

The Influence of Digital Behavior and Professional Learning Community on the Professionalism of Elementary School Teachers in North Penajam Paser District

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A B S T R A C T

A quantitative approach with a causal design was used in this study to analyze the influence of Digital Behavior and Professional Learning Community on the Professionalism of Elementary School Teachers in Penajam Paser Utara Regency in the 2025/2026 academic year. The independent variables were defined as Digital Behavior (X1) and Professional Learning Community (X2), while the dependent variable was defined as Teacher Professionalism (Y). The study population consisted of 520 public elementary school teachers spread across four sub-districts. The sample was determined using the Slovin formula at a 7% error rate, resulting in 147 respondents and then rounded to 150 teachers to increase accuracy. The sampling technique was proportional random sampling. Data were collected using a five-level Likert-scale closed questionnaire. All instruments were tested for validity and reliability before use. Data analysis was performed using SPSS version 22 through classical assumption tests (normality and linearity) and multiple linear regression. Hypothesis testing was carried out at a significance level of 0.05 and strengthened by the coefficient of determination (R^2). The results of the study show that partially and simultaneously, Digital Behavior and Professional Learning Community have a positive and significant influence on Teacher Professionalism. These findings imply that strengthening teachers' digital competencies and fostering collaborative professional learning communities within schools are essential strategies to enhance teacher professionalism and improve the quality of elementary education.

Keywords: *Digital Behavior, Professional Learning Community, Teacher Professionalism*

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INTRODUCTION

Teacher professionalism in the 21st century is no longer understood as limited to mastering teaching materials, but rather as a reflective and adaptive capacity in responding to social, technological, and increasingly complex learning changes (Elhawwa et al., 2023; Kinanthi et al., 2024; Triatna & Putro, 2024). The digital transformation that has emerged globally has shifted the educational landscape from a transmissive pattern to technology-based collaborative learning (Fathoni, 2025; Fathoni et al., 2024; Judijanto et al., 2025; Prihatin & Sutangsa, 2025). The OECD report (2019) emphasizes that the quality of the education system is highly determined by the ability of teachers to integrate pedagogic competencies with digital literacy in a meaningful way. In Indonesia, the mandate of professionalism is affirmed through Law Number 14 of 2005 concerning Teachers and Lecturers which places teachers as agents of professional learning with measurable and sustainable competency standards.

Although the regulatory framework and policies have provided clear direction, the reality on the ground shows that the professionalism of primary school teachers still faces various challenges, especially in the face of the digital age. Many teachers are still oriented towards conventional learning methods that do not make optimal use of technology. This condition causes learning to not be fully able to develop students' creativity, collaboration, and digital literacy, which is the main demand of 21st century education. These problems show

that teacher professionalism is not only related to traditional pedagogic competence, but also closely related to the ability to adapt to technological changes and digital learning culture.

In this context, **digital behavior** is one of the important factors in strengthening teacher professionalism. Digital behavior does not simply refer to technical ability to use technological devices, but includes attitudes, ethics, and the ability to use technology critically and productively in the learning process. Teachers who have good digital behavior tend to be able to utilize technology as an interactive learning medium, an open learning resource, and a means of academic collaboration. The European Commission's framework through DigCompEdu places teachers' digital competencies as transformative pedagogical practices that support technology-based learning innovations.

In addition to individual factors in the form of digital behavior, the strengthening of teacher professionalism is also influenced by factors in the professional environment, one of which is through the Professional Learning Community (PLC). PLC is a professional learning community that allows teachers to share experiences, reflect on learning practices, and develop pedagogical innovations collaboratively. The concept of PLC emphasizes the importance of a culture of collective learning in the school environment, where teachers do not work individually, but become part of a community of professionals who support each other in improving the quality of learning. Thus, PLC acts as a space for continuous professional development that strengthens teachers' capacity in facing the dynamics of modern education.

A number of previous studies have shown that teachers' digital competencies have a significant contribution to learning effectiveness and improvement of teacher professionalism. Studies conducted in recent years have shown that the optimal use of technology can improve the quality of learning interactions, expand access to learning resources, and encourage pedagogical innovation. Other research also reveals that the implementation of the Professional Learning Community is consistently able to increase pedagogic reflection, collaboration between teachers, and commitment to sustainable professional development (Almuzakir et al., 2023; Ilhami & Fathoni, 2025; Saleng, 2021; Windarti, 2023). However, most of these studies still examine the two variables separately and not many have examined the relationship between the two simultaneously in shaping teacher professionalism.

