



PHYSICS TEACHER COMPETENCIES TO DEVELOP EDUCATIONAL LEADERSHIP ROLES

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ABSTRACT

The challenges of education in the Merdeka Curriculum era direct teachers to be able to develop good educational leadership, so teachers need to have four main competencies, namely pedagogical, personality, social, and professional competencies. The purpose of this study is to explore the importance of Physics teacher competencies in developing educational leadership roles. The study was conducted at SMA N 4 Surakarta using qualitative research methods including, observation, interview, and literature study. Observations and interviews were used to obtain primary data, while a literature study was used to obtain secondary data. The results of this study indicate that Physics teacher competence plays an important role in directing the learning process, motivating students, and strengthening student learning culture as a form of teacher leadership in the classroom. The implication of this study is the need to develop Physics teachers' leadership competencies through adequate training and support so that Physics teachers can play a more effective role in facing the challenges presented by the Merdeka Curriculum and strengthen the overall educational structure. Therefore, this study emphasizes the urgency of developing Physics teachers' leadership competencies as a strategic step in strengthening education in the Merdeka Curriculum era.

Keywords: Educational Leadership, Teacher Competencies, Educational Challenges, Merdeka Curriculum

1. INTRODUCTION

Teachers are educators with a central role in education (Kusuma, 2021). Teachers are responsible for educating, mentoring, coaching, and examining students at various educational levels and sciences (Rizal et al., 2020). One of the sciences that contribute to achieving educational goals is Natural Sciences within the scope of Physics (Muhajir et al., 2021). Physics teachers have an important role in teaching Physics and shaping a generation that understands and appreciates this science (Essa & Ardaayah, 2023). Physics teachers are required to continuously develop themselves with their skills to provide professional and quality educational services to students (Isma et al., 2023). Becoming a professional Physics teacher will not materialize just like that without any effort to improve, so a serious effort is needed from Physics teachers to improve their professionalism to achieve qualifications as professional Physics teachers (Atmojo et al., 2021). One way to improve the professionalism of Physics teachers is by developing teacher competencies.

Law of Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers article 10 paragraph (1) states that the body of knowledge, abilities, and behaviors that educators need to possess to fulfill their professional responsibilities is known as teacher competency. A qualified teacher must possess a diverse array of competencies that form the foundation of the educational process, encompassing the multifaceted skills, knowledge, and abilities required to proficiently execute their roles and responsibilities as facilitators of learning to foster an effective learning environment and maximize student growth (Rohman, 2020). Physics teachers must fulfill the nationally recognized requirements for both academic credentials and teacher competencies as stated in Regulation of the Ministry of Education and Culture of the Republic of Indonesia Number 16 of 2007 Article 1. The four competencies that Physics teachers must have include pedagogical competence, personality competence, social competence, and professional competence (Saif et al., 2021). The success of physics teachers is significantly influenced by these essential competencies.

Pedagogical competence is one of the important requirements for a teacher to be called a professional in their field (Angelina et al., 2021). The ability of a teacher to oversee a student's learning process, including understanding the educational foundation, the student, curriculum development, learning design, educational



learning implementation, technology utilization, assessment of learning outcomes, and student potential development, is known as pedagogical competencies (Balulu et al., 2021). Teachers must master learning theories and principles of educational learning, and be able to apply various value approaches and value-based learning to develop students with character, not just carry out formal teaching functions (Hayati et al., 2020). These competencies are very important for Physics teachers to teach Physics professionally and successfully increase students' understanding and interest in learning Physics.

Personality competence is very important for a teacher because a steady and noble teacher personality can be a role model and set a good example for students (Safitri et al., 2021). As stipulated in Government Regulation of the Republic of Indonesia Number 74 of 2008 concerning Teachers, the requisite personality competencies for educators encompass strengthening religious faith and piety, upholding responsibility, fostering self-assurance, cultivating tolerance and openness, embracing democratic principles, exhibiting diligence and perseverance in teaching, embodying the virtues of education, promoting mutual respect, demonstrating self-awareness of strengths and weaknesses, and continuously evolving as innovative and creative professionals. Mature personality competence is very important for Physics teachers so that they can be role models, gain respect from students, and support the success of Physics learning.

