highest positive influence on the empowerment of the MGMP teacher organization (PPK), compared to competency improvement training (PP). Even the school management variable by the school principal is considered by the teacher to not have a positive influence on the organizational empowerment of the MGMP (PPK), and the hypothesis tends to be rejected. However, teacher competency improvement training (PP) ranks the highest positive influence on the quality of teacher learning (MPG) compared to the participation of parents of students (PO) and school principal management (PS).

In the parent participation variable (PO), the participation indicator in the form of financial assistance (x12) provides the highest contribution value of 0.3770, followed by indicators for providing experts to help improve the ability of teachers (x10), supervision of teacher activities (x9) of 0.0297, and assistance learning facilities (x11) of 0.0297. This means that in the teacher's perception the

participation of parents is extremely important in supporting funds to take part in MGMP activities, because it will not hinder them. he involvement of parents of students is considered important in helping provide experts to guide activities and improve the knowledge and abilities of teachers in MGMP, especially related to understanding, enrichment, and use of learning methods. On the other hand, participation in learning facilities is deemed unnecessary in MGMP, because it can be fulfilled from schools that own it. This parent participation variable (PO) also has a positive influence on the Quality of Teacher Learning (MPG) with a coefficient value of 0.26.

The competency enhancement training variable (PP) has a positive effect on the MGMP teacher organization empowerment. The module completeness indicator (x3) gives the highest contribution to the training variable of 0.3782, followed by the training aid indicator (x4) of 0.3750, training material (x1) of 0.3456, and the instructor's ability (x2) of 0.1638. In the teacher's perception, the completeness of the training modules is an element that needs to be owned as supplementary material to be learned, even though they already have textbooks. The teacher also considers that there is a need for training funding support (x4) so that they can participate in the training, even though the existence of the training Instructor (x2) ranks at the bottom of the contribution. Variable of teacher competency improvement training (PP) has a positive influence on the variable of Teacher Learning Quality (MPG) of 0.30.

The school management variable by the school principal does not have a positive influence on the empowerment of the MGMP teacher organization (PPK). Although in this variable there are contributions from the indicators that form, but the Principal is considered a teacher does not have a positive influence in the empowerment of this teacher organization. Maybe the Principal is considered not directly involved in MGMP activities and not involved in managing the organization, because it rests on the principles of, by, and for teachers. But on the contrary the school management variable by the principal (PS) has a positive influence on the variable Teacher Learning Quality (MPG) of 0.19.

The variable MGMP teacher organizational empowerment (PPK) has a positive effect on the variable Teacher Learning Quality (MPG) with a coefficient value of 0.30. Indicators of better vision and goals for the future (x18) contributed the highest value to the teacher organizational empowerment variable (MGP) of 0.3528, followed by an indicator of work collaboration (x17) of 0.3330, work planning (x20) of 0,1936, the division of labor (x19) amounted to 0.1547, and evaluation (x21) amounted to 0.0768. These results indicate that the vision and goals for better learning in the future need to be owned by MGMP, accompanied by strong work cooperation as a basis for planning learning, especially based on HOTS and problem solving. For this reason, it is also necessary to have a division of labor so that implementation can be controlled and make necessary improvements to existing constraints. Final evaluation is needed to determine the achievement of results and make improvements as needed for the next stage.

Finally the variable Teacher Learning Quality (MPG) has a positive influence on the Improvement of Student Problem Solving Ability (PKS), even high enough to record a coefficient of 0.86. The effect on the quality of teacher learning (MPG) is mainly seen in the indicators of student learning outcomes (x24) of 0.3843, followed by work performance (x23) of 0.3776, continuous professional development (x22) of 0.3770, feedback and reflective actions (x26) of 0.1742, and conducting classroom action research (x25) of 0.1456. Strictly the empowerment of teacher organizations that have a planned, systematic, and well-directed influence to strengthen the quality of teacher learning, then have a positive impact, especially on student learning outcomes, work performance, and teacher's continuing professional development (CPD).

The above description shows that the empowerment of MGMP teacher organizations is not enough to be done through temporary training activities by the government. This effort must be sustainable so that the MGMP mechanism is truly capable of becoming a forum for teacher capacity building. The latter suggests that after the program is implemented by the government, it is necessary to support the continuation of MGMP activities, including the provision of enrichment books, scientific literature to expand knowledge and improve teacher teaching skills, accompanied by

annual financial assistance for MGMP activities. Budgetary assistance from the central and regional governments is important so that this teacher organization can maintain, empower and improve the capabilities of its members.

On the other hand, considering the aspects of parents of students have a significant influence in the empowerment of MGMPs, it is necessary to increase their roles and functions. Moreover, the empowerment of MGMP has a significant influence on the quality of learning by teachers and has a positive impact on improving students' ability to solve problems. For this reason, regulations prohibiting schools from collecting funds from students' parents and the community, or regulations that provide opportunities to receive funds from voluntary origin, require a review. The regulation needs to be canceled, instead the government issued a new regulation that opens opportunities for schools to require parents to help with the needs of school program budgets, including supporting teacher activities in MGMP. The regulation includes an element of supervision over the purpose of raising funds and controlling their use in order to prevent irregularities. Without opening up opportunities for parental and community participation, school programs tend to be poor and stagnant, as well as difficulties in supporting teacher improvement.

7. Conclusion

Appropriate if the government utilizes teacher organizations in implementing competency improvement programs. But do not be temporary, but continuously. Government treatment is needed to empower MGMP organizations and activities, both in the form of financial assistance and others. On the other hand, active participation of parents in programs to improve the quality of education in schools also needs to be improved, one of which is financial support for teachers participating in MGMP activities. The old regulation requires a review by issuing new ones to enable schools to raise funds from parents and the community, especially to support efforts to improve the quality of educational outcomes. Active participation in school funding is one of the entrances for schools to improve the implementation and quality of education.

The empowerment of MGMP as a forum to improve teacher competence is very important. Through the empowerment of the teacher's organization, it can build a community of professional teachers, become a center and source of learning, become a place for teachers to improve abilities, promote and demonstrate the use of digital technology, a place for teachers to train and develop classroom action research abilities, a place for teachers to evaluate and reflecting the latest research, accommodating teachers to contribute to the renewal of the teaching profession, as well as utilizing MGMP facilities to enhance learning for students.

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