Educational management in improving the quality of teachers in senior high schools

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ABSTRACT

Teachers play a crucial role in improving the quality of education, an essential aspect of national education development, which applies universally in various cultures and countries. As national education standards and needs increase, educational development becomes a necessity. This study seeks to investigate the enhancement of teacher quality dimensions to elevate national education standards, employing a case study approach with mixed methods. The sampling involved random selection from five senior high schools in Lampung, comprising 190 students and 10 teachers. Data collection was carried out through questionnaires, interviews, and document analysis. The analysis of questionnaire data utilized structural equation modeling (SEM) through Lisrel 8.50 assistance. The qualitative phase encompassed data reduction, presentation, conclusion drawing, and verification. Results indicate that the model fits well with a Satorra-Bentler scaled Chi-square value of 189.190, a p-value coefficient of 0.070 (>0.05), root mean square error of approximation (RMSEA) of 0.030 (<0.080), and comparative fit index (CFI)≥0.90, suggesting its acceptability. The assessment of teachers' professional management in enhancing education quality focuses on preparation, implementation, and evaluation, offering significant potential for improving senior high school teachers' quality.

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1. INTRODUCTION

Education stands as the fundamental cornerstone for a nation's progress, with the pivotal role of teachers being crucial in achieving this objective [1]. Particularly at the senior high school level, effective educational management emerges as a strategic key in enhancing the competence of educators [2]. In response to the evolving demands of globalization, teachers are now expected to possess not only instructional skills but also managerial abilities in overseeing the learning process [3].

The analogy of education as a robust root is apt, symbolizing its necessity for fostering a strong nation, as reflected in the quality of human resources (HR). The education system, serving as a nation's identity, constitutes the foundational capital determining a country's advancement and development [4]. The overarching aim of education is to unleash the potential of individuals, molding them into socially responsible beings with moral integrity [5]. Consequently, prioritizing education becomes imperative in the

pursuit of a better, more advanced, and developed Indonesia [6]. In Indonesia, educational objectives encompass the holistic development of individuals, emphasizing faith, intelligence, health, and responsibility [7]. Hence, educational practices should adhere to appropriate principles [8]. Quality education is a necessity in the development of a nation. Educational human resources, which involve leaders, school/*madrasah* principals, teachers/educators, students, and administrative staff influence management activities in organizations [9], [10].

This perception of the pivotal role of education as a national goal extends beyond Indonesia to Malaysia [11], [12]. The Malaysian Ministry of Education is committed to fostering student-centered and effective teaching and learning, as outlined in the Malaysia Education Blueprint 2013-2025 [13]. The blueprint emphasizes the significance of quality teachers who view students as key stakeholders in the educational system. Research by the higher education leadership academy [14] reveals deficiencies in meeting satisfactory standards in half of the lessons across 41 randomly selected Malaysian schools. Most lessons tend to be teacher-centered and lack student involvement [15].

Students, as the primary focus in educational institutions, represent the nation's future workforce expected to contribute to maximum national development [16]. Thus, teachers are envisioned as instrumental in realizing these goals, being a pivotal element in elevating the quality of education [17], [18]. Recognizing that diverse education systems necessitate varying teacher qualities to align with national development agendas, it becomes crucial to continually update the expectations of teacher quality [19]. Nevertheless, the consensus remains that quality teachers are indispensable for educational excellence, transcending disciplines, cultures, and countries.

Recognizing teachers as the primary and crucial resource, they become central figures in initiatives to enhance school performance, leading to improved efficiency and equity within the school environment [20]. This influence suggests that most teachers possess the necessary skills to impart knowledge, thereby ensuring that all students have equal access to high-quality education [21]. Acknowledging the pivotal role of teacher quality in educational institutions and its impact on global national development objectives, the objective of this research is:
− To find out the dimensions of current teacher quality in educational institutions at senior high schools in Lampung.
− To find out what factors influence increasing the effectiveness of teacher quality in senior high schools in Lampung.
− To overcome challenges in improving the quality of teachers in high school educational institutions in Lampung.

