

The Influence of Principals' Intellectual Stimulation on Teacher Self-Efficacy among Teachers at Public Vocational High Schools in Padang City

Anggun Lisa Marianti^{1*}, Sulastr², Ermita³, Enceria Damanik⁴

¹²³⁴ Department of Educational Administration, Padang State University, Padang, Indonesia

ARTICLE INFO

Article history:

Received July 20, 2026

Revised July 30, 2026

Accepted August 7, 2026

Available online September 30, 2026

Keywords:

Intellectual Stimulation, Principals, Teacher Self-Efficacy, Vocational High School teachers.



This is an open access article under the [CC BY](https://creativecommons.org/licenses/by/4.0/) license.

Copyright © 2025 by Author. Published by Laboratory of Educational Administration Departemen Universitas Negeri Padang

ABSTRACT

Teacher self-efficacy is one of the key determinants of educational quality because it affects teachers' confidence in implementing effective learning, managing classrooms, and overcoming instructional challenges. One leadership behavior that is assumed to strengthen teacher self-efficacy is the intellectual stimulation provided by school principals. This study aimed to determine the influence of principal intellectual stimulation on teacher self-efficacy among teachers at public vocational high schools in Padang City. A quantitative correlational research design was employed. The study involved 330 teachers selected from public vocational high schools in Padang City. Data were collected using Likert-scale questionnaires and analyzed using descriptive statistics and simple linear regression with SPSS version 25. The findings revealed that teacher self-efficacy was categorized as good with a Teacher Achievement Rate (TCR) of 81.80%, while principal intellectual stimulation was categorized as good with a TCR of 86.20%. Regression analysis produced the equation $Y = 133.132 + 0.188X$. The hypothesis test showed that principal intellectual stimulation had a positive and significant influence on teacher self-efficacy ($t = 3.479$; $p = 0.001 < 0.05$). The coefficient of determination (Adjusted $R^2 = 0.147$) indicated that principal intellectual stimulation contributed 14.7% to teacher self-efficacy, whereas the remaining 85.3% was explained by other variables outside this study. These findings indicate that intellectually stimulating leadership plays an important role in enhancing teachers' professional confidence and instructional performance.

Corresponding Author:

Anggun Lisa Marianti

Email: anggunlismariantri@gmail.com

1. INTRODUCTION

Teachers are key elements of the education system, playing a vital role in the learning process. Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers affirms that teachers are professional educators whose primary duties are to educate, teach, guide, direct, train, assess, and evaluate students. In carrying out their duties, teachers are required not only to master pedagogical knowledge and subject matter but also to facilitate a learning process that is effective, creative, and adaptive to the changing times (Christodoulou & Angeli, 2022). This demonstrates that teacher competence is not merely technical in nature but must also be adaptive to the ever-evolving dynamics of education.

To address challenges such as technological advancements, curriculum changes, and student diversity, teachers need to continuously develop their competencies. High self-efficacy enables teachers to

be more adaptive, proactive, and innovative in seeking solutions. They are more willing to experiment with new methods, provide constructive feedback, and create interactive learning environments. Conversely, teachers with low self-efficacy tend to be passive, lack innovation, and easily feel overwhelmed by job demands (Suwandono, 2024).

However, teacher self-efficacy does not always develop optimally in every school. Preliminary observations at state vocational high schools (SMK Negeri) in Padang City reveal conditions indicating that teachers' confidence in their professional capabilities is not yet fully optimal. Some teachers still lack confidence when facing various instructional challenges, such as adapting teaching methods to the diverse characteristics of students, integrating technology into the learning process, and managing classroom issues. Furthermore, there are teachers who hesitate to try new instructional strategies, lack confidence in making decisions regarding the learning process, and are not fully convinced of their ability to achieve learning objectives effectively. These conditions indicate a need to enhance teacher self-efficacy so that teachers can perform their professional duties optimally and deliver high-quality instruction that meets current educational demands.

