

The Role of Principal's Leadership and Learning Organization to Improve Teacher's Leadership

Rais Hidayat¹, Yuyun Elizabeth Patras²

¹ Universitas Pakuan, Bogor, Indonesia; rais72rais@gmail.com

² Universitas Pakuan, Bogor, Indonesia; yuyunpatras64@gmail.com

ARTICLE INFO

Keywords:

Principals Leadership;
Learning Organization;
Teacher's leadership

Article history:

Received 2022-08-11

Revised 2022-11-08

Accepted 2023-03-10

ABSTRACT

Learning can work well when teacher leadership plays an optimal role. This study aims to improve teacher leadership through the influence of principal leadership and learning organizations. Quantitative methods were used in this research. The participants of this study were 1200 Indonesian teachers. The data was obtained through the questionnaire instrument. Data analysis uses the analysis path through SMART PLS. The research found that principal leadership and learning organizations can improve teacher leadership. Strategies to improve teacher leadership through the principal's leadership and learning organization are carried out by improving these variable indicators, including being a main motivator of learning, implementing school vision, doing quality assurance of learning, dialogue with various new ideas, and doing school development. Based on these findings, education stakeholders can discuss and promote teacher leadership competency improvements.

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



Corresponding Author:

Rais Hidayat

Universitas Pakuan, Bogor, Indonesia; rais72rais@gmail.com

1. INTRODUCTION

Education plays an important role in the life of a nation (Reeves et al., 2017). These important roles include being one of the essential elements of a nation's ability to win the global competition and offset other countries' economic power and political influence (Zain, 2021). According to Alegado (2018), advancing education requires teachers who have leadership competencies. (see also Burbules et al., 2020; Novoa-Echaurren & Canales-Tapia, 2018). Leadership competencies are important for teachers in the digital age (Avidov-ungar & Forkosh-baruch, 2018). According to Shah (2017), countries that want to advance need teachers with good leadership competencies. (see also Magen-Nagar et al., 2021; Pan & Chen, 2021; Printy & Liu, 2021).

Teachers with leadership competencies have better performance (Sharma & Al-Sinawai, 2019). According to Yaacob & Don (2018), teachers with leadership competencies can provide optimal influence in the learning process (Ahya et al., 2021; Liu, 2021; Yusof et al., 2020). Teacher leadership is

influential inside and outside the school (Nguyen et al., 2020). The influence of teacher leadership in the teaching process includes students being more motivated, learning more enjoyable and achieving learning goals. (see also Burhanudin, 2017; Orakc, 2020; Walker, 2021); based on the quality, teacher leadership plays an important role in education. (see also Hamzah et al., 2016; Kılınc et al., 2015; Sharar & Nawab, 2020). Educational stakeholders can pursue the existence of teachers who have quality leadership competence (Hana et al., 2021; Tan et al., 2020), such as the government and the community in the school (Yusof et al., 2020). Therefore, improving the competence of teacher leadership becomes very important (Wang & Ho, 2020) so that the learning and education process is guaranteed to realize qualified graduates. (see also Cheng & Szeto, 2016; Isbianti, 2017; Kılınc et al., 2015; Sharar & Nawab, 2020) and teacher leadership improve teacher performance (Rachmah & Putrawan, 2018).

However, there is little research examining teacher leadership competence and how to improve it, especially in the Indonesian context. Therefore, the study of teacher leadership needs to be continued, focusing more on conceptual clarity, cross-country research design, research design, and the potential 'dark side' of teacher leadership (Schott et al., 2020). Unfortunately, however, some teachers are ignorant of mastering the concepts and practices of leadership in learning. In the case of Indonesia, for example, it can be seen from the results shown in the national assessment (AN) in 2021 that the learning results of students in solving literacy and numeracy are still low (Kemendikbudristek Dikti, 2022). This data is one of them due to the low number of teachers mastering leadership concepts and practices in learning (see also Liu, 2021; Sharar & Nawab, 2020).

Still, the low ability of teachers to master the concepts and practices of teacher leadership in learning requires efforts to improve teacher leadership. (see also Ahya et al., 2021; DeHart, 2011; Hamzah et al., 2016; Liu, 2021). One of them is researching variables that positively and significantly affect teacher leadership competencies. (see also Cosenza, 2015; Kenjarski, 2015; Lowery-Moore et al., 2016; Pan & Chen, 2021). In addition, it has not been explained in detail about the role of principal leadership and learning organizations in improving teacher leadership competencies. Therefore, this research aims to explore the influence of variables that positively and significantly affect improving teacher leadership competencies.

This research is essential because the competence of teacher leadership can guarantee the creation of quality learning. Although in addition, the implementation of this research is to increase the understanding of teacher leadership, principal leadership and learning organization, both conceptually and practically. This research can also be used by education stakeholders to design strategies for improving teacher leadership competencies based on the variable of principal leadership and learning organizations.