2. LITERATURE REVIEW
2.1. Education management
Educational management is a methodical and strategic method for overseeing every facet of education with the aim of attaining specific objectives. Within this framework, management encompasses activities such as planning, organizing, implementing, and controlling various educational elements [22]. The objectives of educational management revolve around optimizing resources, formulating effective strategies, and enhancing educational quality. Key components of educational management encompass curriculum planning, allocation of HR, financial administration, and assessment of learning results [23]. By applying good management principles, educational institutions can overcome the challenges they face, increase operational efficiency, and overall, advance the quality of educational processes and outcomes.

Educational management is an integral concept that has a significant impact on teacher quality, especially at the senior high school level. Teacher quality extends beyond a profound grasp of the subject matter, encompassing managerial abilities in planning, executing, and assessing learning [24], [25]. In the context of educational management, the three main dimensions that must be considered are learning preparation, implementation of teaching practices, and evaluation of learning outcomes.

2.2. Professional teacher
Teacher professionalism reflects the level of maturity and dedication of an educator in carrying out their duties with full responsibility and integrity [26]. A professional teacher not only master's academic knowledge, but also has strong pedagogical skills, high ethics, and a commitment to student development and continuous improvement [27]. Teacher professionalism plays a central role in the context of educational management, which aims to improve the quality of teachers and, in turn, the quality of education. A professional teacher not only has a deep understanding of the subject matter but is also able to manage learning effectively [28]. In the context of educational management, aspects of learning preparation, implementation, and evaluation is the focus. Professional teachers systematically prepare lesson plans, apply

innovative teaching methods, and critically evaluate learning outcomes to continually improve the quality of their teaching. Support for teacher professional development, including ongoing training and access to the latest educational resources, is also an integral part of effective educational management [29]. Therefore, the concept of teacher professionalism in educational management includes not only academic competence but also managerial skills that ensure an optimal and sustainable learning process.

2.3. Teacher quality

Teacher quality includes many attributes and skills that influence their ability to provide effective learning. This includes a deep understanding of the subject, strong pedagogical skills, good communication skills, and dedication to student development [30]. Quality teachers also have high work ethics, managerial skills in managing classes efficiently, and a commitment to continuously improving themselves through professional development [31]. Teacher quality not only includes academic dimensions but also aspects of personality and social interactions that support a positive learning environment. In other words, teacher quality is a key factor in determining the success of the education system and the development of students [32].

Teacher quality is a crucial aspect in determining the success of the education system. A quality teacher can provide effective learning, understands individual student needs, and can create a conducive learning environment [33]. Quality teachers can also manage the class well, motivate students, and provide constructive feedback. Therefore, efforts to improve teacher quality involve various aspects, including continuous education and training, support from schools and the government, as well as recognition of teacher dedication and achievements. High teacher quality not only has a positive impact on student achievement but also forms the foundation for the development of a quality education system.

3.   METHOD

This study employs a mixed methods approach within a case study framework to examine the role of educational management in enhancing the competence of teachers in senior high schools [34], [35]. The purpose of utilizing this methodology is to combine the strengths of both quantitative and qualitative data, leading to a more thorough and comprehensive comprehension [36], [37]. The study encompassed five high schools located in Lampung, Indonesia, specifically State Senior High School 1 Seputih Mataram, State Senior High School 1 Kalirejo, State Senior High School 1 Kotagajah, State Senior High School 1 Bangunrejo, and State Senior High School 1 Punggur. A total of 10 teachers and 190 students were selected as the sample. Random sampling was utilized to ensure that each member of the population had an equal opportunity to be chosen as a participant.

Data collection was carried out through three main techniques, namely questionnaires, interviews, and documents. Questionnaires are used to obtain quantitative data that can be measured and statistically analyzed regarding educational management and teacher quality. Meanwhile, interviews and documents were used to triangulate data, namely comparing, and confirming findings from two different sources regarding educational management in improving the quality of teachers in high schools [38].

Quantitative data analysis employed structural equation modeling (SEM) through Lisrel 8.50 [39]. Qualitative data analysis followed Miles and Huberman's three-stage approach [40], involving data reduction, presentation, and drawing conclusions with verification. The reduction stage focused on selecting, simplifying, and transforming data, while data presentation aimed to amalgamate information for clarity and understanding, facilitating the drawing of conclusions. Research findings were continually verified throughout the study, involving a meticulous review of field notes. Thus, employing a mixed methods approach within a case study framework provides a comprehensive methodological foundation for exploring the intricate dynamics of educational management and teacher quality in high schools.