One factor believed to influence teacher self-efficacy is the intellectual stimulation provided by the school principal. As leaders of educational institutions, principals play a strategic role in encouraging teachers to think critically, creatively, and innovatively when addressing various instructional challenges. Principals who provide intellectual stimulation encourage teachers to develop new ideas, seek solutions to teaching challenges, view problems from multiple perspectives, and boldly innovate within the instructional process. Through such intellectual stimulation, teachers gain learning experiences, support, and confidence that reinforce their belief in their own capabilities. Conversely, if principals provide limited opportunities for teachers to develop ideas, engage in discussions, or experiment with instruction, the teachers' confidence in their professional abilities may not fully develop. Therefore, intellectual stimulation from the principal is a crucial aspect of fostering teacher self-efficacy and creating a school culture that is innovative and oriented toward improving the quality of education.

Previous studies indicate that intellectual stimulation a dimension of transformational leadership among school principals positively influences improvements in teachers' self-efficacy, work motivation, creativity, and performance. Research by Leithwood and Sun (2020) demonstrates that transformational leadership by principals can boost teachers' self-confidence by providing intellectual support, fostering professional reflection, and offering opportunities for innovation. Findings by Skaalvik and Skaalvik (2017) further reveal that a supportive school environment and leadership that encourages intellectual engagement contribute to enhanced teacher self-efficacy. However, research specifically examining the impact of principals' intellectual stimulation on teacher self-efficacy in public vocational high schools (SMK Negeri) in Padang remains relatively limited. Therefore, this study is crucial for providing empirical evidence regarding the influence of principals' intellectual stimulation on teacher self-efficacy and for offering recommendations to improve the quality of principal leadership in supporting teacher professionalism.

Based on the explanation above, the researcher is interested in conducting a study titled: **"The Influence of Principals' Intellectual Stimulation on Teachers' Self-Efficacy in State Vocational High Schools (SMK Negeri) across Padang City."**

2. METHOD, DATA, ANALYSIS

This study employs a quantitative approach using a correlational research method. The quantitative approach was selected because the study aims to objectively examine the influence between variables through the analysis of numerical data. Meanwhile, the correlational method is used to determine the direction and strength of the influence between the principal's intellectual stimulation—as the independent variable and teacher self-efficacy as the dependent variable.

The population for this study consisted of all teachers in state vocational high schools (SMK Negeri) across Padang City, totaling 635 teachers. From this population, a sample of 330 teachers was selected using the Proportionate Stratified Random Sampling technique a method involving division into several strata or subgroups based on specific characteristics, with the sample size for each stratum determined by the position (Renggo & Kom, 2022).

Data collection was conducted by distributing a closed-ended questionnaire utilizing a Likert scale. The questionnaire items were formulated based on the indicators for each research variable. The principal's intellectual stimulation variable was measured using indicators such as encouraging teachers to think creatively, encouraging teachers to seek new solutions, encouraging teachers to view problems from different perspectives, providing opportunities to propose new ideas, and supporting instructional

experimentation and innovation. Meanwhile, the teacher self-efficacy variable was measured through indicators including confidence in teaching abilities, confidence in facing instructional challenges and obstacles, confidence regarding the impact or outcomes of teaching, professional teaching experience, and support from the school and social environment. Prior to distribution to respondents, the instrument underwent validity and reliability testing to ensure its suitability, consistency, and ability to accurately measure the variables in question.

The collected data were analyzed using descriptive and inferential statistics. Descriptive statistics were employed to describe the conditions and achievement levels of each variable. Subsequently, Pearson Product-Moment correlation analysis was conducted to determine the direction and strength of the relationship between the two variables. A t-test was also performed to assess the significance of the correlation coefficient at a 5% significance level ($\alpha = 0.05$). All statistical analyses were carried out using the SPSS software to ensure accurate and reliable results.

3. RESULT AND DISCUSSION

Result

Description of Research Data on Teachers' self-efficacy

Based on Table 1, Data collection for the teacher self-efficacy variable (Y) was conducted by distributing a questionnaire comprising 40 items to 330 teachers from public vocational high schools (SMK Negeri) across the city of Padang. Based on the respondents' answers, the lowest score obtained was 105 and the highest was 200. The mean score was 163.65, with a median of 164 and a mode of 188. The standard deviation was recorded at 21.219, and the total cumulative score reached 54,005. More detailed information regarding the frequency distribution of teacher professional competence scores is presented in Table 1.

