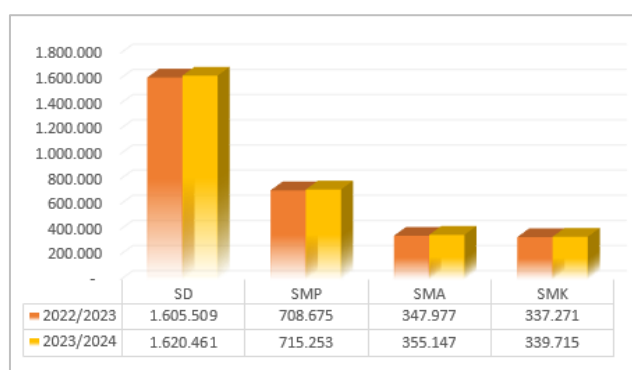


many teachers still struggle to fully master this competence despite having certifications, highlighting the need for continuous training and professional development.

In addition to training, teacher commitment plays a crucial role in professionalism. Teachers with strong awareness, responsibility, and loyalty tend to carry out their duties more effectively, thus improving the quality and effectiveness of learning. This strong commitment enhances motivation, work ethic, and dedication, enabling teachers to explore and develop students' potential to the fullest.

Another essential factor is the integration of technology and information in education. The use of hardware and software in teaching enables more interactive, efficient, and high-quality learning processes. Educational technology supports teachers in delivering lessons, improving student competence, and expanding learning resources.

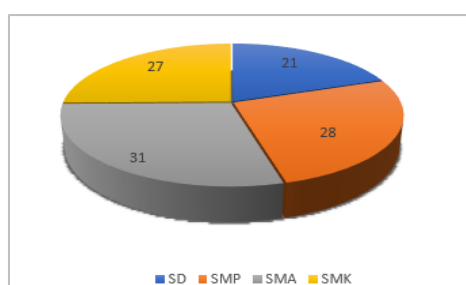


Source: (Education Statistics, 2024)

Figure 1. Number of Teachers by Level of Education

The higher the level of education, the fewer teachers are available. The largest composition of teachers is at the elementary school (SD) level, with approximately 1.6 million teachers. At the junior high school (SMP) level, the number is about half that of elementary school, totaling around 715 thousand teachers. Meanwhile, at the senior high school (SMA) and vocational high school (SMK) levels, the numbers are 355 thousand and 339 thousand teachers, respectively.

Although the total number of teachers has increased, achieving an ideal and evenly distributed teacher allocation remains a challenge. This condition affects the workload of teachers in different regions, which can be seen through the student-teacher ratio. Government Regulation No. 74 of 2008 on Teachers, Article 17, stipulates that at the SD, SMP, and SMA levels, one teacher should ideally be responsible for 20 students, while at the SMK level, one teacher should be responsible for 15 students. In the 2023/2024 Academic Year, the student-teacher ratio at all levels of education still meets the ideal standards set by the regulation.



Source: (Education Statistics, 2024)

Figure 2. Ratio of Students per Class Group (Rombel) by Level of Education

In the 2023/2024 Academic Year, the ratio of students per class group at each educational level already falls within the range of the prevailing regulations. The smallest ratio of students per class group is found at the SD level, while the highest ratio is at the SMA level. At the SD level, each class group consists of 21 students, meaning that each elementary school class accommodates 21 learners. Meanwhile, at the SMA level, each class group consists of 31 students, which exceeds the government's ideal limit for the maximum number of students per class. This limit is established to ensure that teaching and learning processes run effectively and that teachers can provide sufficient attention and guidance to all students.

Such overcrowding may cause teachers to struggle in giving adequate attention to each student, particularly those requiring special assistance. In large classes, students may feel less engaged in discussions or other learning activities. Moreover, a crowded classroom environment tends to be less conducive to effective learning, as disruptions are more likely to occur. Overall, the number of students exceeding the ideal capacity can significantly affect teacher professionalism, teaching quality, and student learning outcomes. Therefore, concrete efforts from the government, schools, and communities are necessary to address this issue so that education can be delivered optimally.