Since teachers are expected to serve as role models and mentors for children, their capacity to engage with the environment and society is referred to as social competency (Mazrur et al., 2022). Communication carried out by teachers in learning has a very large role in achieving learning objectives and helping the development of positive behavior in students so the ability of teachers to communicate effectively is the key to successful learning and student development (Putri et al., 2022). Social competence is important for Physics teachers to be able to communicate and associate effectively with various parties to improve the quality of Physics learning.

A teacher's professional competence in their field of expertise is pivotal to cultivating highly competent graduates who excel in their respective disciplines, underscoring the crucial role a teacher's mastery plays in enhancing student outcomes and educational proficiency (Mulhayatiah et al., 2022). The significance of teachers' professional competency is in their capacity to create and master creative materials, as well as use information and communication technologies for learning and self-improvement, especially in the absence of in-person interactions with pupils (Reski & Bawawa, 2022). Professional competence is important so that Physics teachers can carry out Physics learning professionally and be able to produce quality student output according to established standards.

The four teacher competencies, namely pedagogic, personality, social, and professional competencies, must be possessed by every teacher including Physics teachers because professional teachers are characterized by the possession of these four competencies (Mulhayatiah et al., 2021). The four competencies are integrated into the professional teacher and have various indicators or components, but all of these indicators or components are also closely related to one another (Akbar, 2021). These teacher competencies are the basis for Physics teachers to develop their educational leadership roles.

Educational leadership refers to the capacity to guide and inspire those involved in education, fostering an environment where predetermined educational goals can be achieved efficiently and effectively (Utiahman, 2019). Teachers play a leadership role in schools that greatly influences the achievement of the objectives of the learning process (Mansyur, 2021). Educational leadership and teacher integrity affect teacher performance (Rosyati et al., 2020). A teacher must have educational leadership to face the challenges of globalization changes (Ulfah et al., 2022). Globalization changes in the world of education occur in curriculum changes, where Indonesia is currently implementing the Merdeka Curriculum as a curriculum in educational units (Ayu et al., 2022). One of the challenges faced in this implementation is the challenge of improving teacher competence in teaching with the 5.0 approach (Prastiwi & Widodo, 2023). The challenges of education in the Merdeka Curriculum era direct teachers to develop good educational leadership.

Research by Saputra et al. (2022) stated that the basic problems of teachers, including Physics teachers at SMA Negeri 1 Tirawuta, are the low competence and understanding of the implementation of the Merdeka Curriculum. They have not fully adjusted to the new paradigm of learning the Merdeka Curriculum in the classroom. In addition, Physics teachers at SMA Negeri 1 Tirawuta are also not optimal in understanding information technology that can be used in designing the learning process so it has an impact on the low



competence of teachers in the role of developing leadership roles. Problems were also found in research by Aditama et al. (2022) which states that the competence of teachers, including Physics teachers, in implementing classroom learning with the Merdeka Curriculum at Cahaya Al Quran Science High School is still low so their leadership role has not been fully formed.

Research on the role of educational leadership and professionalism of Physics teachers in efforts to improve learning quality by Atmojo et al. (2021) states that teachers must improve their mastery of IT, attend training and seminars, develop effective and efficient learning plans, and evaluate the results of the learning process. According to Hasanah et al. (2020) in their research, stated that leadership competence plays an important role in teachers. Although several studies have shown that teacher leadership contributes to improving the quality of learning and school effectiveness, there is still a gap in the understanding of the specific competencies required by Physics teachers in assuming leadership roles. Therefore, this study aims to explore the importance of Physics teachers' competencies in developing educational leadership roles.