Teacher leadership refers to concepts and theories. Conceptually, this term relates to aspects of a teacher's working life that affects students inside and outside the classroom. In theory, it is used for teachers' evaluation and professional development (Schott et al., 2020). According to Liu (2021), the scope of teacher leadership includes the classroom, namely being responsible in the classroom, schools, namely being responsible for participating with other teachers in advancing schools, and the highest teacher leadership is the climate of fostering a positive school climate by carrying out cooperative learning. According to Yusof et al. (2020), teacher leadership is the teacher's ability to lead the learning process, adapt to environmental changes, actively participate in and develop the profession, collaborate and cooperate with the school community, and become a consultant providing educational solutions.

The high condition of low teacher leadership is influenced by many factors, including the principal's leadership style. (Printy & Liu, 2021). According to Printy & Liu (2021), a leader can influence followers' motivation, effort, skills, and involvement in achieving organizational goals. (Printy & Liu, 2021). According to Hallinger et al. (2019), the influence of leadership has an impact on policy makers' insights and teacher development. Leadership also has an impact on justice. (Szeto & Cheng, 2018), the impact on school development (Wiyono, 2018), support the learning of teachers (Karacabey et al., 2022), and the impact on teacher leadership practices (Pan & Chen, 2021). Based on

the concepts, theories and results of previous research, the researcher formulated the following statistical hypotheses:

H₁: There is a positive and significant direct influence of the principal's leadership style on teacher leadership.

Learning organizations also influence teacher leadership based on previous concepts, theories, and research. According to Caputo et al. (2019), they are learning organization as a construction based on a combination of knowledge, organization, people and technology. A learning organization is an organization that continues to expand its capacity to create the results they want, collective aspirations are liberated, and they continue to learn together (Ellinger & Ellinger, 2021). According to (Malik & Garg (2020), organizations that practice learning can learn from doing bad things to doing better things or doing inefficient things to be more productive because of learning together. Research also shows that learning organizations positively affect team member resilience and work engagement (Pedler & Hsu, 2019). Learning organizations are very useful because their members can solve problems, experiment, learn from previous experiences, learn from others and transfer knowledge. (Al Dari et al., 2021). Based on concepts, theories, and previous research, the researcher formulated the following hypotheses:

H₂: there is a positive and significant direct influence of learning organizations on teacher leadership.

Nevertheless, the school's learning organization's condition depends on the principal's leadership style. According to González-Falcón et al. (2020), a principal leader is a person who is responsible for the progress of the school and must form a team, and motivate and encourage teachers to share knowledge. On the other hand, according to Anwar & Niode (2017), an organization that tools a learning organization will adopt a learning culture that encourages sustainable learning, knowledge sharing, team member empowerment, and social interaction that encourages learning among employees. According to Kızıloğlu (2021), the principal's leadership style positively affects the implementation of the learning organization. Based on concepts, theories, and previous research, the study formulated a hypothesis:

H₃: there is a positive and significant direct influence of principal leadership on learning organizations.

2. METHODS

This research uses a quantitative design that emphasizes objective phenomena and is studied quantitatively in numbers, statistical processing, structure, and data testing (Appelbaum et al., 2018; Creswell, 2013). This research uses purposive sampling (Etikan, 2016; Tongco, 2007) with many as 1200 teachers. This research uses research instruments in the form of questionnaires of teacher leadership (TL), principal leadership (PL), and learning organization (LO) distributed to teachers.

Research instruments come from the study of concepts, theories, and researchers synthesize to produce teacher leadership questionnaires (TL) as follows: TL1 (implementation of learning reflection), TL2 (student activation), TL3 (teamwork), TL4 (effective communication), TL5 (profession development), TL6 (mentor for other teachers), TL7 (collaboration with stakeholders), TL8 (use of communication information technology (ICT)), TL9 (providing learning solutions), TL10 (mapping learning problems). The principal leadership questionnaire is as follows: PL1 (collaboration), PL2 (use of communication information technology (ICT) in learning), PL3 (learning quality assurance), PL4 (fun learning implementation), PL5 (sharing teaching skills), PL6 (ownership of creative ideas), PL7 (mapping learning problems), PL8 (collaborative problem solving), PL9 (main motivator of learning), PL10 (implementation of school vision). The learning organization questionnaire is as follows: LO1 (facilitation of teachers to produce creative and innovative work), LO2 (drivers for conducting scientific processes), LO3 (dialogue with various new ideas), LO4 (team formation), LO5 (supervision), LO6 (implementation of internal quality assurance system), LO7 (training), LO8 (facilitation of further studies), LO9 (appreciation for outstanding teachers), LO10 (collaboration), LO11 (school development), LO12 (anticipation of changes).