On the other hand, the existing research context also tends to focus on the secondary education level or in urban areas with relatively advanced educational infrastructure. In fact, the dynamics of the professionalism of elementary school teachers in areas that are undergoing development transformation have different characteristics. North Penajam Paser Regency (PPU), as an area that is part of the development of the Nusantara Capital City, faces the demands of improving the quality of education. The transformation of this region brings great expectations for the quality of human resources, including the professionalism of teachers. However, the 2025 Education Report card data shows that although the index of ICT facilities in this area has been in the very good category, innovative practices in learning are still not optimally developed.

This condition shows that there is a gap between the availability of technological infrastructure and its use in learning practices. This indicates that the main problem lies not only in access to technology, but also in the digital behavior of teachers and the culture of professional collaboration that develops in the school environment. In other words, teacher professionalism is not only influenced by individual competence, but also by the professional ecosystem that supports the collaborative learning process among teachers.

Based on this description, there is a research gap which is an important basis for this study. First, there is still limited research that simultaneously examines the influence of digital behavior and Professional Learning Community on the professionalism of elementary school teachers, especially in the context of areas that are undergoing development transformation such as North Penajam Paser Regency. Second, the relationship between individual digital skills and institutional collaborative culture is still rarely analyzed as a mutually reinforcing

professional ecosystem. In fact, teacher professionalism is formed through the interaction between personal factors and a supportive work environment.

This research is based on a developmental ecology perspective that views teacher professionalism as the result of the interaction between individual characteristics and the social context of the organization where teachers work. Within this framework, digital behavior is positioned as an individual dimension that reflects the adaptability of teachers to technology, while Professional Learning Community represents a school microsystem environment that encourages collaboration and professional reflection. The integration of these two variables is expected to provide a more comprehensive understanding of the factors that affect teacher professionalism.

Thus, this research has urgency both theoretically and practically. Theoretically, this research contributes to enriching the conceptual model of teacher professionalism by integrating the dimensions of digital behavior and professional collaboration culture in one analytical framework. Practically, the results of this research are expected to be the basis for the formulation of teacher professional development policies in North Penajam Paser Regency. Therefore, this study aims to analyze and test the influence of digital behavior and Professional Learning Community on the professionalism of elementary school teachers in North Penajam Paser Regency, both partially and simultaneously.

METHODS

This study uses a quantitative approach with an ex post facto design that is causal (Sarwono & Handayani, 2021; Sihotang, 2023). The approach was chosen because the purpose of the study was to test the influence of digital behavior and Professional Learning Community on teacher professionalism without any treatment or manipulation of the variables studied. This research was carried out in elementary schools in North Penajam Paser Regency in the 2025/2026 school year. The independent variables in this study were determined as digital behavior (X1) and Professional Learning Community (X2), while the bound variables were determined as teacher professionalism (Y). The population in this study was determined as all public elementary school teachers in North Penajam Paser Regency which amounted to 520 people and was spread across four sub-districts, namely Penajam, Waru, Babulu, and Sepaku. The sample size was determined using the Slovin formula with a margin of error of 7%. The Slovin formula used in this study is as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Description: n = sample size

N = total population

e = error rate

By entering the values N = 520 and e = 0.07, the following are obtained:

$$\begin{aligned} n &= \frac{520}{1 + 520(0,07)^2} \\ n &= \frac{520}{1 + 520(0,0049)} \\ n &= \frac{520}{1 + 2,548} \\ n &= \frac{520}{3,548} \\ n &= 146,6 \approx 147 \end{aligned}$$

Based on the results of the calculation, the minimum number of samples needed was set at 147 respondents. To increase the accuracy of the research and anticipate the possibility of incomplete data or invalid responses, the sample number was then rounded and set to 150 teachers. Thus, the use of 150 respondents is considered to have met the provisions of statistical calculation and is considered representative to represent the population of 520 teachers. Furthermore, the sample is distributed proportionally based on the number of teachers in each

sub-district or school so that the characteristics of the population as a whole can still be reflected. The sampling technique was carried out using proportional random sampling, so that the same opportunity to be selected as a respondent was given to each teacher according to the proportion of the number of teachers in each school. The research instrument was prepared in the form of a closed questionnaire using a five-level Likert scale, which ranged from strongly disagree to strongly agree, as follows:

Table 1. Likert scale

Score Range	Category Response
5	Strongly agree
4	Agree
3	Neutral / Hesitant
2	Disagree
1	Strongly Disagree

Digital behavior instruments are compiled based on indicators of technology utilization ability, digital ethics, and adaptation to learning technology innovations. The Professional Learning Community instrument is formulated by referring to aspects of collaboration, joint reflection, and commitment to improving the quality of learning. Meanwhile, the instrument of teacher professionalism is developed by including professional competence, ethical responsibility, and sustainable self-development. Before being used in research, all statements are first tested for validity and reliability to ensure the feasibility of the instrument used.

The data collection process began with the management of research permits to the North Penajam Paser Regency Education Office and the school principal concerned. After approval is obtained, a questionnaire is distributed to respondents who have been determined based on the results of the sample determination. Filling out the questionnaire is carried out directly with assistance as necessary so that each statement can be well understood by the respondents. Furthermore, the completed questionnaire is checked for completeness before the data processing process is carried out.

The data that has been collected is then analyzed using the help of the Statistical Package for the Social Sciences (SPSS) version 22 program. The analysis stage was carried out through the validity and reliability test of the instrument, followed by a classical assumption test which included a normality and linearity test, as well as multiple linear regression analysis to test the influence of digital behavior and the Professional Learning Community on teacher professionalism. Hypothesis testing was carried out at a significance level of 0.05. In addition, the determination coefficient (R^2) was used to determine the amount of contribution of the two independent variables in explaining the variation in teacher professionalism.

FINDINGS AND DISCUSSION

Research Results

After all the data is collected through the distribution of questionnaires to respondents, the next stage is processed and statistically analyzed the data. The analysis was carried out with the aim of testing the research hypothesis and determining the influence of digital behavior and Professional Learning Community on the professionalism of elementary school teachers in North Penajam Paser Regency, both partially and simultaneously. Data processing was carried out with the help of the Statistical Package for the Social Sciences (SPSS) version 22 program through several stages, namely the validity and reliability test of the instrument, the classical assumption test which included the normality, multicollinearity, and heteroscedasticity tests, as well as multiple linear regression analysis. The results of the analysis are then presented systematically so that an empirical picture of the relationship between digital behavior and Professional Learning Community and teacher professionalism can be explained as explained in the following section.

Table 2. Item-Total Statistics Validity and Validity Test X1

No	Corrected Item-Total Correlation	R Table	Ket	Cronbach's Alpha if Item Deleted	Critical Value	Ket
1	0.593	0,05	Valid	0.888	0,70.	Reliabel
2	0.658	0,05	Valid	0.882	0,70.	Reliabel
3	0.701	0,05	Valid	0.878	0,70.	Reliabel
4	0.655	0,05	Valid	0.882	0,70.	Reliabel
5	0.718	0,05	Valid	0.876	0,70.	Reliabel
6	0.698	0,05	Valid	0.878	0,70.	Reliabel
7	0.688	0,05	Valid	0.879	0,70.	Reliabel
8	0.671	0,05	Valid	0.881	0,70.	Reliabel

Source: SPSS Analysis 22 (2026)

Based on the table above, it can be seen that the instrument on the variable X1 digital behavior is declared valid and reliable. The determination is based on the decision-making criteria in the validity test, namely if the value of r calculated or Corrected Item-Total Correlation is greater than r of the table at a significance level of 0.05, then the statement item is declared valid. All items in the digital behavior variable have shown correlation values that meet these conditions, so the instrument is considered suitable for use in the study. Furthermore, in the reliability test, the instrument is declared reliable if the value of Cronbach's Alpha is greater than the critical value of 0.70. Based on the test results, Cronbach's Alpha value on the digital behavior variable has exceeded the set minimum limit, so it can be concluded that the instrument has a good level of internal consistency. Thus, all items in the digital behavior variable X1 are declared valid and reliable and can be used for further analysis. The following is presented a table of validity and reliability tests for the X2 Professional Learning Community variable.