2. METHODS

This qualitative study uses both primary and secondary sources. Primary data was obtained using observation and interview techniques. Direct field observation was used to conduct the observation technique, namely at SMA Negeri 1 and SMA Negeri 4 in Surakarta, however, the interviewing method involved asking questions of an informant, particularly the chairman of the Surakarta Physics Teacher Community at SMA Negeri 4 Surakarta. The instruments used were observation instruments and interview instruments. A literature study was conducted to gather secondary data, and the procedure involved reading, recording, and processing information from those literary resources, among other stages connected to data collecting from several sources. Referring to data analysis by Miles et al., (2014), data analysis in qualitative research is conducted before entering the field, during the field, and following fieldwork completion which includes data reduction, data presentation, and conclusion drawing.

3. RESULTS & DISCUSSION

The findings from interviews with the head of the Physics teacher community in Surakarta provide some information regarding the importance of Physics teachers' competencies in the Merdeka Curriculum to maximize their educational leadership role in the classroom. The Merdeka Curriculum encourages every teacher to play an important role in it, so teachers must be able to implement the curriculum's developments and changes by setting work priorities and skills in using technology (Marsela et al., 2022). This indicates that a teacher must also develop his competencies and skills to keep pace with the implementation of the Merdeka Curriculum.

Most Physics teachers who are members of the Physics teacher community in Surakarta realize the importance of having and developing competencies to improve educational leadership. They believe that a teacher who has good competence will have a good ability to lead the class effectively and motivate students to increase interest and learning outcomes in Physics. This is supported by Langdon, (2021) which concluded that the role of teacher leadership can determine student success in the classroom. Educational leadership in each teacher can be developed through improving teacher performance competencies so that teachers can overcome various challenges that arise in classroom management.

The Surakarta community of Physics teachers has identified several obstacles related to classroom management, such as students' lack of enthusiasm and difficulties with the subject matter. The challenges faced by Physics teachers in managing the classroom highlight the importance of developing leadership competencies through training and coaching. Teachers attempt to address these issues in discussions and daily practice by creating effective classroom management strategies. This includes teachers' ability to analyze classroom dynamics, ways to interact with students, and ways to encourage and help students overcome learning difficulties. Teachers realize that leadership skills are needed to create a conducive learning environment.

Physics teachers employ several leadership tactics, including fostering strong relationships with students, implementing student-centered learning methodologies, and offering timely feedback. The observation results show that Physics teachers with good leadership have positive relationships with their students. They are quick to respond to



students' questions or needs and stay engaged with students during the learning process. These Physics teachers also use a variety of interesting approaches to teaching, such as experiments, group discussions, and the use of technology. According to the results of interviews and observations, the leadership competence of Physics teachers has a positive impact on the learning process and students' learning motivation. Physics teachers with good leadership can create a learning environment that supports students' understanding of Physics concepts. The approach used by successful Physics teachers can be used as a reference for the professional development of Physics teachers. Of course, this needs to be supported by good teacher competencies. These competencies include the four main competencies of a teacher, namely pedagogical competence, personality competence, social competence, and professional competence.

Teachers' pedagogical competence is observed from the teacher's ability to manage the learning process and how to interact with students to understand student characters during teaching and learning activities in the classroom. Teachers do several things to improve their pedagogical abilities, starting from increasing their understanding of learning theory, effective learning principles, and learning techniques, and developing an understanding of the Merdeka Curriculum. In addition, teachers also utilize various technologies in classroom learning, create an interesting learning outcome assessment or evaluation system, and provide responsive feedback to each student. These actions are in line with the teacher's pedagogical competencies listed in Regulation of the Ministry of Education and Culture of the Republic of Indonesia Number 16 of 2007. Teacher pedagogical competence based on Wahyuningsih (2021) affects the learning outcomes achievement and student learning motivation.