4.   RESULTS
4.1. Normality test

Conducting a normality test is an essential preliminary measure in data analysis using SEM, aiming to validate the adherence of data distribution to established assumptions. The assessment of normality relies on z statistical values for both skewness and kurtosis, usually with a threshold set at 0.05 or 5%. If these values surpass the predefined limits, it affirms the satisfaction of the normality assumption. The detailed results of the univariate normality test conducted in this research are presented in Table 1.

Table 1 presents the results of the univariate normality assessment conducted on continuous variables. The analysis reveals that only variables A1, A2, A3, A4, A5, A6, B1, B3, C1, and C3 demonstrate a normal distribution. Conversely, variables B2, B4, X25, C2, and C4 exhibit non-normal distribution patterns. These findings suggest that not all variables adhere to the normal distribution assumption. To address deviations from

normality, a multivariate analysis test, detailed in Table 2, is necessary for a more comprehensive understanding of variable relationships and to bolster the overall validity of the analysis findings.

According to the findings presented in Table 2, the results of the multivariate normality test indicate a departure from the normal distribution for the dataset, as evidenced by skewness and kurtosis P-values <0.05. As a result, the data fails to satisfy univariate and multivariate normality test assumptions. An alternative estimation method known as robust maximum likelihood (RML) will be employed to address these deviations. This approach incorporates an asymptotic covariance matrix to adjust the chi-square statistical value, referred to as the Satorra-Bentler scaled chi-square. Adopting this method is anticipated to yield more precise and dependable analysis outcomes, even when the data diverges from normality assumptions.

Table 1. Displays the examination of the normal distribution assumption for continuous variables

Variable	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-score	P-value	Z-score	P-value	Chi-square	P-value
A1	1.192	0.189	1.223	0.315	3.896	0.345
A2	-1.354	0.214	-0.652	0.751	2.495	0.342
A3	-0.592	0.643	-1.348	0.322	2.291	0.234
A4	-0.397	0.785	1.787	0.142	2.780	0.187
A5	-0.098	0.665	0.321	0.543	0.212	0.890
A6	0.789	0.444	0.548	0.432	0.399	0.934
B1	0.097	0.566	0.056	0.656	0.056	0.989
B2	-0.543	0.586	-4.557	0.865	23.578	0.000
B3	-1.378	0.327	-2.960	0.023	2.846	0.345
B4	-0.357	0.925	-4.062	0.501	17.878	0.001
B5	-0.867	0.424	-4.180	0.400	19.347	0.002
C1	-0.565	0.753	-1.394	0.454	2.466	0.230
C2	-0.452	0.592	-4.572	0.002	21.255	0.000
C3	-1.654	0.432	-2.942	0.000	2.968	0.245
C4	-0.643	0.712	-4.334	0.006	21.678	0.000

Table 2. Displays the examination of multivariate normality concerning continuous variables

Skewness			Kurtosis			Skewness and Kurtosis	
Value	Z-score	P-value	Value	Z-score	P-value	Chi-square	P-value
32.489	5.235	0.004	173.567	2.615	0.009	14.980	0.000

4.2. Measurement model fit test

The measurement model has been proven valid and reliable. The next step is to carry out a model fit test. The model fit test aims to evaluate the extent to which the model was developed using the data obtained from the research. This process allows the researcher to assess how much the theoretical model fits the data patterns in the tested sample. An explains the suitability test from this research can be found in Table 3.

Table 3. Displays the outcomes of the model fit test

GOF	Acceptable match level	Model index	Description
Satorra-Bentler scaled chi-square	The smaller the better (P-value ≥0.05)	189.19 (P-value 0.070)	Good fit
GFI	GFA≥0.90 good fit 0.80≤GFI≥0.90 marginal fit	0.92	Good fit
RMSR	RMSR≤0.05 good fit	0.024	Good fit
RMSEA	RMSEA≤0.08	0.030	Good fit
CFI	CFI≥0.90 good fit	0.93	Good fit

Table 3 explains that the model fit test results indicate a satisfactory fit, validating the usability of the model. According to Hair *et al.* [41], evaluating the appropriateness of the model involves examining the chi-square test, root mean square error of approximation (RMSEA), comparative fit index (CFI), and root mean square of residuals (RMSR) values. Consequently, the goodness-of-fit test confirms the model's adequacy, concluding that the model employed in this study serves as a foundation for analyzing the research problems. The SEM formed can be observed in Figure 1.