Based on data from the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) in 2024, the number of teachers holding professional teaching certificates in Indonesia declined from 1,392,155 in 2019 to 1,274,486 in 2023. This decrease is attributed to several factors, including the high number of non-certified honorary teachers, limited certified teacher input to fill regional gaps, and the absence of a fully developed professional teacher ecosystem. To address this issue, the government has initiated reforms in the Teacher Professional Education (PPG) program, focusing on a more efficient certification process. Without such transformation, it is estimated that fulfilling the certification of 1.6 million teachers could take until 2045. Currently, less than 50% of teachers nationwide are certified, with the highest proportion at the junior high school (SMP) level (48.44%), followed by primary school (SD) (45.77%), and the lowest at vocational high schools (SMK) (28.49%). Certification, as mandated by Law No. 14 of 2005 on Teachers and Lecturers, is essential to ensure teacher competence and improve educational quality.

The persistence of uncertified teachers reflects ongoing challenges in Indonesia's education system. At the local level, data from 2025 show that among 126 teachers in several junior high schools, 113 are certified while 13 are not. The lack of certification may lead to several negative impacts, including reduced professionalism, lower teaching quality, and difficulties in meeting national education standards. Certified teachers are expected to demonstrate commitment to professional growth and keep up with educational developments, whereas uncertified teachers risk being less effective in facilitating student learning. Consequently, uncertified teachers could hinder the achievement of national education goals and the improvement of learning outcomes, underscoring the urgency of accelerating teacher certification programs.

METHODS

This research employs a quantitative research method with a descriptive design, which aims to clearly describe a situation by focusing on specific objects and often highlighting relationships between variables. The nature of this study is correlational, which seeks to determine whether relationships exist, their extent, and their significance. The research was conducted at public junior



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high schools (SMP Negeri) in Sei Beduk District, Batam City, over a period of five months, from November 2024 to March 2025. The population consists of 126 teachers working in SMP Negeri across Sei Beduk District. The sampling technique used is the census method, as the population exceeds 100 respondents, meaning the entire population was included as the research sample.

The data in this study consist of both primary and secondary sources. Primary data were collected directly from respondents through questionnaires measuring responses to five research variables. Secondary data, on the other hand, were obtained indirectly from various sources such as documents, reports, books, articles, journals, and other relevant information supporting the study. Data collection was conducted using questionnaires containing written questions or statements to be answered by respondents. This method was chosen because it is efficient, practical, and effective in gathering data directly from junior high school teachers in Sei Beduk District, Batam City.

RESULT AND DISCUSSION

Direct Effect Testing. Hypothesis testing was carried out to examine the effect of independent variables on the dependent variable. The hypothesis testing was conducted using the t-test with a 5% alpha level. If the obtained p-value < 0.05 and the t-statistic > t-table, it can be concluded that the proposed hypothesis is supported and significant. The t-table value in this study is 1.96.

Table 2. Direct Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Professional Education and Training (X1) -> Pedagogical Competence (Z)	0,166	0,163	0,058	2,870	0,004
Teacher Commitment (X2) -> Pedagogical Competence (Z)	0,251	0,251	0,072	3,466	0,001
Technology & Information (X3) -> Pedagogical Competence (Z)	0,597	0,600	0,062	9,645	0,000
Professional Education and Training (X1) -> Teacher Professionalism (Y)	0,101	0,106	0,063	1,615	0,107
Teacher Commitment (X2) -> Teacher Professionalism (Y)	0,069	0,075	0,065	1,072	0,284
Technology & Information (X3) -> Teacher Professionalism (Y)	0,404	0,410	0,074	5,490	0,000
Pedagogical Competence (Z) -> Teacher Professionalism (Y)	0,417	0,410	0,078	5,329	0,000

Source: SMART-PLS 3.0, 2025

Based on Table 2, the testing of direct effects can be described as follows:

1. The variable Professional Education and Training (X1) has a positive regression coefficient of 0.166. It means that if Professional Education and Training (X1) increases by 1 unit, then Pedagogical Competence (Z) will increase by 0.166, assuming other independent variables remain constant. The variable Professional Education and Training (X1) on Pedagogical



Competence (Z) has a p-value of $0.004 < 0.05$ with a t-statistic of $2.870 > t$ -table value of 1.96, indicating that Professional Education and Training has a significant positive effect on Pedagogical Competence (H1 Accepted).