Data analysis in this research uses the analysis path (Alfonso et al., 2020; Dilekli & Tezci, 2019; Ryu et al., 2020) through the SMART PLS application. Data analysis begins with establishing the validity and reliability of the construct. Construct validity is declared if the correlation coefficient is > 0.5 (Husson et al., 2017). Furthermore, constructs can be reliable if the Cronbach's Alpha value > 0.7 (Hair et al., 2017). After the data meets the requirements of validity and reliability, then tested using the path to see how many contributions the principal leadership (PL) variable and learning organization (LO) contribute to teacher leadership competencies (TL) and see the difference in the magnitude of the influence of leadership and learning organizations on teacher leadership competencies. The bootstrap resampling technique was implemented using SMART PLS to conduct the study hypothesis test. (Hair et al., 2017). The t-test value can have a positive and significant effect if the value is > 1.96 (Hair et al., 2017).

3. FINDINGS AND DISCUSSION

3.1 Findings

Based on the results of data testing using SMART PLS to see the construct validity, the results are found as illustrated in Figure 1.

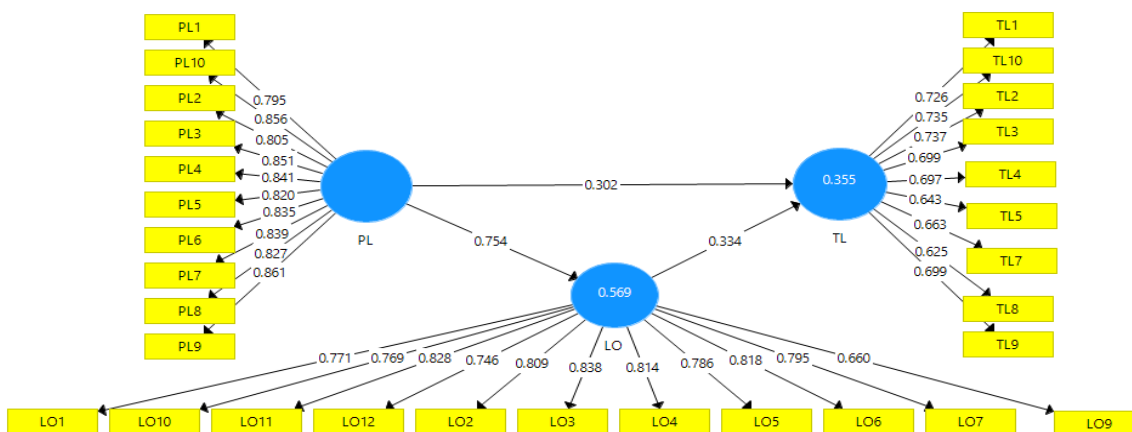


Figure 1. Construct Validity Test Results

Based on Figure 1 above, it can be gotten that the loading factor values of the TL, PL and LO variables qualify for validity because the value > 0.5. Based on Figure 1, TL2 (student activation), TL10 (mapping learning problems), and TL1 (implementation of learning reflection) are the three most significant indicators in shaping teacher leadership (PL). In the principal leadership variable, it can be seen that PL9 (main motivator of learning), PL10 (implementation of school vision), and PL3 (learning quality assurance) are the three most significant indicators in shaping principal leadership (PL). In variable learning organizations, it can be seen that LO3 (dialogue with various new ideas), LO11 (school development), and LO6 (implementation of internal quality assurance system) are the three most significant indicators in forming a learning organization (LO).

Concerning reliability constructs, based on Table 1, the Cronbach's Alpha value for the TL, PL and LO shows a value > 0.7, which means that it has pleased the construct reliability ratios. Concerning internal consistency, it can be obtained from the composite reliability value. Composite reliability of 0.6 – 0.7 is considered good reliability, and the expected Cronbach's alpha value is > 0.7 (Hair et al., 2017). Therefore, table 1 shows that all variables have met internal consistency reliability. Therefore, all of these constructs are reliable.

Table 1. Construct Reliability Test Result

	Cronbach's Alpha	rho_A	Composite Reliability
LO	0.938	0.941	0.947
PL	0.951	0.951	0.958
TL	0.864	0.865	0.892

Based on the results of the bootstrap test, as illustrated in Table 2, it was found that the value for the t-test on the direct effect of PL on TL is 7,239, i.e. > 1.96; this means that the hypothesis stating there is a direct and significant positive effect of PL on TL is acceptable. Based on these results, an increase in TL can be done by strengthening the PL. The t-test value for the direct effect of PL on LO is 46,677, which is > 1.96; this means that the hypothesis states a positive and significant direct effect of PL on LO is acceptable. Based on these findings, increased TL can be done by developing LO. The t-test value for the direct effect of LO on TL is 8,427, which is > 1.96; this means that the hypothesis that there is a positive and significant direct effect of Lo on TL is acceptable. Based on these findings, the increase in LO can be done by strengthening the PL. The t-test value of the indirect effect of PL on TL via LO is 8.257, which is > 1.96; this means that the hypothesis stating there is a positive and significant indirect effect of PL on TL via LO is acceptable. Based on these findings, increased TL can be done by strengthening PL and LO.