Figure 1 explain the significance of the beta value in the standardized solution and the T-value in the RML method for analyzing data using SEM. The beta value in the standardized solution gauges how much a change in one standard deviation of the independent variable can influence the dependent variable. Conversely, a significant T-value ($p<0.05$) indicates a genuine statistical impact of the parameter on the

model. The analysis of the standardized solution and T-value solution results aids in comprehending the model structure and the relative importance of each parameter, enhancing the interpretation of results and decision-making based on the SEM model developed in this study.
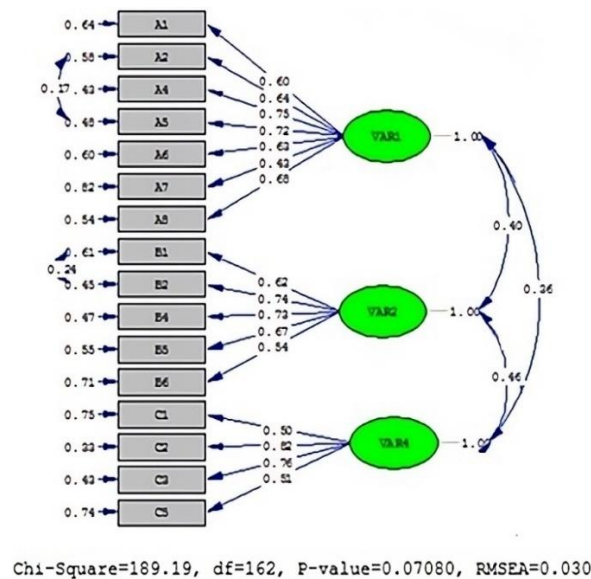

Chi-Square=189.19, df=162, P-value=0.07080, RMSEA=0.030

Figure 1. RML method employing standardized solution

The data analysis results reveal that teachers consistently demonstrate professionalism throughout the learning process, which significantly impacts the quality of education. The critical dimensions of learning include preparation, execution, and evaluation/assessment of students. Adequate teacher education preparation involves setting clear objectives, utilizing effective teaching methods, and integrating theoretical knowledge with practical experience. Embracing student-centered learning fosters self-directed learning and promotes deep understanding. The evaluation phase encompasses creating questions, designing assessments, and determining the minimum completion criteria (KKM). These dimensions collectively contribute to establishing a conducive learning environment and enhancing the overall quality of education.

5. DISCUSSION
5.1. Dimensions of current teacher quality and future expectations in senior high schools

Educational policy adjustments are primarily focused on meeting the academic needs of students. These modifications occur gradually through the revision of principles and standards. Reforms encompass various aspects such as teacher education, training programs, and expanding educational opportunities to enhance teachers' competencies. The definition of an effective educator should be consistently updated to align with modern advancements and evolving educational paradigms [42]. Problem-solving skills for teachers involve personal qualities such as self-confidence and assertiveness. Despite being challenging to articulate, personality significantly influences communication. Effective teacher education preparation sets clear objectives for proficient teaching, integrating theory and practice to facilitate optimal student learning. Teachers, as educational resources, play a vital role in transferring knowledge to students, who are encouraged to actively participate in the learning process [43]. Teachers are encouraged to utilize creativity to create an enjoyable and engaging learning experience for students. By observing students closely, teachers can identify areas of difficulty, which serve as valuable feedback for developing additional teaching materials. Using diverse approaches allows educators to tailor their teaching methods to the unique needs of each student [44].

The findings of this study suggest that teacher professional management focuses on three learning dimensions: preparation, implementation, and evaluation. Education management, aiming to oversee all aspects of education, plays a crucial role in enhancing educational quality [45]. Educational HR, comprising educators and education personnel, play a crucial role in implementing education [46]. Further research [47], [48] suggests that strategic management and principal competence significantly contribute to meeting

educational management standards. Although teacher certification is strongly associated with student performance in mathematics and reading, more than merely certification is needed to guarantee teaching proficiency and competency [49].