Teachers' personality competence is observed from their ability to behave in their daily lives as role models for students. Teachers improve their personality competence by maintaining positive attitudes and behaviors under applicable norms, showing good work ethic and responsibility, and upholding the code of ethics of the teaching profession. Not only that, teachers also evaluate their performance to take appropriate action for continuous improvement and self-development. These actions are in line with the teacher's personality competencies listed in Regulation of the Ministry of Education and Culture of the Republic of Indonesia Number 16 of 2007. Good personality competence based on Zola & Mudjiran (2020) can help teachers increase their credibility and influence student achievement, character, attitudes, and skills because the teacher becomes a role model, inspiration, and motivator for their students.

Teachers' social competence is observed in their ability to communicate and socialize in the school environment with students, fellow teachers, and school staff. Teachers who have good social competence are usually able to communicate well, have a polite attitude, and can adapt well so that students will feel more comfortable learning in the teacher's class. Teachers with good social competence are also able to create a positive work culture and respect fellow teachers. In addition, teachers' social competence is also observed in the way teachers collaborate with parties outside the school, such as collaborating with several lecturers from nearby universities or private parties engaged in education. These actions are in line with the teacher's social competence as stated in Regulation of the Ministry of Education and Culture of the Republic of Indonesia Number 16 of 2007. Good social competence of a teacher based on Wahyuni et al. (2023) has a positive effect on the social caring character of students.

Teachers' professional competence is observed in their ability to master learning materials according to the subject they teach, in this case, Physics. Teachers with good professional competence can understand and master learning objectives, and learning outcomes, and develop learning materials creatively. Teachers also conduct classroom action research to support their professional improvement and utilize the use of information and communication technology to develop themselves. These actions are in line with the professional competencies of teachers listed in the Regulation of the Ministry of Education and Culture of the Republic of Indonesia Number 16 of 2007. A good professional competence of a teacher based on Sopandi (2019) has a positive effect on teacher performance during teaching and learning activities in the classroom.

Every teacher, including Physics teachers, can participate in various training activities, and seminars, conduct research, or join teacher community forums to help improve and develop their competence, pedagogical, personality, social and professional competencies. The results of interviews and observations show that teachers who participate in training activities or teacher communities have better competencies because each teacher has a forum to develop skills and knowledge in managing the classroom through various discussions and collaboration. In addition, the support from each school is also very influential in the development of teacher competence and leadership. This is also supported by



Kilag & Sasan (2023) who concluded that instructional leadership and a school culture that supports collaboration and discussion between teachers play an important role in professional development.

The success of teachers is determined by their commitment to carrying out their profession as professional educators which can be developed and improved through the role of educational leadership Rahmawati et al. (2020). Physics teachers who are members of the Physics teacher community in Surakarta, most of them have roles in their respective schools, such as serving as principals or vice principals. This indicates that the competencies possessed by Physics teachers are good enough to be able to develop educational leadership roles. Shen et al. (2020) also stated that a teacher with a good educational leadership role has a positive influence on student achievement and learning motivation. Overall, based on the results of interviews and observations, shows that good teacher competence affects the teacher's educational leadership role in the classroom to improve student motivation and learning outcomes.

4. CONCLUSION

This study shows that Physics teachers' competencies have an important role in the Merdeka curriculum which gives teachers the freedom and flexibility to manage learning so that teachers can develop educational leadership in the classroom. Physics teachers with good competencies can lead and manage the classroom well, thus having a positive effect on improving the quality of education and student motivation by using technology and effective teaching strategies. The study also found that Physics teachers' competencies consist of four aspects, namely pedagogical, personal, social, and professional, which need to be developed continuously by teachers. This study implies that Physics teachers need to get support from schools, government, and society to improve their competencies through various activities, such as seminars, training, research, and teacher communities. A suggestion from this study is that Physics teachers need to conduct regular reflection and self-evaluation to identify their strengths and weaknesses in teaching. A limitation of this study is that it only involved a limited sample of Physics teachers in a few schools, so the results may not be generalizable to all Physics teachers in Indonesia. This study also did not measure the long-term impact of Physics teachers' competencies on student learning outcomes. Therefore, further studies with larger samples and longer periods are needed to test the hypotheses and findings of this study.