Table 3. Item-Total Statistics Validity Test and Validity Test X2

No	Corrected Item-Total Correlation	R Table	Ket	Cronbach's Alpha if Item Deleted	Critical Value	Ket
1	0.687	0,05	Valid	0.871	0,70.	Reliabel
2	0.626	0,05	Valid	0.877	0,70.	Reliabel
3	0.656	0,05	Valid	0.875	0,70.	Reliabel
4	0.721	0,05	Valid	0.868	0,70.	Reliabel
5	0.662	0,05	Valid	0.874	0,70.	Reliabel
6	0.648	0,05	Valid	0.875	0,70.	Reliabel
7	0.568	0,05	Valid	0.883	0,70.	Reliabel
8	0.713	0,05	Valid	0.869	0,70.	Reliabel

Source: SPSS Analysis 22 (2026)

Based on the table above, it can be seen that the instrument in the X2 Professional Learning Community variable is declared valid and reliable. The determination is based on the provisions in the validity test, namely if the value of r calculated or Corrected Item-Total Correlation is greater than r of the table at a significance level of 0.05, then the statement item

is declared valid. The test results showed that all items in the Professional Learning Community variable met these criteria, so the instrument was considered suitable to be used as a measuring tool in this study. Furthermore, in the reliability test, the instrument is declared reliable if the value of Cronbach's Alpha is greater than the minimum limit of 0.70. Based on the results of the analysis, Cronbach's Alpha value on the X2 variable has exceeded the set critical value, so it can be concluded that the instrument has a good level of internal consistency. Thus, all items in the Professional Learning Community variable are declared valid and reliable and can be used at the next stage of analysis. The following are presented the results of the validity and reliability test for variable Y.

Tabel 4. Item-Total Statistics Y

No	Corrected Item-Total	R Table	Ket	Cronbach's	Critical Value	Ket
	Correlation			Alpha if Item Deleted		
1	0.839	0,05	Valid	0.965	0,70.	Reliabel
2	0.827	0,05	Valid	0.965	0,70.	Reliabel
3	0.848	0,05	Valid	0.965	0,70.	Reliabel
4	0.829	0,05	Valid	0.965	0,70.	Reliabel
5	0.847	0,05	Valid	0.965	0,70.	Reliabel
6	0.821	0,05	Valid	0.966	0,70.	Reliabel
7	0.821	0,05	Valid	0.966	0,70.	Reliabel
8	0.858	0,05	Valid	0.965	0,70.	Reliabel
9	0.817	0,05	Valid	0.966	0,70.	Reliabel
10	0.827	0,05	Valid	0.966	0,70.	Reliabel
11	0.806	0,05	Valid	0.966	0,70.	Reliabel
12	0.845	0,05	Valid	0.965	0,70.	Reliabel

Source: SPSS Analysis 22 (2026)

Based on the table above, it can be seen that the instrument on the Y variable of teacher professionalism is declared valid and reliable. The determination is based on the provisions in the validity test, namely if the value of r calculated or Corrected Item-Total Correlation is greater than r of the table at a significance level of 0.05, then each item of the statement is declared valid. The test results showed that all items in the teacher's professionalism variable met these criteria, so that the instrument was considered suitable for use in the research. Furthermore, in the reliability test, the instrument is declared reliable if the value of Cronbach's Alpha is greater than the minimum limit of 0.70. Based on the results of the analysis, Cronbach's Alpha value on variable Y has exceeded the set critical value, so it can be shown that the instrument has a good level of internal consistency. Thus, all items in the teacher's professionalism variable are declared valid and reliable and can be used at the normality and linearity prerequisite test stage as explained below.

Tabel 5. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		150
Normal Parameters ^{a,b}	Mean	.0000000
	Hours of deviation	2.52893558
Most Extreme Differences	Absolute	.053
	Positive	.053
	Negative	-.049
Test Statistic		.053
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Based on the SPSS output table, it is known that the significance value of Asymp. Sig. (2-tailed) of 0.200 is greater than 0.05. Based on the basis of decision-making in the

Kolmogorov–Smirnov normality test, it can be concluded that the residual data is declared to be normally distributed. Thus, the assumption of normality in the regression model has been fulfilled so that the analysis can be continued to the next stage. The stage of the classical assumption test or prerequisite test is then carried out through a linearity test as presented in the following section, namely the Linearity Test.