Table 2 Summary of Hypothesis Testing

No	Hypothesis Formulation	Results	t-statistic	p-values	Decision
1	PL > TL	0.320	7.239	0.000	Accepted
2	PL > LO	0.754	46.677	0.000	Accepted
3	LO > TL	0.334	8.427	0.000	Accepted
4	PL > TL Through LO	0.252	8.257	0.000	Accepted

3.2 Discussion

Leadership in the classroom has the potential to do great things for society. When it comes to addressing socioeconomic inequities, Sheppard et al. (2021) argue that teacher leadership extends beyond the confines of the classroom and school. A better understanding of teacher leadership is still being sought (Wang & Ho, 2020), along with definitions, theories, factors, and methods for doing so. Nerlino (2020) argues that teacher leadership places an emphasis on the connection between school leadership and student achievement. Teacher leadership has been shown to have a beneficial effect on student outcomes, curriculum success, and student learning (Shen et al., 2020). Given the stakes, research into the concepts, theories, causes, and solutions that can help cultivate teacher leadership deserves backing.

This study found ten indicators that proved valid and reliable in constructing teacher leadership, namely: implementation of learning reflection, student activation, teamwork, effective communication, profession development, mentoring for other teachers, collaboration with stakeholders, use of communication information technology (ICT), providing learning solutions and mapping learning problems. According to Nguyen et al. (Nguyen et al., 2020), teacher leadership is indicated by the ability to influence that is carried out based on mutual collaboration and trust; operating inside and outside the classroom; and aims to improve the quality of teaching, effectiveness of schools and student learning. (Nerlino, 2020; Smylie & Eckert, 2018; Wang & Ho, 2020; Wenner & Campbell, 2017).

This research found that if the principal leadership style is improved, it can improve teacher leadership competencies. These findings strengthen the previous research on the role of principal leadership in improving teacher leadership competency. (see also Hallinger et al., 2018, 2019; Karacabey et al., 2022; Pan & Chen, 2021; Shen et al., 2021). Based on this research, the increase occurred in the teacher leadership indicators, namely: implementation of learning reflection, student activation, teamwork, effective communication, professional development, mentoring for other teachers, collaboration with stakeholders, use of communication information technology (ICT), providing learning solutions and mapping learning problems. The indicators are improved if the principal principals improved based on this research are collaboration; use of communication information technology (ICT) in learning; learning quality assurance; fun learning implementation); sharing teaching skills; ownership of creative ideas; mapping learning problems; collaborative problem solving; main motivator of learning; and implementing the school vision.

This research found that three indicators of principal leadership can be used as a priority because it contributes most to the principal leadership construction: main motivator of learning, implementation of the school vision, and learning quality assurance. This finding aligns with Hallinger et al. (2019) that effective principals are characterized by the principal's ability to motivate, guide, and support teacher learning. In addition, the principal is responsible for articulating and communicating the vision of learning and building support to enact the vision in school life (Karacabey et al., 2022). According to Scallon et al. (2021), schools that lack recognition of teachers as contributors to science do not communicate learning vision and are less focused on guaranteeing the quality of student learning, causing school turnover to be below. (see also Chen et al., 2020; Mei Kin et al., 2018; Pan & Chen, 2021; Sebastian et al., 2017).

Schools as learning organizations become a discussion. According to Field (2019), schools as learning organizations are not appropriate because of the many political influences on schools that are not taken into account. But according to Lagrosen & Lagrosen (2020), the school is included in the learning organization of various components of its learning. This research aligns with the second opinion that school is a learning organization. According to Pedler & Hsu (2019), a learning organization assumes that all learning is good; organizations that adopt learning organization strategies are good.

This study found that if the learning organization is improved, it can increase teacher leadership competencies. This study's findings align with previous findings stating that learning organizations play a role in improving teacher leadership (Rashid & Mansor, 2018). (see also Al Dari et al., 2021; Mansor et al., 2019; Zhang & Yuan, 2020). Indicators of learning organization in this research: facilitation of teachers to produce creative and innovative work, drivers for conducting scientific processes, dialogue with various new ideas, team formation, supervision, implementation of internal quality assurance system, training, facilitation of further studies, appreciation for outstanding teachers collaboration, school development, and anticipation of changes.

If these indicators are improved, it can increase teacher leadership. Still, three indicators have a strong influence on forming a learning organization: dialogue with various new ideas, school development, and internal quality assurance system implementation. The role of dialogue with various ideas is proven to encourage the improvement of teacher leadership (Nousiainen et al., 2018), as well as school development (Green, 2018; Okoko, 2020; Richmond et al., 2018) and internal quality assurance (Hoonsopon & Puriwat, 2021) will drive improved teacher leadership.

4. CONCLUSION

Leadership on the part of educators is crucial to the development of the educational system. Principal leadership and learning organisations were found to have a positive effect on teacher leadership. Being a main motivator of learning, implementing the school's vision, ensuring the quality of learning, engaging in productive dialogue with a wide range of innovative ideas, and fostering school growth are all examples of variable indicators that can be enhanced through principal leadership

and learning organisation strategies to improve teacher leadership. These results provide a solid foundation upon which educational and community leaders can build plans to enhance teacher leadership by focusing on those factors that have been shown to have a direct, beneficial impact.