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REFERENCES

- Aditama, M. G., Shofyana, M. H., Muslim, R. I., Pamungkas, I., & Susiati, S. (2022). Peningkatan kompetensi guru dalam project based learning melalui temu pendidik daerah. *Buletin KKN Pendidikan*, 4(1), 90–98. <https://doi.org/10.23917/bkkndik.v4i1.18215>
- Akbar, A. (2021). Pentingnya kompetensi pedagogik guru. *JPG: Jurnal Pendidikan Guru*, 2(1), 23–30. <https://doi.org/10.32832/jpg.v2i1.4099>
- Angelina, P., Kartadinata, S., & Budiman, N. (2021). Kompetensi pedagogis guru di era disrupsi pendidikan dalam pandangan islam. *Ta'dibuna: Jurnal Pendidikan Islam*, 10(2), 305–318. <https://doi.org/10.32832/tadibuna.v10i2.4863>
- Atmojo, H. B. R., Lian, B., & Mulyadi, M. (2021). Peran kepemimpinan dan profesional guru terhadap perbaikan mutu pembelajaran. *Jurnal Educatio FKIP UNMA*, 7(3), 744–752. <https://doi.org/10.31949/educatio.v7i3.1217>
- Ayu, A., Ningsih, W., & Muntahibun, M. (2022). Dialektika pendidik dan perubahan kurikulum di masa pandemi.



- Jurnal Dinamika Penelitian: Media Komunikasi Sosial Keagamaan*, 21(2), 367–384.
<https://ejournal.uinsatu.ac.id/index.php/dinamika/article/view/4922>
- Balulu, N., Masrifah, & Eki, L. (2021). Analisis kompetensi pedagogik guru IPA SMP Kota Ternate dalam pembelajaran literasi sains. *Luminous*, 2(2), 24–29.
<https://doi.org/https://doi.org/10.31851/luminous.v2i2.6279>
- BPK Republik Indonesia. (2007). Peraturan Menteri Pendidikan Nasional Republik Indonesia Nomor 16 Tahun 2007. 2–31. <https://peraturan.bpk.go.id/Details/216104/permendikbud-no-16-tahun-2007>
- BPK Republik Indonesia. (2005). Undang-Undang Republik Indonesia Nomor 14 Tahun 2005 tentang guru dan dosen. *Jakarta: Sekretariat Negara*, 1–14. <https://peraturan.bpk.go.id/Details/40266/uu-no-14-tahun-2005>
- BPK Republik Indonesia. (2008). Peraturan Pemerintah Republik Indonesia Nomor 74 Tahun 2008 tentang Guru. 1–25. <https://peraturan.bpk.go.id/Details/4892/pp-no-74-tahun-2008>
- Essa, A. A., & Ardaayah, R. (2023). Fisika fantastis: Guru-guru yang membawa sains ke kehidupan. *SOKO GURU: Jurnal Ilmu Pendidikan*, 3(3), 66–72. <https://doi.org/10.55606/sokoguru.v3i3.3014>
- Hasanah, A., Utami, I. H., & Kusainun, N. (2020). Pentingnya kompetensi leadership pada guru MI. *Indonesian Journal of Islamic Educational Management*, 3(1), 10–20.