Table 1. Average Scores of Teachers' self-efficacy Indicators

Variable	Indicator	Total		
		Average	TCR	Classification
Teacher Self-Efficacy	Confidence in teaching ability	4,07	81,40%	Good
	Confidence in facing teaching challenges and obstacles	4,01	80,20%	Good
	Confidence in teaching impact/outcomes	4,10	82%	Good
	Professional teaching experience	4,19	83,80%	Good
	School environment and social support	4,06	81,20%	Good
Average		4,09	81,80%	Good

The average score analysis reveals the highest value in the professional teaching experience indicator (4.19, or 83.80%), while the lowest average score is found in the indicator regarding confidence in facing instructional challenges and obstacles (4.01, or 80.20%). Overall, the average teacher self-efficacy score across state vocational high schools (SMK Negeri) in Padang City is 4.09 (81.80%). This indicates that teacher self-efficacy in these schools falls into the categorized as "good".

Description of Research Data on the Principal's Intellectual Stimulation

Data regarding the variable of principals' intellectual stimulation (X) were collected by distributing a 40-item questionnaire to 330 teachers from public vocational high schools (SMK Negeri) across Padang City. Based on the collected questionnaires, the lowest score was 45 and the highest was 200. The mean score was 172.40, with a median of 176 and a mode of 177. The standard deviation was recorded at 1,724.231, and the cumulative total score reached 54,005. More detailed information regarding the distribution of scores for principals' intellectual stimulation is presented in Table 2.

Table 2. Average Scores of Principal's Intellectual Stimulation Indicators

Variable	Indicator	Total
----------	-----------	-------

		Average	TCR	Classification
Principal's Intellectual Stimulation	Encouraging teachers to think creatively	4,30	86%	Good
	Encouraging teachers to seek new solutions	4,31	86,20%	Good
	Encouraging teachers to view problems from different perspectives	4,32	86,40%	Good
	Providing opportunities to propose new ideas	4,30	86%	Good
	Supporting experimentation and innovation in teaching	4,30	86%	Good
Average		4,31	86,20	Good

Based on the table above, it can be concluded that the indicator regarding encouraging teachers to view problems from different perspectives scored 4.32 (86.40%). Meanwhile, the lowest average scores were found for the indicators of encouraging teachers to think positively and supporting experimentation and instructional innovation, both scoring 4.30 (86%). Overall, the average score for the Intellectual Stimulation provided by principals at state vocational high schools (SMK Negeri) in Padang City was 4.31 (86.20%). This indicates that the intellectual stimulation provided by principals at these schools remains in the "Good" category.

To determine the correlation coefficient (r) between variables X and Y, the Pearson Correlation formula was used with the assistance of SPSS Version 25.

Table 3. Results of the Correlation Test of Variables X and Y

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
1	(Constant)	133,132	8,918		14,929
	STIMULASI INTELEKTUAL KEPALA SEKOLAH	0,188	0,054	0,189	3,479

Based on the simple regression analysis, the regression equation $Y = 133.132 + 0.188X$ was obtained, indicating a positive relationship between the principal's intellectual stimulation and teacher self-efficacy. The regression coefficient of 0.188 indicates that for every one-unit increase in the principal's intellectual stimulation, teacher self-efficacy increases by 0.188 units, assuming other variables remain constant.

Furthermore, the partial test (t-test) results yielded a calculated t-value of 3.479 with a significance level of 0.001, which is lower than the 0.05 significance threshold. Consequently, H_0 is rejected and H_1 is accepted, signifying a positive and significant influence of the principal's intellectual stimulation on teacher self-efficacy in state vocational high schools (SMK Negeri) across Padang City.

The analysis of the coefficient of determination revealed an Adjusted R-Square value of 0.147, meaning that the principal's intellectual stimulation contributes 14.7% to the variation in teacher self-efficacy. The remaining 85.3% is influenced by factors outside the scope of this study, such as teaching experience, work motivation, professional competence, school organizational culture, work environment support, school climate, and individual teacher characteristics.