Effective teachers demonstrate a positive mindset and strong classroom management skills, establish high expectations for student achievement, and are proficient in utilizing various teaching techniques [50]. However, the effectiveness of teaching methods depends on multiple factors, such as the nature of the activity, subject matter, student background, and the overall school environment [51]. There is a growing emphasis on transitioning towards a student-centered learning approach, which is expected to improve educational quality. In student-centered learning, students are encouraged to construct their knowledge, attitudes, and behaviors actively [52].

The quality of learning is impacted by teachers' effectiveness in assessments, and ensuring high-quality learning in the classroom involves systematic teaching development based on learning and teaching theories [53]. The findings indicate that well-prepared and knowledgeable teachers with effective classroom management, a positive personality, dedication, creative teaching methods, and active engagement with students contribute to quality teaching [54]. A proficient teacher can inspire students, address their challenges, and adapt approaches to meet individual needs. Students anticipate teachers to be timely and efficient in the learning process.

5.2. Factors that influence the quality of education in senior high schools

Effective leadership and management are pivotal in shaping the educational landscape. The sustainability of educational institutions hinges greatly on adept leadership and management practices, which strive to prepare the next generation with the essential skills, credentials, and understanding of leadership and management in alignment with educational benchmarks [55]. Additionally, a leader needs to possess charisma, a well-defined vision and mission, the capability to positively impact the surroundings, and effective problem-solving skills [56]. Effective leadership and management ensure the smooth and efficient operation of all activities, particularly those associated with the quality of teachers within educational institutions.

According to Albuni *et al.* [57], insufficient leadership, ineffective management, or inadequate work systems can lead to unsatisfactory performance. These issues may arise when organizational leaders fail to establish explicit and strong expectations for exceptional performance. The enhancement of teacher performance should be integrated into a continuous performance management procedure, requiring attention at both the school and individual levels.

Putra and Hariri [58] outlined various reasons for subpar teacher performance, encompassing job-related factors, organizational context, managerial approaches, teacher selection, and internal factors affecting teachers. The internal factors of teachers can be heightened by their eagerness to enhance their competence, backed by appropriate infrastructure. Enhancing the provision of facilities and infrastructure can positively impact the teaching process's quality, subsequently affecting student satisfaction due to the reception of memorable and effective learning [59]. Teacher quality stands out as a pivotal factor, with well-prepared educators possessing profound knowledge in their subject area and adept classroom management skills significantly influencing student learning outcomes [60], [61]. The development of teacher quality extends beyond academic dimensions, encompassing personality traits, communication skills, and the motivation for continuous self-improvement [62], [63].

Recognizing and rewarding teachers with commendable qualities can serve as a positive incentive to enhance their performance. This recognition is viewed as an acknowledgment of their dedicated efforts in fulfilling their duties. It is crucial to ensure that rewards or incentives are fair and suitable to foster increased job satisfaction [64], [65]. On the contrary, if rewards are perceived as unjust or inadequate, it may lead to dissatisfaction, subsequently impacting teacher commitment [66]. Effectively understanding and addressing these factors enables schools to elevate the standard of education, cultivate motivating learning atmospheres, and prepare students to tackle future challenges.

5.3. Solutions to overcome challenges in improving the quality of teachers in senior high schools

A systematic evaluation method can be employed as a strategy to enhance the quality of teachers, aiming for improved outcomes. This evaluative approach is crucial for monitoring both attained and unmet successes, facilitating a comprehensive evaluation to identify optimal solutions for unaccomplished goals [67]. Shifting from a teacher evaluation system to a more systematic approach is considered a composite strategy for advancing school performance [68].