<https://ejournal.uin-suska.ac.id/index.php/IJIEM/article/view/9147>
- Hayati, S., Aini, I., & Guntara, Y. (2020). Analisis persepsi guru dan calon guru fisika terkait sumber belajar, media pembelajaran, dan bahan ajar. *Prosiding Seminar Nasional Pendidikan Fisika*, 3(1), 295–300.
<https://jurnal.untirta.ac.id/index.php/sendikfi/article/view/9701>
- Isma, A. (2023). Peta permasalahan pendidikan abad 21 di Indonesia. *Jurnal Pendidikan Terapan*, 1(3), 11–28.
<https://doi.org/10.61255/jupiter.v1i3.153>
- Kilag, O. K. T. & Sasan, J. M. (2023). Unpacking the role of instructional leadership in teacher professional development. *Advanced Qualitative Research*, 1(1), 63–73. <https://doi.org/10.31098/aqr.v1i1.1380>
- Kusuma, Y. Y. (2021). Analisis kesiapan guru kelas dalam mengimplementasikan pembelajaran tematik di masa pandemi Covid-19 di SD Pahlawan. *Jurnal Pendidikan Dan Konseling (JPDK)*, 3(2), 50–55.
<https://doi.org/10.31004/jpdk.v3i2.1633>
- Langdon W. L. (2021). The importance of teacher leadership skills in the classroom. *Education Journal*, 10(1), 8.
<https://doi.org/10.11648/j.edu.20211001.12>
- Mansyur, A. R. (2021). Wawasan kepemimpinan guru (teacher leadership) dan konsep guru penggerak. *Education and Learning Journal*, 2(2), 101–109.
<https://doi.org/http://dx.doi.org/10.33096/eljour.v2i2.131>
- Marsela Y, Divana, L.A., Siti N., & Anjani, Putri B. P. (2022). Peran guru dalam mengembangkan kurikulum merdeka. *Jurnal Ilmu Pendidikan dan Sosial*, 1(3), 290–298. <https://doi.org/10.58540/jipsi.v1i3.53>
- Mazrur, Surawan, & Yuliani. (2022). Kontribusi kompetensi sosial guru dalam membentuk karakter siswa. *Attractive : Innovative Education Journal*, 4(2), 281–287.
<https://attractivejournal.com/index.php/aj/article/view/452>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis* (3rd ed.). *SAGE*.
- Muhajir, S. N., Masara, A., & Ramdani, G. (2021). Literasi sains mahasiswa calon guru fisika. *Jurnal Pendidikan Dan Ilmu Fisika*, 1(1), 24–28. <https://journal.uniga.ac.id/index.php/jpif/article/view/1259/968>
- Mulhayatiah, D., Agnia, L. S., & Suhendi, H. Y. (2021). Analisis Kompetensi Pedagogical Content Knowledge Calon Guru Fisika Berdasarkan Instrumen CoRe dan PaP-eRs Pada Materi Gelombang Bunyi. *Jurnal*