Discussion

Based on research conducted among teachers at state vocational high schools SMK Negeri in Padang City, it was found that the intellectual stimulation provided by school principals has a positive and significant effect on teacher self-efficacy. Hypothesis testing results yielded a calculated t-value of 3.479 with a significance level of 0.001 (<0.05), leading to the acceptance of the research hypothesis. This

indicates that the better the intellectual stimulation provided by the principal, the higher the teachers' self-efficacy in carrying out their professional duties. The following is a discussion of each variable:

4. CONCLUSION

Based on the findings, teacher self-efficacy in public vocational high schools (SMK Negeri) across Padang City was categorized as good (TCR = 81.80%), while principals' intellectual stimulation was also categorized as good (TCR = 86.20%). The results showed that principals' intellectual stimulation had a positive and significant effect on teacher self-efficacy ($t = 3.479$; $p = 0.001 < 0.05$). The regression analysis produced the equation $Y = 133.132 + 0.188X$, and the coefficient of determination (Adjusted $R^2 = 0.147$) indicated that principals' intellectual stimulation contributed 14.7% to teacher self-efficacy, while 85.3% was explained by other factors.

Based on research findings indicating a positive and significant influence of a principal's intellectual stimulation on teachers' self-efficacy, the implications of this study are as follows:

1. Academic Implications

This study supports the view that principals' intellectual stimulation can enhance teacher self-efficacy by encouraging creative thinking, innovation, and confidence in carrying out professional responsibilities. The findings also provide a reference for future research on educational leadership and teacher self-efficacy.

2. Managerial Implications

School principals should strengthen intellectual stimulation by encouraging professional development, collaborative discussions, innovation, and opportunities for teachers to share ideas in order to improve teacher self-efficacy.

3. Policy Implications

Education authorities should develop policies and training programs that strengthen principals' leadership competencies, particularly in providing intellectual stimulation to improve teacher self-efficacy and educational quality.

5. ACKNOWLEDGE

The author extends sincere gratitude to Dr. Sulastri, S.Pd., M.Pd., the academic supervisor, for her guidance and support throughout the preparation of this work. The author also expresses appreciation to all the teachers from state vocational high schools (SMK Negeri) across Padang City who participated as respondents in this study. Special thanks go to the examiners for their valuable suggestions and input in refining this work. The author has made every effort to complete this work to the best of their ability.

6. REFERENCES

- Abdullah, K., Jannah, M., Aiman, U., Hasda, S., Fadilla, Z., Taqwin, Masita, Ardiawan, K. N., & Sari, M. E. (2022). *Metodologi Penelitian Kuantitatif* (N. Saputra, Ed.). Yayasan Penerbit Muhammad Zaini. <http://penerbitzaini.com>
- Aditya, S., Novianto, A., & Prasajo, L. D. (2025). Principal's transformational leadership as a catalyst for teacher performance improvement in an Indonesian elementary school. *Jurnal Penelitian Ilmu Pendidikan*, 18(2), 99–108.
- Akinnubi, O. P., & Adeoye, M. A. (2024). Principals' intellectual stimulation and teachers' job satisfaction in public secondary schools. *Curricula: Journal of Curriculum Development*, 3(2), 247–262.
- Amar, M. F. (2024). Peran Kemampuan Komunikasi Interpersonal Pendidik Dalam Menumbuhkan Self-Efficacy. *Aafiyah: Jurnal Multidisiplin Ilmu*, 2(1), 1–13.
- Amin, N. F., Garancang, S., & Abunawas, K. (2023). Konsep Umum Populasi dan Sampel Dalam Penelitian. *Pilar*, 14(1), 15–31.
- Andriani, N., & Kamaruddin, S. A. (2024). Kepemimpinan transformasional kepala sekolah di sekolah menengah kejuruan. *EDUSTUDENT: Jurnal Ilmiah Pendidikan dan Pengembangan Pembelajaran*, 3(2), 102–108.
- Annida, S. D., & Harsanti, I. (2019). Challenge at work: Innovative work behavior among teachers. In *Proceedings of the Third International Conference on Sustainable Innovation 2019 – Humanity, Education and Social Sciences (IcoSIHESS 2019)* (pp. 202–205). Atlantis Press.