2. The variable Teacher Commitment (X2) has a positive regression coefficient of 0.251. It means that if Teacher Commitment (X2) increases by 1 unit, then Pedagogical Competence (Z) will increase by 0.251, assuming other independent variables remain constant. The variable Teacher Commitment (X2) on Pedagogical Competence (Z) has a p-value of $0.001 < 0.05$ with a t-statistic of $3.466 > t$ -table value of 1.96, indicating that Teacher Commitment has a significant positive effect on Pedagogical Competence (H2 Accepted).
3. The variable Technology and Information (X3) has a positive regression coefficient of 0.597. It means that if Technology and Information (X3) increases by 1 unit, then Pedagogical Competence (Z) will increase by 0.597, assuming other independent variables remain constant. The variable Technology and Information (X3) on Pedagogical Competence (Z) has a p-value of $0.000 < 0.05$ with a t-statistic of $9.645 > t$ -table value of 1.96, indicating that Technology and Information has a significant positive effect on Pedagogical Competence (H3 Accepted).
4. The variable Professional Education and Training (X1) has a positive regression coefficient of 0.101. It means that if Professional Education and Training (X1) increases by 1 unit, then Teacher Professionalism (Y1) will increase by 0.101, assuming other independent variables remain constant. The variable Professional Education and Training (X1) on Teacher Professionalism (Y1) has a p-value of $0.107 > 0.05$ with a t-statistic of $1.615 < t$ -table value of 1.96, indicating that Professional Education and Training has a positive but not significant effect on Teacher Professionalism (H4 Rejected).
5. The variable Teacher Commitment (X2) has a positive regression coefficient of 0.069. It means that if Teacher Commitment (X2) increases by 1 unit, then Teacher Professionalism (Y1) will increase by 0.069, assuming other independent variables remain constant. The variable Teacher Commitment (X2) on Teacher Professionalism (Y1) has a p-value of $0.284 > 0.05$ with a t-statistic of $1.072 < t$ -table value of 1.96, indicating that Teacher Commitment has a positive but not significant effect on Teacher Professionalism (H5 Rejected).
6. The variable Technology and Information (X3) has a positive regression coefficient of 0.404. It means that if Technology and Information (X3) increases by 1 unit, then Teacher Professionalism (Y1) will increase by 0.404, assuming other independent variables remain constant. The variable Technology and Information (X3) on Teacher Professionalism (Y1) has a p-value of $0.000 < 0.05$ with a t-statistic of $5.490 > t$ -table value of 1.96, indicating that Technology and Information has a significant positive effect on Teacher Professionalism (H6 Accepted).
7. The variable Pedagogical Competence (Z) has a positive regression coefficient of 0.417. It means that if Pedagogical Competence (Z) increases by 1 unit, then Teacher Professionalism (Y1) will increase by 0.417, assuming other independent variables remain constant. The variable Pedagogical Competence (Z) on Teacher Professionalism (Y1) has a p-value of $0.000 < 0.05$ with a t-statistic of $5.329 > t$ -table value of 1.96, indicating that Pedagogical Competence has a significant positive effect on Teacher Professionalism (H7 Accepted).

Indirect Effect Testing. The hypothesis testing of indirect effects aims to prove the hypotheses of the influence of one variable on another variable indirectly (through an intervening variable). If

the value of the indirect effect coefficient > direct effect coefficient, then the intervening variable mediates the relationship between one variable and another. Conversely, if the value of the indirect effect coefficient < direct effect coefficient, then the intervening variable does not mediate the relationship between one variable and another.