REFERENCES

- Ahya, M., Ahmad, S., & Fitriani, Y. (2021). The Role of Principal and Teacher Leadership to Improve the Quality of Learning in SMA Negeri 5 OKU. *Edunesia : Jurnal Ilmiah Pendidikan*, 2(2), 411–423. <https://doi.org/10.51276/edu.v2i2.134>
- Al Dari, T., Jabeen, F., Hussain, M., & Al Khawaja, D. (2021). How types of organizational culture and technological capabilities contribute to organizational learning. *Management Research Review*, 44(3), 437–459. <https://doi.org/10.1108/MRR-02-2020-0090>
- Alegado, P. J. E. (2018). The challenges of teacher leadership in the Philippines as experienced and perceived by teachers. *International Journal of Education and Research*, 6(6), 291–302.
- Alfonso, J., Datu, D., & Yuen, M. (2020). Children and Youth Services Review Students' connectedness is linked to higher gratitude and self-efficacy outcomes. *Children and Youth Services Review*, 116(July), 105210. <https://doi.org/10.1016/j.childyouth.2020.105210>
- Anwar, R., & Niode, S. H. M. (2017). The effects of Learning Organization towards Employees' Innovative Behavior Mediated by Work Engagement (A Study in Indonesia). *Advances in Intelligent Systems Research*, May 2020. <https://doi.org/10.2991/icoi-17.2017.15>
- Appelbaum, M., Cooper, H., Kline, R. B., Mayo-wilson, E., Nezu, A. M., Rao, S. M., & Clinic, C. (2018). Erratum: "Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board Task Force Report": Correction to Appelbaum et al. (2018) (*The American psychologist* (2018) 73 1 (3-25)). *The American Psychologist*, 73(7), 947. <https://doi.org/10.1037/amp0000389>
- Avidov-ungar, O., & Forkosh-baruch, A. (2018). Professional identity of teacher educators in the digital era in light of demands of pedagogical innovation. *Teaching and Teacher Education*, 73, 183–191. <https://doi.org/10.1016/j.tate.2018.03.017>
- Burbules, N. C., Fan, G., & Repp, P. (2020). Five trends of education and technology in a sustainable future. *Geography and Sustainability*, 1(2), 93–97. <https://doi.org/10.1016/j.geosus.2020.05.001>
- Burhanudin, M. (2017). the Roles of Principals in Increasing Education Quality By Developing Teacher Professionalism. *Didaktika Religia*, 5(1), 143–174. <https://doi.org/10.30762/didaktika.v5i1.856>
- Caputo, F., Garcia-Perez, A., Cillo, V., & Giacosa, E. (2019). A knowledge-based view of people and technology: directions for a value co-creation-based learning organization. *Journal of Knowledge Management*, 23(7), 1314–1334. <https://doi.org/10.1108/JKM-10-2018-0645>
- Chen, D., Ning, B., & Bos, W. (2020). Relationship between principal leadership and students' mathematics achievement: a comparative study between Germany and Chinese Taipei. *Asia Pacific Journal of Education*, 00(00), 1–17. <https://doi.org/10.1080/02188791.2020.1816899>
- Cheng, A. Y. N., & Szeto, E. (2016). Teacher leadership development and principal facilitation: Novice teachers' perspectives. *Teaching and Teacher Education*, 58, 140–148. <https://doi.org/10.1016/j.tate.2016.05.003>
- Cosenza, M. N. (2015). Affirming the Teacher Leader Model Standards. *Issues in Teacher Education*, 24(2), 79–99. <http://files.eric.ed.gov/fulltext/EJ1090327.pdf>
- Creswell, J. W. (2013). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. In *Educational Research*. Pearson.
- DeHart, C. A. (2011). *A Comparison of Four Frameworks of Teacher Leadership for Model Fit Recommended Citation* [University of Tennessee, Knoxville]. https://trace.tennessee.edu/utk_graddiss/1072
- Dilekli, Y., & Tezci, E. (2019). A Cross-cultural Study: Teachers' Self-Efficacy Beliefs for Teaching Thinking Skills Dr. *Thinking Skills and Creativity*, 100624. <https://doi.org/10.1016/j.tsc.2019.100624>
- Ellinger, A. D., & Ellinger, A. E. (2021). Providing strategic leadership for learning: optimizing managerial coaching to build learning organizations. *Learning Organization*, 28(4), 337–351.