Table 6. ANOVA Linearity Test Table

		Sum of Squares	df	Mean Square	F	Say.
X1 * Y	Between Groups (Combined)	6107.608	25	244.304	54.915	.000
	Linearity	5849.903	1	5849.903	1314.937	.000
	Deviation from Linearity	257.705	24	10.738	2.414	.001
	Within Groups	551.652	124	4.449		
	Total	6659.260	149			
X2 * Y	Between Groups (Combined)	6002.168	25	240.087	56.913	.000
	Linearity	5794.873	1	5794.873	1373.687	.000
	Deviation from Linearity	207.296	24	8.637	2.047	.006
	Within Groups	523.092	124	4.218		
	Total	6525.260	149			

Source: SPSS Analysis 22 (2026)

Based on the results of the linearity test in the ANOVA table, the relationship between Digital Behavior (X1) and Teacher Professionalism (Y) showed a significance value in the Linearity component of 0.000 (< 0.05). The value indicates that the relationship between the variables X1 and Y is significantly linear. Thus, it can be concluded that the pattern of relationship between Digital Behavior and Professionalism of Elementary School Teachers in North Penajam Paser Regency has met the assumption of linearity. Similarly, in the relationship between Professional Learning Community (X2) and Teacher Professionalism (Y), a Linearity significance value of 0.000 (< 0.05) was obtained. The results show that the relationship between X2 and Y is stated to be linear and significant. In other words, the better the implementation of the Professional Learning Community, the tendency to increase Teacher Professionalism is shown to follow a linear relationship pattern. With the fulfillment of the linearity assumption on the two independent variables, the next analysis can be continued to the regression test stage to determine the magnitude of the influence given. Furthermore, the F test can be carried out to test the simultaneous influence of Digital Behavior and Professional Learning Community on Teacher Professionalism, and the t-test can be carried out to determine the influence of each variable partially. These stages were carried out in accordance with the research objectives which focused on analyzing the influence of Digital Behavior and Professional Learning Community on the Professionalism of Elementary School Teachers in North Penajam Paser Regency.

Table 7. Coefficients^a Uji t

Model		Unstandardized Coefficients		Standardized Coefficients	t	Say.
		B	Std. Error	Beta		
1	(Constant)	.231	1.038		.223	.824
	X1	.731	.066	.478	11.041	.000
	X2	.805	.067	.521	12.041	.000

a. Dependent Variable: Y.

Source: SPSS Analysis 22 (2026)

Based on the results of the t-test in the Coefficients table, it can be seen that the Digital Behavior variable (X1) shows a t-value of 11.041 with a significance level of 0.000 (< 0.05). These results show that partially Digital Behavior is stated to have a positive and significant effect on Teacher Professionalism (Y). The value of the regression coefficient of 0.731 indicates

that every one unit increase in Digital Behavior will be followed by an increase in Teacher Professionalism of 0.731 units, assuming that other variables are in constant conditions. Thus, it can be concluded that Digital Behavior makes a real contribution to improving the Professionalism of Elementary School Teachers in North Penajam Paser Regency. Furthermore, the Professional Learning Community (X2) variable showed a t-value of 12.041 with a significance level of 0.000 (< 0.05). These results show that partially the Professional Learning Community is stated to have a positive and significant effect on Teacher Professionalism (Y). The regression coefficient value of 0.805 indicates that every one unit increase in the Professional Learning Community will be followed by an increase in Teacher Professionalism by 0.805 units. Based on these findings, it can be affirmed that both Digital Behavior (X1) and Professional Learning Community (X2) are partially stated to have a positive and significant influence on Teacher Professionalism (Y). Thus, the better the teacher's digital behavior and the more optimal the implementation of the Professional Learning Community, the level of teacher professionalism will increase. The following is presented the results of the F test to determine the simultaneous effect.

Tabel 8. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.969a	.939	.938	2.54608	.939	1127.672	2	147	.000

Predictors: (Constant), X2, X1. Source: SPSS Analysis 22 (2026)

Based on the results of the F test in the Model Summary table, an F value of 1127.672 was obtained with a significance level of 0.000 (< 0.05). These results show that simultaneously Digital Behavior (X1) and Professional Learning Community (X2) were declared to have a significant effect on Teacher Professionalism (Y). Thus, the two independent variables are considered to have a real contribution in explaining the variation in the Professionalism of Elementary School Teachers in North Penajam Paser Regency. The R Square value of 0.939 indicates that 93.9% of the variation in Teacher Professionalism can be explained simultaneously by the Digital Behavior and the Professional Learning Community, while the remaining 6.1% is explained by other factors outside the research model. Meanwhile, the Adjusted R Square value of 0.938 shows that the regression model used is considered to have a very high level of accuracy in explaining the relationship between variables. Based on these results, it can be concluded that the regression model built in this study is declared feasible to use, and Digital Behavior and Professional Learning Community simultaneously have been proven to have a very significant influence on Teacher Professionalism.