Table 3. Indirect Effect

	Original Sample (O)	Sample Mean (M)	Std. Deviation	T Statistics	P Values
Professional Education and Training (X1) > Pedagogical Competence (Z) > Teacher Professionalism (Y)	0,069	0,067	0,029	2,427	0,016
Teacher Commitment (X2) > Pedagogical Competence (Z) > Teacher Professionalism (Y)	0,105	0,102	0,034	3,082	0,002
Technology and Information (X3) > Pedagogical Competence (Z) > Teacher Professionalism (Y)	0,249	0,246	0,055	4,552	0,000

Source: SMART-PLS 3.0, 2025

Based on Table 3, the testing of indirect effects can be described as follows:

1. The indirect regression coefficient value of 0.069 indicates that when Professional Education and Training (X1) increases by 1 unit, there will be an increase in Teacher Professionalism (Y1) of 0.069 units through the increase of Pedagogical Competence (Z), assuming other independent variables remain constant. The higher the Professional Education and Training, the higher the teacher's Pedagogical Competence, which ultimately contributes to the improvement of Teacher Professionalism. The variable Pedagogical Competence (Z) mediates the effect of Professional Education and Training (X1) on Teacher Professionalism (Y1) with a p-value of 0.016 < 0.05 and a t-statistic of 2.427 > t-table value of 1.96, thus Pedagogical Competence has a significant positive mediating effect on Professional Education and Training towards Teacher Professionalism (H8 Accepted).
2. The indirect regression coefficient value of 0.105 indicates that when Teacher Commitment (X2) increases by 1 unit, there will be an increase in Teacher Professionalism (Y1) of 0.105 units through the increase of Pedagogical Competence (Z), assuming other independent variables remain constant. The higher the Teacher Commitment, the higher the teacher's Pedagogical Competence, which ultimately contributes to the improvement of Teacher Professionalism. The variable Pedagogical Competence (Z) mediates the effect of Teacher Commitment (X2) on Teacher Professionalism (Y1) with a p-value of 0.002 < 0.05 and a t-statistic of 3.082 > t-table value of 1.96, thus Pedagogical Competence has a significant positive mediating effect on Teacher Commitment towards Teacher Professionalism (H9 Accepted).
3. The indirect regression coefficient value of 0.249 indicates that when Technology and Information (X3) increases by 1 unit, there will be an increase in Teacher Professionalism (Y1) of 0.249 units through the increase of Pedagogical Competence (Z), assuming other independent variables remain constant. The higher the Technology and Information, the higher the teacher's

Pedagogical Competence, which ultimately contributes to the improvement of Teacher Professionalism. The variable Pedagogical Competence (Z) mediates the effect of Technology and Information (X3) on Teacher Professionalism (Y1) with a p-value of $0.000 < 0.05$ and a t-statistic of $4.552 > t\text{-table value of } 1.96$, thus Pedagogical Competence has a significant positive mediating effect on Technology and Information towards Teacher Professionalism (H10 Accepted).

The Influence of Professional Education and Training on Teachers' Pedagogical Competence. The positive and significant influence between Professional Education and Training and Pedagogical Competence means that the higher the level of education, the better the quality of education, and the more frequent the training attended by teachers, the higher their pedagogical competence will be. Advanced education increases teachers' reflective awareness, which directly contributes to the improvement of pedagogical competence. Professional training can enhance teachers' ability to adapt learning to students' needs (pedagogical adaptability).

The results of this study support previous research conducted by Pratama & Lestari (2020) and Nursiah (2023), which found that Professional Education and Training have a positive and significant effect on Pedagogical Competence.