- <https://doi.org/10.1108/TLO-05-2020-0070>
- Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Field, L. (2019). Schools as learning organizations. *International Journal of Educational Management*, 33(5), 1106–1115. <https://doi.org/10.1108/IJEM-05-2018-0165>
- González-Falcón, I., García-Rodríguez, M. P., Gómez-Hurtado, I., & Carrasco-Macías, M. J. (2020). The importance of principal leadership and context for school success: insights from '(in)visible school.' *School Leadership and Management*, 40(4), 248–265. <https://doi.org/10.1080/13632434.2019.1612355>
- Green, T. L. (2018). School as Community, Community as School: Examining Principal Leadership for Urban School Reform and Community Development. *Education and Urban Society*, 50(2), 111–135. <https://doi.org/10.1177/0013124516683997>
- Hair, J., Hult, G. T., Ringle, C., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In *Sage*.
- Hallinger, P., Adams, D., Harris, A., & Suzette Jones, M. (2018). Review of conceptual models and methodologies in research on principal instructional leadership in Malaysia: A case of knowledge construction in a developing society. *Journal of Educational Administration*, 56(1), 104–126. <https://doi.org/10.1108/JEA-03-2017-0025>
- Hallinger, P., Liu, S., & Piyaman, P. (2019). Does principal leadership make a difference in teacher professional learning? A comparative study China and Thailand. *Compare*, 49(3), 341–357. <https://doi.org/10.1080/03057925.2017.1407237>
- Hamzah, N., Noor, M. A. M., & Yusof, H. (2016). Teacher Leadership Concept: A Review of Literature. *International Journal of Academic Research in Business and Social Sciences*, 6(12), 185–189. <https://doi.org/10.6007/ijarbss/v6-i12/2483>
- Hana, Y., Tau, A., Sae, M., Ikhsan, M. A., Nur, T., Thoriquettyas, T., & Khoirul, F. (2021). Heliyon The new identity of Indonesian Islamic boarding schools in the "new normal": the education leadership response to COVID-19. *Heliyon*, 7(November 2020). <https://doi.org/10.1016/j.heliyon.2021.e06549>
- Hoonsopon, D., & Puriwat, W. (2021). Organizational Agility: Key to the Success of New Product Development. *IEEE Transactions on Engineering Management*, 68(6), 1722–1733. <https://doi.org/10.1109/TEM.2019.2929500>
- Husson, F., Lê, S., & Pagès, J. (2017). *Exploratory Multivariate Analysis by Example Using R*. CRC Press.
- Isbianti, P. (2017). The Factors of Teacher Leadership Behaviors on Sport Class. *Advances in Social Science, Education and Humanities Research (ASSEHR)*, 66(Yicemap), 418–422. <https://doi.org/10.2991/yicemap-17.2017.75>
- Karacabey, M. F., Bellibaş, M. Ş., & Adams, D. (2022). Principal leadership and teacher professional learning in Turkish schools: examining the mediating effects of collective teacher efficacy and teacher trust. *Educational Studies*, 48(2), 253–272. <https://doi.org/10.1080/03055698.2020.1749835>
- Kemendikbudristek Dikti. (2022). *Merdeka Belajar Episode Kesembilan Belas: Rapor Pendidikan Indonesia*. Kementerian Pendidikan dan Kebudayaan Riset dan Teknologi.
- Kenjarski, M. R. (2015). *Defining Teacher Leadership: Elementary Teachers' Perceptions of Teacher Leadership and the Conditions Which Influence its Development*. North Carolina State University.
- Kılınç, A. Ç., Cemaloğlu, N., & Savaş, G. (2015). The Relationship Between Teacher Leadership, Teacher Professionalism, and Perceived Stress. *Eurasian Journal of Educational Research*, 15(58), 1–26. <https://doi.org/10.14689/ejer.2015.58.5>
- Kızıloğlu, M. (2021). The impact of school principal' s leadership styles on organizational learning : Mediating effect of organizational kültürünün arabuluculuk etkisi Theoretical background Theory of leadership Transformational leadership and organizational learning. *Bmij*, 9, 822–834.
- Lagrosen, Y., & Lagrosen, S. (2020). Organizational learning in consciousness-based education schools: a multiple-case study. *International Journal of Educational Management*, 34(5), 849–867.

