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Enhancing Educator Quality and National Education Success: The Roles of Competence, Innovation, and Sustainable Support

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ABSTRACT

This study aims to analyze the contribution of competence, innovation, and sustainable support to the success of national education. The research employed a quantitative approach with a cross-sectional design, involving 106 undergraduate students as respondents through a 5-point Likert-scale questionnaire. Descriptive analysis was conducted using Jamovi and Microsoft Excel to evaluate aspects of educator competence, pedagogical innovation, and sustainable support. The results show that educator competence and sustainable support were rated as very good by the respondents, while pedagogical innovation was categorized as good but requires further development. This study highlights the importance of synergy between educator competence, pedagogical innovation, and sustainable support in achieving an inclusive and adaptive national education system.

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INTRODUCTION

Quality education is a top priority in the development of a nation, particularly in ensuring the success of the national education system. However, numerous challenges remain, especially regarding the revitalization of teacher quality, which is still suboptimal. Previous studies have shown that innovation competence and sustainable support are two key factors that can significantly enhance teacher quality [1], [2], [3], [4]. In this context, innovations in teaching methods, such as the integration of artificial intelligence-based technology, have proven to improve the accuracy and effectiveness of instruction. However, access to such technologies remains limited in certain regions, especially remote areas [1], [5], [6]. Other studies have highlighted that, although some regions have shown improvements in educational quality, there are still significant disparities between urban and rural areas. These gaps are exacerbated by the lack of sustainable policy support for teachers in remote regions [3]. Additionally, research indicates that while pedagogical innovation can drive student success, collaboration among educators and support from educational institutions remains poorly structured. The importance of considering socio-economic dynamics and teacher engagement is also regarded as a determining factor in student achievement [2], [4].

Sustainable support is also a critical aspect of improving teacher quality. Several studies emphasize that integrating character-based education and quality management can help create a more effective learning environment [7], [8]. These findings are supported by research conducted by Hunt [9], which shows that national education strategies focusing not only on access but also

on quality learning can have a more equitable impact. Furthermore, hybrid learning models that combine traditional and modern methods can enhance the quality of learning when implemented consistently with systematic support [1].

In addition, studies have highlighted the role of educators' academic competence in improving teaching quality, especially in resource-constrained environments [10], [11]. The dynamic policy landscape often presents new challenges for educators, including meeting professionalism demands [12], [13]. On the other hand, a more reflective approach to educational equity is needed to address the challenges faced by teachers and students in a global context [14].

However, many previous studies have noted limitations in exploring the specific contributions of key factors to educational quality in measurable ways. There is potential for using artificial intelligence algorithms to evaluate education quality with high accuracy, but implementation is still hindered by infrastructure limitations in smaller educational institutions [5]. Meanwhile, quantitative approaches have proven effective in identifying significant relationships among educational variables. Nonetheless, there is still a need to expand quantitative research that focuses more specifically on the contributions of teacher innovation competence, sustainable support, and the synergy between them to the success of national education [15].

This study aims to address several key questions that remain unanswered in previous research: to what extent does teacher innovation competence contribute to the revitalization of teaching quality; what forms of effective sustainable support can be implemented; and how can the synergy between the two help achieve national education success? By addressing these questions, this study is expected to provide both theoretical and practical contributions to building a more inclusive and adaptive education system in response to the challenges of the modern era.

METHOD

This study is a quantitative research with a cross-sectional design aimed at analyzing the relationship between educator competence, pedagogical innovation, sustainable support, and the revitalization of educator quality in the success of national education [2]. The respondents of the study were undergraduate students (Bachelor's degree) from various regions in Indonesia who met the criteria of currently pursuing undergraduate education, with no age restrictions, and were willing to complete the questionnaire honestly and thoroughly. Respondents were selected using a non-probability sampling method with a convenience sampling approach, while data were collected through an online questionnaire distributed via Google Forms [3].