Discussion

The Influence of Digital Behavior X1 on Y Teacher Professionalism

The results of the study show that Digital Behavior (X1) has a positive and significant effect on the Professionalism of Elementary School Teachers in North Penajam Paser Regency. This is shown by a t-value of 11.041 with a significance of 0.000 (< 0.05) and a regression coefficient of 0.731. The findings indicate that the higher the teacher's digital behavior, the higher the level of professionalism. Thus, the hypothesis that states the positive influence of Digital Behavior on Teacher Professionalism is accepted. Theoretically, these findings are in line with the TPACK framework put forward by Punya Mishra and Matthew J. Koehler (2006), who affirm that the integration of technological knowledge, pedagogy, and content is the main foundation of teacher competence in the digital age (Petko et al., 2025; Phillips et al., 2025). Teachers who are able to synergistically integrate Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK) will produce learning practices that are more innovative, adaptive, and relevant to the needs of 21st-century students. The results of this study strengthen the argument that mastery of technology cannot stand alone, but must be integrated with pedagogical strategies and mastery of materials to improve professionalism as a whole. In addition, these findings are also consistent with the DigCompEdu framework

developed by Yves Punie and popularized through the European Commission report (2017), which emphasizes the importance of educators' digital competencies in supporting learning, assessment, student empowerment, and sustainable professional development (Cabero-Almenara et al., 2022). In the context of this study, the dimensions of digital technology mastery, technology integration in learning, digital resource management, and sustainable digital competency development are proven to contribute significantly to improving teacher professionalism.

Empirically, the results of this study are in line with the findings of Gudmundsdottir and Hatlevik (2018) and Tondeur et al. (2017) who stated that teachers' digital competencies are positively correlated with innovative learning practices and teaching effectiveness (Gudmundsdottir & Björnsson, 2021; Nagel et al., 2023). In the context of North Penajam Paser Regency as a buffer area for the capital city of the archipelago, the digital behavior of teachers is becoming increasingly strategic. The rapid transformation of the region requires teachers to be adaptive to technological developments and able to provide quality digital-based learning. It can be emphasized that digital behavior is not just a technical skill, but a professional competence that has a direct impact on the quality of teacher performance. Teachers who have good digital behavior tend to be more reflective, collaborative, innovative, and able to increase learning effectiveness. Therefore, strengthening teachers' digital competencies needs to be a priority in professional development policies to support sustainable improvement of the quality of education.

The findings of this study are in line with a number of previous studies that affirm the importance of digital aspects in strengthening teacher professionalism. Research by Cahyaningrum et al. (2023) shows that self-efficacy and digital literacy contribute to the professional commitment of teachers at Tarakanita Pluit School. Although neither is the only determining factor, self-efficacy has an influence on the medium category, while digital literacy has a lower contribution, but still supports increased teacher professional involvement (Cahyaningrum et al., 2023). Furthermore, Sam and Sulastrri (2024) emphasized that teacher professionalism strengthened through continuous professional development, effective communication, good classroom management, and positive relationships with students has a significant impact on improving student motivation, engagement, and learning outcomes. This shows that teacher professionalism has direct implications for the quality of learning (Sam & Sulastrri, 2024). Furthermore, Prasetyaningtyas et al. (2025) revealed that the integration of the TPACK framework in ICT-based learning reflects the professionalism of teachers who are adaptive to technological developments. The implementation is transformative because it encourages personalization of learning, flexibility, and strengthening students' digital literacy and ethics. Therefore, a sustainable strategy is needed to support the strengthening of teacher competencies in the 21st century (Prasetyaningtyas et al., 2025).