- <https://doi.org/10.1108/IJEM-01-2019-0009>
- Liu, Y. (2021). Contextual influence on formal and informal teacher leadership. *International Journal of Educational Research Open*, 2–2(October 2020), 100028. <https://doi.org/10.1016/j.ijedro.2020.100028>
- Lowery-Moore, H., Latimer, R., & Villate, V. (2016). The Essence of Teacher Leadership: A Phenomenological Inquiry of Professional Growth. *International Journal of Teacher Leadership*, 7(1), 1–16.
- Magen-Nagar, N., Schwabsky, N., & Firstater, E. (2021). The role of self-efficacy components in predicting Israeli kindergarten teachers' educational leadership. *International Journal of Leadership in Education*, 24(6), 815–837. <https://doi.org/10.1080/13603124.2019.1613569>
- Malik, P., & Garg, P. (2020). Learning organization and work engagement: the mediating role of employee resilience. *International Journal of Human Resource Management*, 31(8), 1071–1094. <https://doi.org/10.1080/09585192.2017.1396549>
- Mansor, M., Yunus, J. @ N., Yuet, F. K. C., Musa, K., & Noor, M. A. M. (2019). The Influence of Learning Organization Practices toward Teacher Leadership among Secondary School Teachers in State of Perak. *International Journal of Academic Research in Progressive Education and Development*, 8(4). <https://doi.org/10.6007/ijarped/v8-i4/6438>
- Mei Kin, T., Abdull Kareem, O., Nordin, M. S., & Wai Bing, K. (2018). Principal change leadership competencies and teacher attitudes toward change: the mediating effects of teacher change beliefs. *International Journal of Leadership in Education*, 21(4), 427–446. <https://doi.org/10.1080/13603124.2016.1272719>
- Nerlino, E. (2020). A theoretical grounding of teacher leadership. *Journal of Professional Capital and Community*, 5(2), 117–128. <https://doi.org/10.1108/JPC-12-2019-0034>
- Nguyen, D., Harris, A., & Ng, D. (2020). A review of the empirical research on teacher leadership (2003–2017): Evidence, patterns and implications. *Journal of Educational Administration*, 58(1), 60–80. <https://doi.org/10.1108/JEA-02-2018-0023>
- Nousiainen, T., Kangas, M., Rikala, J., & Vesisenaho, M. (2018). Teacher competencies in game-based pedagogy. *Teaching and Teacher Education*, 74, 85–97. <https://doi.org/10.1016/j.tate.2018.04.012>
- Novoa-Echaurren, A., & Canales-Tapia, A. (2018). Pedagogical Uses of Digital Technologies by Pre and In-Service Teachers: Literature Review from a Global Perspective to the Chilean Context. *Proceedings*, 2(21), 1335. <https://doi.org/10.3390/proceedings2211335>
- Okoko, J. M. (2020). Framing school leadership preparation and development for Kenya: Context matters. *Educational Management Administration and Leadership*, 48(2), 396–413. <https://doi.org/10.1177/1741143218792913>
- Orakc, Ş. (2020). *The structural relationship between accountability felt and responsible teaching in Turkish teachers: The mediating effect of innovative thinking*. 36(December 2019), 1–10. <https://doi.org/10.1016/j.tsc.2020.100662>
- Pan, H. L. W., & Chen, W. Y. (2021). How principal leadership facilitates teacher learning through teacher leadership: Determining the critical path. *Educational Management Administration and Leadership*, 49(3), 454–470. <https://doi.org/10.1177/1741143220913553>
- Pedler, M., & Hsu, S. wei. (2019). Regenerating the learning organization: towards an alternative paradigm. *Learning Organization*, 26(1), 97–112. <https://doi.org/10.1108/TLO-08-2018-0140>
- Printy, S., & Liu, Y. (2021). Distributed Leadership Globally: The Interactive Nature of Principal and Teacher Leadership in 32 Countries. *Educational Administration Quarterly*, 57(2), 290–325. <https://doi.org/10.1177/0013161X20926548>
- Rachmah, N., & Putrawan, I. M. (2018). Teachers Leadership and Trust: Its Effect on Teachers Performance. *International Journal of Scientific and Research Publications*, 8(1), 1–5. www.ijsrp.org
- Rashid, R. A., & Mansor, M. (2018). The Influence of Organizational Learning on Teacher Leadership. *International Journal of Academic Research in Business and Social Sciences*, 8(4). <https://doi.org/10.6007/ijarbss/v8-i4/4236>
- Reeves, P. M., Pun, W. H., & Chung, K. S. (2017). Influence of teacher collaboration on job satisfaction