The research instrument was a questionnaire consisting of 25 items covering three main aspects: Educator Competence (including pedagogical ability, professionalism, and adaptability), Pedagogical Innovation (including the application of technology in teaching and creativity), and Sustainable Support (including access to training, education policies, and supporting facilities) [9]. The data were analyzed descriptively using statistical software such as *Jamovi* and *Microsoft Excel* to calculate the mean, median, mode, sum, minimum, and maximum values. Each question used a 5-point Likert scale, with 1 indicating "Strongly Agree" and 5 indicating "Strongly Disagree." The instrument was designed based on relevant theoretical frameworks and had undergone validity and reliability testing [16].

Once the average value for each response was calculated, the researchers determined the Likert scale interval as follows:

$$\text{Interval Length} = \frac{\text{Maximum Value} - \text{Minimum Value}}{\text{Number of Categories}} = \frac{5-1}{5} = 0.8$$

Table 1. Licert Scale Interval

Scale		Description
1,00	1,80	Very Good
1,81	2,60	Good
2,61	3,40	Fair
3,41	4,20	Poor
4,21	5,00	Very Poor

RESULTS AND DISCUSSION

The research results are based on respondent characteristics and scale responses to statements regarding the improvement of educator quality and the success of the national education system when developed through competence, innovation, and sustainable support. A total of 25 statements were presented and responded to by 106 participants. The summary of the results will be presented in the following graph.

Based on the distributed questionnaire, the majority of respondents were female, with 66 individuals (62.3%), while male respondents totaled 40 individuals (37.7%). This indicates a predominance of female participation in the survey, which may reflect the gender composition of the student population or a higher willingness among female students to participate in this survey.

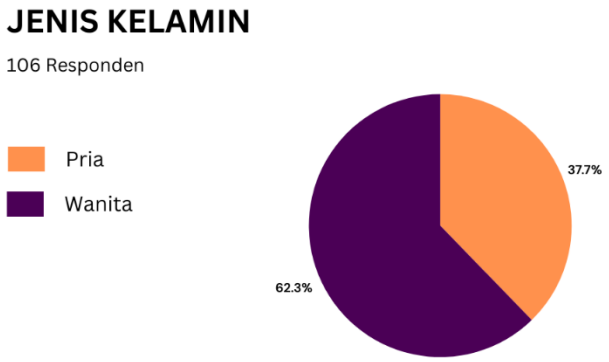

Figure 1. Respondent Demographic Data – Gender

Meanwhile, based on the respondents' age data, the majority were in the 21–23 age range, totaling 60 individuals (56.4%), who are most likely students in their mid to late semesters. The 18–20 age group included 40 individuals (37.6%), most of whom are likely new or early-year students. The smallest age group was 24–26 years old, with only 6 individuals (5.9%), which may represent students with longer study durations or those pursuing different levels of education.

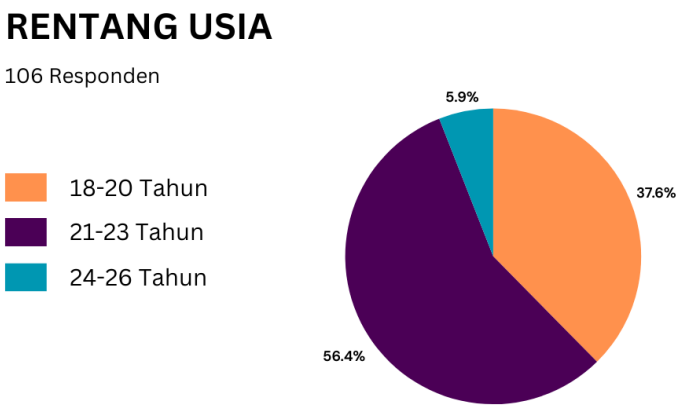

Figure 2. Respondent Demographic Data – Age Range

Meanwhile, for the distribution of respondents based on their semester level, out of a total of 106 respondents, the majority were in the Higher Semester category (7th semester and above), with 56 individuals (52.8%). This indicates that most respondents were in the final stages of their studies. Next, the Lower Semester category (1st–3rd semester) included 32 individuals (30.2%), showing a significant proportion of new or early-year students. Meanwhile, the Middle Semester category (4th–6th semester) consisted of only 18 individuals (17%), indicating that respondents in this category were relatively fewer than in the others.