The Influence of Teacher Commitment on Teachers' Pedagogical Competence. The positive and significant influence between Teacher Commitment and Pedagogical Competence means that high commitment will increase motivation for learning and development, which in turn will improve teachers' pedagogical competence. A teacher with high commitment will be at the level of self-actualization, which encourages them to become reflective and professional educators. It also implies that the level of dedication and earnestness of a teacher toward their profession greatly influences their ability to design, implement, and evaluate learning effectively.

The results of this study are consistent with the research conducted by Naro (2017) and Amelia et al. (2022), which state that Teacher Commitment has a positive and significant effect on Pedagogical Competence.

The Influence of Technology and Information on Teachers' Pedagogical Competence. The positive and significant influence of Technology and Information and Pedagogical Competence means that the higher the use of technology and information, the better the level of pedagogical competence. Teachers who frequently and effectively use technology and information in learning activities tend to have higher pedagogical competence. It means that the intensity and quality of ICT (Information and Communication Technology) usage by teachers, directly or indirectly, improve their pedagogical ability.

The results of this study are consistent with research conducted by Rahma et al. (2021) and A. S. Hidayat et al. (2024), which state that Technology and Information have a positive and significant effect on Pedagogical Competence.

The Influence of Professional Education and Training on Teacher Professionalism. The results of the study show that professional education and training have a positive but not significant effect on teacher professionalism. It means that although the direction of the relationship indicates that an increase in education and training tends to be followed by an increase in professionalism, the effect is not statistically strong enough to be considered significant. The higher or the more frequently teachers attend professional education and training, the more their level of

professionalism tends to increase. However, the influence is not statistically significant (a weak relationship). It could happen because there is not enough evidence to conclude that professional education and training truly have a major impact on improving teacher professionalism.

The results of this study support previous research conducted by Suparman (2019), Rahayu (2020), and Sari & Kurniawan (2021), which found that Professional Education and Training have a positive but not significant effect on Teacher Professionalism.

The Influence of Teacher Commitment on Teacher Professionalism. The results of the study show that teacher commitment has a positive influence, but it is not statistically significant on teacher professionalism. In general, teachers with high commitment to their profession tend to show a higher level of professionalism, but this relationship is not strong or consistent enough in the data to be concluded as scientifically significant. Commitment is not always reflected in professional behavior. A teacher may feel highly committed, but may not necessarily demonstrate professional actions in their daily tasks. For example, a teacher may be morally committed but unable to manage the classroom effectively or update their teaching methods.

The results of this study are consistent with previous research by Arifin & Mulyani (2019), Sutrisno (2020), and Hasibuan & Mulyani (2020), which state that Teacher Commitment has a positive but not significant effect on Teacher Professionalism.

The Influence of Technology and Information on Teacher Professionalism. The results of this study indicate that the use of technology and information (TI) by teachers significantly and positively affects the improvement of their professionalism. In other words, the higher the mastery and utilization of technology and information by teachers, the higher the level of professionalism they demonstrate in carrying out their professional duties and responsibilities. Technology and information facilitate teachers in carrying out various aspects of their professional tasks, such as learning innovation, data-based evaluation, and openness to change. Teachers who master technology demonstrate initiative to grow and openness to change, which are important indicators of professional attitudes.

The results of this study support previous research by Jamu (2020) and Putri et al. (2022), which found that Technology and Information have a positive and significant effect on Teacher Professionalism.

The Influence of Teachers' Pedagogical Competence on Teacher Professionalism. These results indicate that the higher the pedagogical competence of a teacher, the higher their level of professionalism. A significant positive influence means that if pedagogical competence increases, teacher professionalism also tends to increase significantly. It means that strengthening pedagogical competence directly contributes to the improvement of teachers' professional attitudes and actions in carrying out their duties.

Pedagogical competence makes a real contribution to the enhancement of teacher professionalism. Teachers who are able to manage the learning process effectively, understand student characteristics, design lesson plans properly, and conduct objective evaluations demonstrate professional attitudes in performing their duties. Research shows that there is a close relationship between the level of pedagogical competence and the level of teacher professionalism. The higher the pedagogical competence a teacher has, the greater their tendency to demonstrate professional attitudes and actions in the learning process.