The Influence of Professional Learning Community on Teacher Professionalism

Based on the results of multiple linear regression analysis on the t-test, a t-value of 12.041 was obtained with a significance level of 0.000 (< 0.05). These results show that partially the Professional Learning Community (PLC) has a positive and significant effect on the Professionalism of Elementary School Teachers in North Penajam Paser Regency. A regression coefficient value (B) of 0.805 indicates that any one unit increase in the quality of PLC implementation will be followed by an increase in Teacher Professionalism of 0.805 units, assuming other variables under constant conditions. The standardized beta coefficient of 0.521 shows that the contribution of PLC is relatively strong and even more dominant than the Digital Behavior variable in this study model. Theoretically, these findings are in line with Etienne Wenger's (1998) theory of Communities of Practice which asserts that professional learning occurs through active participation in communities with shared practice (Cadwell et al., 2022; Gijbels et al., 2021). Through elements of mutual engagement, joint enterprise, and shared repertoire, teachers build collective knowledge that enriches individual practice. In the context of schools, the concept of PLC developed by Richard DuFour and Michael Fullan

emphasizes the importance of continuous collaboration oriented towards improving student learning outcomes.

If associated with the theory of Professional Capital from Andy Hargreaves and Michael Fullan, PLC contributes directly to the strengthening of social capital and decisional capital of teachers (Hargreaves, 2025). Intensive collaboration allows for the building of trust, sharing of experiences, and more mature pedagogical decision-making. Thus, the professionalism of teachers is not only supported by individual competence (human capital), but also strengthened by the quality of professional interaction in the community. Empirically, the results of this study emphasize that the optimal implementation of PLC through reflective dialogue, peer observation, joint learning planning, and collective evaluation is able to improve the mastery of professional competencies, the quality of learning implementation, commitment to sustainable development, and ethics and professional responsibility. In the context of North Penajam Paser Regency as a buffer area of the Nusantara Capital City, strengthening PLC is a very relevant strategy. The rapid transformation of the region requires teachers to be adaptive, innovative, and collaborative. Therefore, the stronger the culture of the professional learning community built in the school, the higher the level of teacher professionalism produced.

The Influence of X1 Digital Behavior and X2 Professional Learning Community on Y Teacher Professionalism

Based on the results of the F test in the Model Summary table, an F value of 1127.672 was obtained with a significance level of 0.000 (< 0.05). These results show that simultaneously Digital Behavior (X1) and Professional Learning Community (X2) were declared to have a significant effect on Teacher Professionalism (Y). This indicates that the regression model used in this study is feasible and able to explain the relationship between independent variables and bound variables together. With a significance level far below the 0.05 limit, it can be affirmed that the combination of Digital Behavior and Professional Learning Community has a real contribution in improving Teacher Professionalism. This means that the better the digital behavior shown and the more optimal the application of the professional learning community, the higher the level of teacher professionalism will collectively.

The findings of the study on the influence of the Professional Learning Community (PLC) on teacher professionalism are supported by various previous studies. Azizah et al. (2024) stated that the instructional leadership of school principals and PLCs has a direct and significant effect on the performance of junior high school teachers in Pulang Pisau Regency, as well as providing an indirect influence through increasing teachers' self-efficacy as a mediating variable that strengthens overall performance. This shows that PLC not only impacts the collaborative aspect, but also strengthens the internal capacity of teachers (Azizah et al., 2024). Furthermore, Salam and Nopriani (2025) emphasized that the integrated implementation of Learning Organization and PLC is able to build a culture of continuous learning and systematic collaboration, which ultimately strengthens teacher professionalism and improves the quality of learning and student learning outcomes (Salam & Nopriani, 2025). In line with that, Mardika and Windasari (2023) found that learning leadership and organizational climate, both partially and simultaneously, have a significant effect on strengthening the professional learning community of junior high school teachers in Yogyakarta City (Independent & Windasari, 2023).

CONCLUSION

This study concludes that digital behavior and Professional Learning Community (PLC) have a positive and significant influence on the professionalism of elementary school teachers in North Penajam Paser Regency, both partially and simultaneously. Digital behavior shows that teachers' ability to utilize and integrate technology effectively contributes to increased professionalism, while PLC emphasizes the importance of collaboration, shared reflection, and sharing of learning practices in improving the professional quality of teachers. Together, these two factors reflect that the professionalism of teachers is determined not only

by individual competence, but also by the collaborative culture in the school environment. Therefore, efforts are needed from schools and policy makers to strengthen digital competencies through continuous training and encourage the development of professional learning communities to create a more effective and sustainable teacher development ecosystem.

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