- Penelitian Pembelajaran Fisika*, 12(1), 37–46. <https://doi.org/10.26877/jp2f.v12i1.7912>
- Mulhayatiah, D., Sinaga, P., & Hidayatulloh, R. (2022). Analisis Kebutuhan Pengembangan Bahan Ajar Berbasis Multi Representasi Untuk Meningkatkan Kompetensi Guru Fisika. *SPEKTRA: Jurnal Kajian Pendidikan Sains*, 8(1), 64–73. <https://doi.org/10.32699/spektra.v8i1.229>
- Prastiwi, M. A., & Widodo, A. (2023). Peran kepemimpinan kepala madrasah di era 5.0, pendidikan dan teknologi, pada kompetensi 21st century. *PRIMER: Jurnal Ilmiah Multidisiplin*, 1(5), 536–544. <https://doi.org/10.55681/primer.v1i5.211>
- Putri, V. W., Sulastri, Rifma, & Adi, N. (2022). Persepsi siswa terhadap kompetensi sosial guru di Sekolah Menengah Kejuruan Negeri Kabupaten Padang Pariaman. *Journal of Educational Administration and Leadership (JEAL)*, 2(4), 347–353. <https://doi.org/https://doi.org/10.24036/jeal.v2i4.287>
- Rahmawati, I., Permana, J., Gaffar, M. F., & Prihatin, E. (2020). Role of global leadership and capacity building in increasing teacher's profession commitment. *KnE Social Sciences*, 2020, 472–477. <https://doi.org/10.18502/kss.v4i14.7905>
- Reski, A., & Bawawa, M. (2022). Pelatihan penyusunan bahan ajar online interaktif untuk meningkatkan kompetensi profesional Guru MA Al-Munawwaroh Merauke. *ABDIKAN: Jurnal Pengabdian Masyarakat Bidang Sains Dan Teknologi*, 1(2), 283–288. <https://doi.org/10.55123/abdikan.v1i2.302>
- Rizal, R., Susanti, E., Sulistyaningsih, D., & Budiman, D. M. (2020). Desain evaluasi program pelatihan guru fisika profesional. *Diffraction: Journal for Physics Education and Applied Physics*, 2(1), 30–37. <https://doi.org/10.37058/diffraction.v2i1.1695>
- Rohman, H. (2020). Pengaruh kompetensi guru terhadap kinerja guru. *Jurnal MADINASIKA Manajemen Dan Keguruan*, 1(2), 92–102. <https://ejournal.unma.ac.id/index.php/madinasika/article/view/481>
- Rosyati, T., Saprudin, S., & Alaydrus, A. S. (2020). Kinerja OCB pada guru PAUD ditinjau dari educational leadership dan integritas. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 5(1), 201–200. <https://doi.org/https://doi.org/10.31004/obsesi.v5i1.513>
- Safitri, E., Setiawati, Y. H., & Suryana, A. (2021). Pengaruh kompetensi kepribadian guru terhadap akhlak siswa di SMK Cendekian Muslim Nanggung-Bogor. *Transformasi Manageria: Journal of Islamic Education Management*, 1(1), 30–53. <https://doi.org/10.47467/manageria.v1i1.270>
- Saif, A., Jannah, M., & Rahmati. (2021). Analisis kemampuan mahasiswa PPL pendidikan fisika dalam menerapkan kompetensi pedagogik pada masa covid-19. *The 2nd Education, Sciences and Technology International Conference 2021*, 167–177. <https://jurnal.ar-raniry.ac.id/index.php/estetic/article/view/13964>
- Saputra, I. G. P. E., Sukariasih, L., & Muchlis, N. F. (2022). Penyusunan modul proyek penguatan profil pelajar pancasila (P5) menggunakan flip pdf profesional bagi guru SMA Negeri 1 Tirawuta: Persiapan implementasi kurikulum merdeka. *Prosiding Seminar Nasional UNIMUS*, 5, 1941–1954. <https://prosiding.unimus.ac.id/index.php/semnas/article/view/1165>
- 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(October 2019), 100357. <https://doi.org/10.1016/j.edurev.2020.100357>
- Sopandi, A. (2019). Pengaruh kompetensi profesional dan kompetensi kepribadian terhadap kinerja guru. *Scientific Journal Of Reflection: Economic, Accounting, Management and Business*, 2(2), 121–130. <https://doi.org/https://doi.org/10.37481/sjr.v2i2.58>
- Ulfah, U., Supriani, Y., & Arifudin, O. (2022). Kepemimpinan pendidikan di era disrupsi. *JiIP - Jurnal Ilmiah Ilmu Pendidikan*, 5(1), 153–161. <https://doi.org/https://doi.org/10.54371/jiip.v5i1.392>



- Utiahman, T. B. (2019). Meningkatkan kompetensi pedagogik guru melalui pelatihan berjenjang. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, 5(3), 215–222. <https://doi.org/10.37905/aksara.5.3.215-222.2019>
- Wahyuni, E., Hambali, & Hardian, M. (2023). Pengaruh kompetensi sosial guru terhadap karakter peduli sosial siswa di SMAN 1Pangean. *Journal on Teacher Education*, 4(3), 443–445.
- Wahyuningsih, R. (2021). Prestasi belajar siswa : kompetensi pedagogik guru dan motivasi belajar siswa. *Jurnal Paedagogy*, 8(2), 117. <https://doi.org/10.33394/jp.v8i2.3472>
- Zola, N. & Mudjiran, M. (2020). Analisis urgensi kompetensi kepribadian guru. *Jurnal EDUCATION: Jurnal Pendidikan Indonesia*, 6(2), 88–93. <https://doi.org/https://doi.org/10.29210/120202701>