The results of this study support previous research by Nurjanati, D., Martono, and Sawiji (2018) and Janati et al. (2024), which found that Pedagogical Competence has a positive and significant effect on Teacher Professionalism.

Teachers' Pedagogical Competence Mediates the Influence of Professional Education and Training on Teacher Professionalism. The results of the study show that pedagogical competence plays a significant mediating role between professional education and training and teacher professionalism. It means that education and training provided to teachers do not directly increase their professionalism, but will have a more significant impact if first accompanied by an increase in pedagogical competence. In other words, the better the quality of professional education and training received by teachers, the higher their pedagogical competence will be, which in turn will encourage an increase in professionalism in carrying out their duties as educators. When teachers' pedagogical competence increases, they will be able to implement more professional learning practices, demonstrate a high level of responsibility, and perform their roles ethically and effectively in the school environment.

Teachers' Pedagogical Competence Mediates the Influence of Teacher Commitment on Teacher Professionalism. The results of the study show that pedagogical competence plays a positive and significant mediating role in the relationship between teacher commitment and teacher professionalism. These findings indicate that teacher commitment, which reflects responsibility, loyalty, and dedication to the profession, does not directly increase professionalism if it is not accompanied by adequate mastery of pedagogical competence. In other words, high commitment will have a stronger impact on professionalism if the teacher also has good pedagogical competence. Teachers who are highly committed to their duties will be motivated to continue learning, improve teaching methods, and increase their understanding of students' characteristics. This process strengthens their pedagogical competence. Thus, pedagogical competence becomes a mediator of teacher commitment toward actual professional practice.

Teachers' Pedagogical Competence Mediates the Influence of Technology and Information on Teacher Professionalism. The results of the study show that pedagogical competence plays a positive and significant mediating role in the relationship between the use of technology and information and teacher professionalism. It means that the use of technology and information by teachers does not directly increase their professionalism unless accompanied by the strengthening of pedagogical competence. In this context, pedagogical competence acts as an important bridge that links the use of technology with the improvement of teachers' professional quality and attitudes. Teachers who master technology but do not understand how to integrate it pedagogically into the learning process do not necessarily demonstrate professional behavior. Conversely, teachers with pedagogical competence are able to transform the use of technology into an effective and meaningful tool for improving the quality of learning.

The Influence of Professional Education and Training, Teacher Commitment, and Technology and Information Together on Teachers' Pedagogical Competence. The influence of Professional Education and Training (X1), Teacher Commitment (X2), and Technology and Information (X3) on Pedagogical Competence (Z) is 0.517. It means that the influence of Professional Education and Training (X1), Teacher Commitment (X2), and Technology and Information (X3) on Pedagogical Competence (Z) is 51.7%. Other variables outside the variables in this study influence the remaining 48.3%. It is categorized as a moderate influence.



Professional education and training, teacher commitment, and mastery of technology and information; these three variables together have a positive and significant influence on pedagogical competence. Investment in training, improving teacher motivation and commitment, as well as technology integration, is crucial for enhancing the quality of teaching.

The Influence of Professional Education and Training, Teacher Commitment, Technology and Information, and Teachers' Pedagogical Competence Together on Teacher Professionalism.

The influence of Professional Education and Training (X1), Teacher Commitment (X2), Technology and Information (X3), and Pedagogical Competence (Z) on Teacher Professionalism (Y1) is 0.631. It means that the influence of Professional Education and Training (X1), Teacher Commitment (X2), Technology and Information (X3), and Pedagogical Competence (Z) on Teacher Professionalism (Y1) is 63.1%. Other variables outside the variables in this study influence the remaining 36.9%. It is categorized as a moderate influence.

Professional education and training, teacher commitment, mastery of technology and information, and pedagogical competence; these four variables together have a positive and significant influence on teacher professionalism. Teachers who continue to learn, are dedicated, technologically literate, and master teaching strategies tend to demonstrate a high level of professionalism in practice.