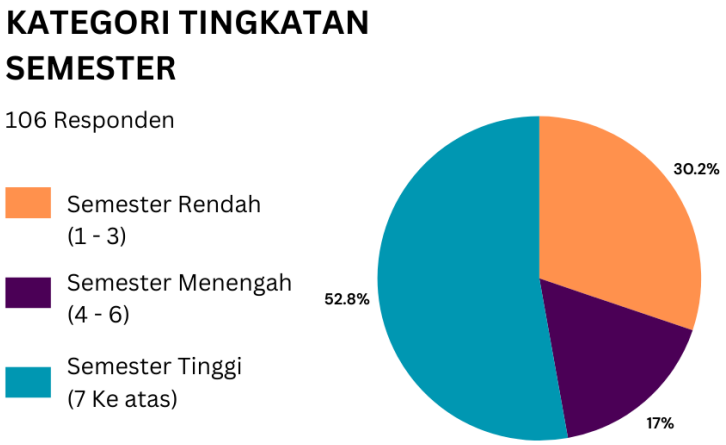

Figure 3. Respondent Demographic Data – Semester Level

This study analyzed three main aspects related to educator quality and the success of the national education system: Educator Competence, Pedagogical Innovation, and Sustainable Support. The Educator Competence aspect consisted of 8 items, the Pedagogical Innovation aspect consisted of 9 items, and the Sustainable Support aspect consisted of 8 items. Based on the descriptive analysis, the distribution of values obtained from these three aspects is summarized in the following table.

Table 2. Descriptive Data of Aspects

No	Aspect	Mean	Median	Modus	Minimum	Maksimum	Sum
1.		14.2	14.0	11.0	8.0	38.0	1510

	Educator Competence (1-8)						
2.	Pedagogical Innovation (9-17)	16.3	15.0	14.0	9.0	27.0	1727
3.	Sustainability Support (18-25)	14.3	13.0	13.0	8.0	25.0	1511

The descriptive table provides an overview of the aspects studied, namely educator competence, pedagogical innovation, and sustainability support. To provide a more detailed understanding, data analysis of each aspect is presented in the following tables.

Table 3. Data Interval of Educator Competence Aspect

Total Statements	Sum	Mean	Standard Deviation	Category
8	1510	1,78	0,564	Very Good

The analysis of the educator competence aspect, which consists of a total of 8 statements, resulted in a total score (sum) of 1510 and a mean of 1.78. According to the Likert scale interval, this score falls into the Very Good category. The standard deviation of 0.564 indicates a relatively low dispersion of responses around the mean, suggesting consistent respondent perceptions regarding educator competence.

Table 4. Data Interval of Pedagogical Innovation Aspect

Total Statements	Sum	Mean	Standard Deviation	Category
9	1727	1.81	0.505	Good

For the pedagogical innovation aspect, which includes a total of 9 statements, the total score obtained was 1727 with a mean of 1.81, falling into the Good category. The standard deviation of 0.505 indicates slightly lower response variation compared to the educator competence aspect. These results suggest that respondents rated pedagogical innovation positively, although there is slight variability in their assessments.

Table 5. Data Interval of Sustainable Support Aspect

Total Statements	Sum	Mean	Standard Deviation	Category
8	1511	1.78	0.519	Very Good

For the sustainable support aspect, which includes a total of 8 statements, the total score (sum) was 1511 and the mean was 1.78, placing this aspect in the Very Good category. With a standard deviation of 0.519, the data shows relatively small dispersion, indicating that most respondents gave similar ratings to sustainable support. This suggests that respondents highly appreciate the ongoing efforts to provide support in the educational context.