- Awiria, Jamaludin, U., Fathurrozi, A., Dalilah, E., Alfianto, F. D., & Salsabila, S. P. (2024). Intensive Micro Coaching Clinic: Membuka Kesadaran Fenomenologis Guru SD Bekasi dalam Mengoptimalkan Program Guru Penggerak. *Jurnal Abdimas Bina Bangsa*, 5(2), 1344–1356.
- Asrar-ul-Haq, M., & Kuchinke, K. P. (2016). Impact of leadership styles on employees' attitude toward their leader and performance: Empirical evidence from Pakistani banks. *Journal of Business Research*, 69(2), 1–8.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman and Company.
- Bass, B. M., & Avolio, B. J. (2015). *Multifactor Leadership Questionnaire: Manual and sampler set* (3rd ed.). Mind Garden.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Lawrence Erlbaum Associates.
- Cahyani, N., & Winata, H. (2020). Peran Efikasi dan Disiplin Diri dalam Peningkatan Hasil Belajar Siswa. *Jurnal Pendidikan Perkantoran*, 5(2), Manajemen 234–249.
- Calicchio, S. (2023). *Albert Bandura dan Faktor Efikasi Diri: Sebuah Perjalanan ke dalam Psikologi Potensi Manusia Melalui Pemahaman dan Pengembangan Efikasi Diri dan Harga Diri*. Stefano Calicchio.
- Christodoulou, A., & Angeli, C. (2022). Teknik pembelajaran adaptif untuk perangkat lunak pendidikan personalisasi dalam mengembangkan pengetahuan konten pedagogis teknologi guru. *Frontiers Media SA*.
- Inayah, S., Juandi, D., & Siswanto, R. (2022). Self-efficacy guru matematika dalam menghadapi dinamika pembelajaran di masa pandemi Covid-19. *Jurnal Pembelajaran Matematika Inovatif*, 5(3), 833–842.
- Joyce, B., Weil, M., & Calhoun, E. (2015). *Models of teaching* (9th ed.). Pearson Education.
- Khiyaroh, N. L. (2024). *Upaya Guru dalam Meningkatkan Self Efficacy Siswa Pada Pembelajaran Fiqih di Madrasah Tsanawiyah Al-Falah Jakarta Selatan*. UIN Syarif Hidayatullah Jakarta.
- Klassen, R. M., & Tze, V. M. C. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59–76. <https://doi.org/10.1016/j.edurev.2014.06.001>
- Kristiyani, T & Taum, Y. Y. (Ed.). 2016. *Self-regulated learning: Konsep, implikasi, dan tantangannya bagi siswa di Indonesia*. Universitas Sanata Dharma.
- Kurniawan. (2021). *Metodologi penelitian pendidikan*. Yogyakarta: Deepublish.
- Leithwood, K., & Sun, J. (2020). Transformational school leadership effects on student achievement: A meta-analytic review. *Educational Administration Quarterly*, 56(2), 251–286.
- Renggo, Y. R., & Kom, S. (2022). *Populasi dan Sampel Kuantitatif. Metodologi Penelitian Kuantitatif, Kualitatif Dan Kombinasi*, 43.
- Robbins, S. P., & Judge, T. A. (2019). *Organizational behavior* (18th ed.). Pearson Education Limited.
- Safura, S., & Helmanda, C. M. (2022). Students teachers' self-efficacy and teaching effectiveness. *International Journal of English Education and Linguistics*, 4(2), 102–110.
- Sahna, A. R., Ningrum, N. A., Febriati, T., Masfia, I., & Fahmy, Z. (2024). Hubungan self-efficacy guru dengan sikap guru terhadap penyelenggaraan pendidikan inklusi di sekolah dasar di Kota Semarang. *Jurnal Ilmiah Pendidikan Citra Bakti*, 11(3), 832–846.
- Savira Maharani. (2023). *Pengaruh Kepemimpinan Transformasional Kepala Sekolah Berbasis Self Efficacy Dalam Meningkatkan Kinerja Guru MAN 2 Medan*, Vol 1 No 1
- Setiawan. (2013). *Kepemimpinan Transformasional dan Pengaruhnya terhadap Kinerja Organisasi*. Jakarta: Rajawali Pers.
- Skaalvik, E. M., & Skaalvik, S. (2017). Teacher self-efficacy and perceived autonomy: Relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychological Reports*, 114(1), 68–77.
- Tschannen-Moran, M. (2016). *Teacher efficacy and student engagement*. Routledge.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17(7), 783–805.
- Ulum, M., Riyanto, Y., & Setyowati, S. (2023). Self-efficacy guru sebagai kunci keberhasilan pengajaran: Analisis berbasis kajian literatur. *Jurnal Administrasi Pendidikan Islam*, 6(2), 212–229.
- Wray, E., Sharma, U., & Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teaching and Teacher Education*, 117, 103800.