Addressing the obstacle of improving the caliber of educators within educational establishments may entail bolstering teachers' proficiency and equipping pre-service educators with the fundamental values, knowledge, and abilities necessary for delivering captivating and rewarding instructional sessions [69]. Government initiatives aimed at elevating teaching and learning standards, along with school benchmarks,

can impact the effectiveness of teachers. To enhance the quality of teachers, it is beneficial to provide them with training and educational opportunities, enabling them to acquire knowledge and skills. While education leans towards philosophy and theory, training shares common goals with education [70]. Engaging in teacher competency training is encouraged to enhance the quality of education. Providing educators with education and training enhances their confidence and proficiency in overcoming educational obstacles. As a result, well-prepared teachers with proficient knowledge and skills can significantly enhance the teaching process, leading to effective and quality education for students [71], [72].

Adequate infrastructure plays a crucial role in improving the quality of teaching. Hence, educational establishments should invest in upgrading their infrastructure to meet the requirements of both educators and learners. The satisfaction level of students correlates directly with the caliber of instruction they receive. Positive student satisfaction brings numerous benefits to educational institutions, such as building positive relationships with students, attracting a larger pool of potential students, cultivating student loyalty, bolstering the institution's standing, and augmenting financial resources [73].

Enhancing the recruitment and selection process for prospective teachers is imperative and should be carried out meticulously and systematically. Policy suggestions should prioritize the teacher workforce and the factors influencing teacher quality [74]. Recognizing education as the cornerstone of a nation's progress and development underscores the importance of investing in education. Education serves as a platform to nurture individuals' potentials and resources, aiming to cultivate individuals with a heightened sense of responsibility as moral, social, and religious beings, thereby contributing to the cultivation of noble and dignified characters. Therefore, education must remain the central focus in pursuing a better, more advanced, and developed Indonesia in the future [75], [76].

Education holds significant importance within Indonesia and resonates across Malaysia's borders. Malaysia's stance on education aligns with that of its neighboring nations. Malaysia prioritizes ensuring the effectiveness of student-centered teaching and learning through various methodologies in every classroom, as outlined in the Malaysia Education Blueprint 2013-2025 [12]. Government-recommended policies aim to elevate the standards required for entry into the teaching profession and enhance the quality of educators within educational institutions. Furthermore, these policies include implementing performance-based incentives for teachers and administrators [77], [78] and acknowledging and rewarding those who demonstrate a strong sense of responsibility and dedication to their profession. When teachers experience encouragement and actively participate in decision-making, they often exhibit increased enthusiasm in establishing a motivating learning atmosphere [79]. Similarly, offering positive performance assessments and delivering valuable feedback enables teachers to consistently enhance their capabilities [80]. Through the comprehensive implementation of these measures, senior high schools can establish a suitable educational setting and foster teacher growth. This effort goes beyond just enhancing teaching quality; it also involves shaping the upcoming generation to be well-equipped for the intricate challenges of the global era.

6. CONCLUSION

The development of the education system necessitates further refinement; thus, policy recommendations should prioritize teachers and the factors determining their effectiveness. Quality educators are characterized by thorough preparation, proficient teaching knowledge and skills, effective classroom management, commendable personality traits, high dedication, open-mindedness, strong responsibility, diverse and creative teaching methods, and punctuality in their duties. Active student involvement is strongly encouraged during teaching processes, with good teachers consistently attentive, caring, and motivational towards students regarding both subject matter and other aspects. Students expect teachers to fulfill their duties promptly from the beginning to the end of each learning session. Factors influencing educational quality, including effective leadership and management, play crucial roles in ensuring the smooth operation of academic institutions, particularly concerning teacher quality. Improving infrastructure availability can also positively impact the quality of the overall teaching process. Providing rewards or recognition to exemplary teachers serves as positive motivation to enhance teaching standards continually. These rewards acknowledge teachers' dedication and hard work in fulfilling their responsibilities. To address challenges in improving teacher quality, proposed steps include enhancing teacher quality through pre-service training embedding relevant values, knowledge, and skills. Providing opportunities for educators to pursue competency-based education and training can enhance their readiness for teaching demands. Efforts to improve infrastructure availability are also necessary to support teaching quality. Offering incentives as appreciation for teachers exhibiting high responsibility, dedication, and totality is considered a positive step. Additionally, recruitment and selection processes for prospective teachers should be stringent, and procedures should be followed to ensure recruited educators meet desired quality standards. These policy recommendations aim to elevate teacher quality and, consequently, enhance education quality.

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