This study identified the relationship between Educator Competence, Pedagogical Innovation, and Sustainable Support in revitalizing educator quality and the success of the national education system. Analysis of 106 respondents showed that the Educator Competence aspect had a mean score of 1.78, falling under the Very Good category. The same applies to the Sustainable Support aspect, also with a mean of 1.78. Meanwhile, the Pedagogical Innovation aspect had a mean of 1.81, categorized as Good. These results indicate that while respondents appreciate the competence of educators and the sustainable support they receive, pedagogical innovation still requires further development to reach its full potential.

Demographic data also provided additional insights. The majority of respondents were female (62.3%), aged 21–23 years (56.4%), and in higher semesters (52.8%). This suggests that the survey involved respondents with sufficient academic experience to provide relevant evaluations of the aspects being studied.

The findings of this study show that Educator Competence and Sustainable Support were rated Very Good by respondents, supporting previous research that highlights the importance of continuous policy support in enhancing professionalism and educator quality [2]. The high rating for educator competence indicates that educators already possess the necessary pedagogical skills, professionalism, and adaptability for modern educational demands [3]. However, contrary to studies reporting widespread implementation of technology-based pedagogical innovations in certain regions, this study found that pedagogical innovation in Indonesia remains in the Good category, with some quality disparities across areas [1].

The main strength of this study lies in its integrated approach that simultaneously addresses three key aspects: Educator Competence, Pedagogical Innovation, and Sustainable Support. This approach provides a holistic understanding of the factors contributing to national education success, which are often examined separately in previous studies. Moreover, this study shows that the synergy among these three aspects is crucial for success, thereby offering a stronger foundation for the development of educational strategies [2].

These findings are significant as they underscore the urgent need to improve the equitable implementation of pedagogical innovations, particularly through the integration of technology in teaching. The Very Good rating for educator competence reflects the effectiveness of existing training programs in enhancing educators' professional skills. Meanwhile, the equally high rating for sustainable support emphasizes the need for ongoing educational policies that provide continuous training and adequate facilities for educators. However, the gap in pedagogical innovation highlights the need for greater efforts to support the equitable adoption of technology across all regions of Indonesia.

From a scientific perspective, this study contributes to the educational literature by providing empirical evidence on the importance of synergy among educator competence, pedagogical innovation, and sustainable support. The practical implication is the need for policies that support continuous teacher training, investment in technological infrastructure, and integrated approaches to reduce disparities between urban and rural areas.

This study helps bridge the gap in previous literature by analyzing all three aspects simultaneously. However, it also has limitations, such as the use of convenience sampling, which may affect the generalizability of the results. Therefore, future research is recommended to expand geographic coverage and use mixed-methods approaches. This is essential for gaining a deeper understanding of perceptions and challenges in implementing pedagogical innovations and for exploring the impact of local policies on education quality more comprehensively.

CONCLUSIONS

This study found that educator competence and sustainable support play a significant role in supporting the revitalization of education quality in Indonesia. Educator competence received a "very good" rating, reflecting adequate pedagogical skills, professionalism, and adaptability to meet the challenges of modern education. Sustainable support, including training and educational facilities, was also acknowledged as highly beneficial in improving teaching quality. However, while pedagogical innovation was rated as good, it still requires further development, particularly in terms of equitable access to technology across various regions. These findings highlight the importance of synergy between educator competence, pedagogical innovation, and sustainable support in achieving a more inclusive and successful national education system.

This study has several limitations, particularly the use of convenience sampling, which may limit the generalizability of the findings. In addition, the limited geographic coverage and purely quantitative focus make this study less effective in exploring individual experiences and local challenges in implementing educational innovations. Therefore, further research is needed with a broader geographic scope and a mixed-method approach (quantitative and qualitative). Such efforts are essential for understanding the dynamics of education in diverse local contexts and for developing evidence-based policies that can support equitable access to technology and educational training throughout Indonesia.

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