CONCLUSION

Based on the findings of the data analysis, the following conclusions can be drawn:

1. The variable of Professional Education and Training has a positive and significant effect on Teachers' Pedagogical Competence (H1 Accepted).
2. The variable of Teacher Commitment has a positive and significant effect on Teachers' Pedagogical Competence (H2 Accepted).
3. The variable of Technology and Information has a positive and significant effect on Teachers' Pedagogical Competence (H3 Accepted).
4. The variable of Professional Education and Training has a positive but not significant effect on Teacher Professionalism (H4 Rejected).
5. The variable of Teacher Commitment has a positive but not significant effect on Teacher Professionalism (H5 Rejected).
6. The variable of Technology and Information has a positive and significant effect on Teacher Professionalism (H6 Accepted).
7. The variable of Teachers' Pedagogical Competence has a positive and significant effect on Teacher Professionalism (H7 Accepted).
8. Teachers' Pedagogical Competence has a positive and significant mediating effect between Professional Education and Training and Teacher Professionalism (H8 Accepted).
9. The variable of Teachers' Pedagogical Competence has a positive and significant mediating effect between Teacher Commitment and Teacher Professionalism (H9 Accepted).
10. The variable of Teachers' Pedagogical Competence has a positive and significant mediating effect between Technology and Information and Teacher Professionalism (H10 Accepted).
11. The variables of Professional Education and Training, Teacher Commitment, and Technology and Information together have a positive and significant effect on Teachers' Pedagogical Competence (H11 Accepted).

12. The variables of Professional Education and Training, Teacher Commitment, Technology and Information, and Teachers' Pedagogical Competence together have a positive and significant effect on Teacher Professionalism (H12 Accepted).

Based on the research findings, several recommendations can be provided to improve teacher professionalism through pedagogical competence, commitment, and the use of technology:

1. Teachers should actively participate in programs that not only improve professional knowledge but also strengthen pedagogical skills. Training should balance mastery of teaching materials and effective delivery according to student characteristics.
2. Schools should create a supportive work environment, provide recognition for achievements, involve teachers in decision-making, and offer professional development opportunities to enhance motivation, loyalty, and dedication.
3. Schools and educational institutions should provide continuous, need-based training in integrating technology into teaching, including pedagogical approaches. Adequate technological facilities and ongoing support are essential to foster innovative and adaptive teaching practices.
4. Professional development programs should integrate technology, pedagogical skills, and teacher commitment. Recognition and rewards for achievements can enhance motivation and professional growth.
5. Future studies are recommended to include additional variables such as motivation, leadership, organizational culture, and local wisdom to obtain a more comprehensive understanding of factors influencing teacher professionalism.

The results of this study offer insights and practical guidance for educational development:

1. A combination of professional education, commitment, technology use, and pedagogical competence shapes teacher professionalism. Understanding the interplay of these factors provides a framework for developing sustainable professionalism among teachers.
2. Implementing programs that enhance professional knowledge, strengthen commitment, and promote effective technology use can significantly improve teachers' pedagogical competence and overall professionalism, thereby enhancing the quality of education and student learning experiences.
3. This study provides a basis for causal research. Future studies can verify or refine these findings, ensuring more credible and generalizable results in the context of educational research.