- and student achievement. *Teaching and Teacher Education*, 67, 227–236. <https://doi.org/10.1016/j.tate.2017.06.016>
- Richmond, D., Sibthorp, J., Gookin, J., Annarella, S., & Ferri, S. (2018). Complementing classroom learning through outdoor adventure education: out-of-school-time experiences that make a difference. *Journal of Adventure Education and Outdoor Learning*, 18(1), 36–52. <https://doi.org/10.1080/14729679.2017.1324313>
- Ryu, H. Y., Hyun, D. S., Jeung, D. Y., Kim, C. S., & Chang, S. J. (2020). Organizational Climate Effects on the Relationship Between Emotional Labor and Turnover Intention in Korean Firefighters. *Safety and Health at Work*, 11(4), 479–484. <https://doi.org/10.1016/j.shaw.2020.08.007>
- Scallon, A. M., Bristol, T. J., & Esboldt, J. (2021). Teachers' Perceptions of Principal Leadership Practices That Influence Teacher Turnover. *Journal of Research on Leadership Education*, 1–23. <https://doi.org/10.1177/19427751211034214>
- Schott, C., van Roekel, H., & Tummers, L. G. (2020). Teacher leadership: A systematic review, methodological quality assessment and conceptual framework. *Educational Research Review*, 31(June), 100352. <https://doi.org/10.1016/j.edurev.2020.100352>
- Sebastian, J., Huang, H., & Allensworth, E. (2017). Examining integrated leadership systems in high schools: connecting principal and teacher leadership to organizational processes and student outcomes. *School Effectiveness and School Improvement*, 28(3), 463–488. <https://doi.org/10.1080/09243453.2017.1319392>
- Shah, S. R. (2017). The Significance of Teacher Leadership in TESOL: A Theoretical Perspective. *Arab World English Journal*, 8(4), 240–258. <https://doi.org/10.24093/awej/vol8no4.16>
- Sharar, T., & Nawab, A. (2020). Teachers' perceived teacher leadership practices: A case of private secondary schools in Lahore, Pakistan. *Social Sciences & Humanities Open*, 2(1), 100049. <https://doi.org/10.1016/j.ssaho.2020.100049>
- Sharma, S., & Al-Sinawai, S. (2019). Attitudinal Differences Towards Instructional Supervision: A Study of Teacher Beliefs and Supervisory Behaviour in Malaysia. *International Education Studies*, 12(8), 106. <https://doi.org/10.5539/ies.v12n8p106>
- Shen, J., Ma, X., Mansberger, N., Wu, H., Palmer, L. A. B., Poppink, S., & Reeves, P. L. (2021). The relationship between growth in principal leadership and growth in school performance: The teacher perspective. *Studies in Educational Evaluation*, 70(November 2019), 101023. <https://doi.org/10.1016/j.stueduc.2021.101023>
- Shen, J., Wu, H., Reeves, P., Zheng, Y., Ryan, L., & Anderson, D. (2020). The association between teacher leadership and student achievement: A meta-analysis. *Educational Research Review*, 31(August), 100357. <https://doi.org/10.1016/j.edurev.2020.100357>
- Sheppard, M., Wolfinger, M. E., & Talbert, R. (2021). Leading from the start: preservice teachers' conceptions of teacher leadership. *Teaching Education*, 32(4), 371–387. <https://doi.org/10.1080/10476210.2020.1772226>
- Smylie, M. A., & Eckert, J. (2018). Beyond superheroes and advocacy: The pathway of teacher leadership development. *Educational Management Administration and Leadership*, 46(4), 556–577. <https://doi.org/10.1177/1741143217694893>
- Szeto, E., & Cheng, A. Y. N. (2018). How do principals practise leadership for social justice in diverse school settings? A Hong Kong case study. *Journal of Educational Administration*, 56(1), 50–68. <https://doi.org/10.1108/JEA-08-2016-0087>
- Tan, C. Y., Gao, L., & Shi, M. (2020). Second-order meta-analysis synthesizing the evidence on associations between school leadership and different school outcomes. *Educational Management Administration and Leadership*. <https://doi.org/10.1177/1741143220935456>
- Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications*, 5, 147–158. <https://doi.org/10.17348/era.5.0.147-158>
- Walker, M. J. (2021). Teacher leadership in professional development schools. *Teacher Development*, 25(3), 389–392. <https://doi.org/10.1080/13664530.2021.1918861>

- Wang, M., & Ho, D. (2020). A quest for teacher leadership in the twenty-first century – emerging themes for future research. *International Journal of Educational Management*, 34(2), 354–372. <https://doi.org/10.1108/IJEM-01-2019-0038>
- Wenner, J. A., & Campbell, T. (2017). The Theoretical and Empirical Basis of Teacher Leadership: A Review of the Literature. *Review of Educational Research*, 87(1), 134–171. <https://doi.org/10.3102/0034654316653478>
- Wiyono, B. B. (2018). The effect of self-evaluation on the principals' transformational leadership, teachers' work motivation, teamwork effectiveness, and school improvement. *International Journal of Leadership in Education*, 21(6), 705–725. <https://doi.org/10.1080/13603124.2017.1318960>
- Yaacob, W. S. W., & Don, D. Y. (2018). Teacher Leadership Model: Roles and Values. *Journal of Social Science Research*, 12(1), 2556–2567. <https://doi.org/10.24297/jssr.v12i1.6994>
- Yusof, H., Ramelan, N. H., Noor, M. A. M., & Mansor, M. (2020). Exploratory and Confirmatory Factor Analysis on the Values Aspects of Teacher Leadership Model. *Universal Journal of Educational Research*, 8(12), 7085–7100. <https://doi.org/10.13189/ujer.2020.081276>
- Zain, S. (2021). Digital transformation trends in education. In *Future Directions in Digital Information* (Issue 2019). Elsevier Ltd. <https://doi.org/10.1016/b978-0-12-822144-0.00036-7>
- Zhang, J., & Yuan, R. (2020). How can professional learning communities influence teachers' job satisfaction? A mixed-method study in China. *Teachers and Teaching: Theory and Practice*, 26(3–4), 229–247. <https://doi.org/10.1080/13540602.2020.1806049>