REFERENCES

- Amelia, A., Ardani Manurung, K., & Daffa Baihaqi Purnomo, M. (2022). Peranan manajemen sumberdaya manusia dalam organisasi. *Mimbar Kampus: Jurnal Pendidikan dan Agama*, 21(2), 1-11. <https://doi.org/10.17467/mk.v21i2.935>
- Amelia, Sawiji, H., & Panti, N. (2022). Pengaruh budaya sekolah, komitmen guru, dan organizational citizenship behavior terhadap kompetensi pedagogik guru. *Jurnal Informasi dan Komunikasi Administrasi Perkantoran*, 10(1), 1-52. <https://doi.org/10.21608/pshj.2022.250026>
- Hasibuan, M. S. P. (2020). *Manajemen sumber daya manusia*. Jakarta: Bumi Aksara.
- Hidayat, A. S., Saiful Mutaqin, G., & Hermawati, M. (2024). Penguatan kompetensi pedagogik guru dalam penggunaan media informasi dan komunikasi (TIK) pada proses pembelajaran. *Edu Cendikia: Jurnal Ilmiah Kependidikan*, 4(01), 51-65. <https://doi.org/10.47709/educendikia.v4i01.3794>
- Irmarita, Y. E., Wibisono, C., & Indrawan, M. G. (2024). Pengaruh beban kerja, pemahaman teknologi



- Jamu, Y. M. Z. R. E. N. R. N. (2020). Jurnal inovasi pendidikan dasar.
- Janati, S., Aryati, D., Mika, Swastini, Arif Wijaya, H., & Wulan Tersta, F. (2024). Profesionalisme guru: Kompetensi pedagogik dan kompetensi sosial. *AL-MUADDIB: Jurnal Kajian Ilmu Kependidikan*, 6(1), 10–24. <https://doi.org/10.46773/muaddib.v6i1.825>
- Naro, W. (2017). Komitmen profesi dan pengaruhnya terhadap kompetensi profesional guru pada Madrasah Tsanawiyah di Kota Makassar. *Inspiratif Pendidikan*, 6(1), 35. <https://doi.org/10.24252/ip.v6i1.3581>
- Nurjanati, D., Martono, T., & Sawiji, H. (2018). Pengaruh kompetensi pedagogik, profesional, sosial, dan kepribadian terhadap profesionalisme guru SMA Kabupaten Klaten Tahun Ajaran 2017/2018. *Jurnal Ilmu Manajemen*, 15(1), 1–11. <https://doi.org/10.1016/j.earlhumdev.2006.05.022>
- Nursiah, S. (2023). Pengaruh pendidikan dan pelatihan (diklat) terhadap profesionalisme guru di Yayasan Pendidikan Al-Azhar Bandar Lampung (studi kasus di SD Al-Azhar 1, SMP Al-Azhar 3, dan SMA Al-Azhar 3 Bandar Lampung). *Jurnal Pendidikan*, 117.
- Peraturan Menteri Pendidikan Nasional (Permendiknas) Nomor 16. (2007). Jakarta: Kementerian Pendidikan Nasional.
- Peraturan Pemerintah (PP) No. 101. (2000). Jakarta: Pemerintah Republik Indonesia.
- Pratama, L. D., & Lestari, W. (2020). Pengaruh pelatihan terhadap kompetensi pedagogik guru matematika. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 4(1), 278–285.
- Pratiwi, E. (2023). Pengaruh pendidikan dan pelatihan terhadap profesionalitas tenaga pendidik di SMA Negeri 3 Tapung Kab. Kampar. *Jurnal Pendidikan*, 1(1).
- Putri, L., Mujib, A., & Padmo Putri, D. A. (2022). Pengaruh pelatihan berbasis teknologi informasi komunikasi dan kompetensi pedagogik terhadap profesionalisme guru. *Jurnal Pendidikan Glasser*, 6(1), 89. <https://doi.org/10.32529/glasser.v6i1.1317>
- Rahma, M., Yulis, E., Pratiwi, N., Susanto, R., Syofyan, H., & Pendidikan, F. (2021). Pemanfaatan teknologi informasi dan komunikasi untuk mengembangkan kompetensi pedagogik guru. *Jurnal Ilmu Pendidikan*, 6(c), 97–105.
- Riandhana, T. E. (2016). Profesional guru terhadap pembelajaran IPS di SMP. *E-Jurnal Katalogis*, 4(1), 178–188.
- Rintho, R. (2018). *E-commerce menciptakan daya saing melalui*. Yogyakarta: Deepublish