The Role of Digital Literacy in Mediating the Influence of Innovative Learning on Teacher Motivation at SMP Negeri 1 Pintu Rime Gayo Bener Meriah Regency

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Abstract-This study aims to analyze the influence of innovative learning on teacher motivation, with digital literacy as an intervening variable at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency. Teacher motivation is one of the crucial factors in improving the quality of education, which can be influenced by teachers' ability to innovate, self-confidence in teaching, and proficiency in using digital technology. The approach used in this study is quantitative with the path analysis method. Data was collected through questionnaires that were distributed to all teachers in the school. The results of the study show that innovative learning has a positive and significant effect on teacher motivation, both directly and through digital literacy as an intervening variable. Digital literacy has been proven to strengthen the relationship between learning innovation and work motivation. These findings affirm the importance of technology training and teacher capacity building in a sustainable manner to improve professionalism and morale in the school environment.

Keywords: Innovative learning, teacher motivation, digital literacy

I. INTRODUCTION

The role of teachers as agents of change in education requires competence that is not only technical, but also highly innovative. In the context of 21st century education, teachers are required to be able to design innovative learning and show confidence in their own abilities in dealing with learning dynamics. Innovative learning involves creative, participatory, and integrative approaches to technology, so as to improve student engagement and the quality of learning outcomes (Hadi & Mahmud, 2022). Teachers who implement innovative learning tend to be more enthusiastic and motivated in carrying out their professional duties.

Digital literacy is a key factor in bridging innovative learning to teacher motivation. Digital literacy is not just technical ability to use devices, but includes critical thinking skills, digital communication, and the ethical and effective use of technology in the learning process (Ng, 2022). Teachers who have high digital literacy are able to maximize learning innovations and adapt them to the needs of the times.

Teacher motivation in teaching is an important variable that has a direct impact on the quality of learning in the classroom. Robbins and Judge (2022) state that work motivation is an internal psychological force that drives individuals to achieve certain goals, including in the context of education. Highly motivated teachers will be more committed, enthusiastic, and productive in carrying out their duties.

SMP Negeri 1 Pintu Rime Gayo as one of the junior high schools in Bener Meriah Regency, faces challenges in developing adaptive, innovative, and technology-based learning. Therefore, it is important to examine how teachers' innovative learning affects teaching motivation, with digital literacy as an intervening variable. This research is expected to contribute to the development of strategies to increase teacher motivation and professionalism in facing the demands of modern education.

II. LITERATURE REVIEW

A. Theoretical Framework

1) Motivation

a) Definition of Motivation

According to Robbins & Judge (2022), motivation is a process that explains an individual's intensity, direction, and perseverance in achieving a goal. In the context of education, teacher motivation refers to internal and external motivations that affect teachers' enthusiasm, commitment, and consistency in carrying out the task of teaching, educating, and guiding students optimally.

b) Motivation Indicators

Based on Robbins & Judge (2022), the indicators of teachers' teaching motivation can be described as follows:
1. Needs to Excel.
   Teachers have a strong desire to achieve optimal results in learning activities.
2. Commitment to Teaching Assignments

Teachers' seriousness in designing, implementing, and evaluating the teaching and learning process.

3. Intrinsic Satisfaction in Teaching
Teachers feel happy, proud, and satisfied when carrying out the learning process.

4. Perseverance and Consistency
Teachers show perseverance in facing learning challenges and remain consistent in carrying out their role as educators.

5. Orientation to Student Success
Teachers are motivated by students' development and achievements, not solely by external factors such as salary or awards.

B. Digital Literacy

1) Definition of Digital Literacy
According to Ng (2022), digital literacy is the ability to effectively use digital technologies, communication tools, and networks to find, evaluate, create, and communicate information in various formats. In the context of education, teachers' digital literacy includes pedagogical and technological abilities in utilizing digital technology to improve the learning process.

2) Digital Literacy Indicators
Based on Ng (2022), the indicators of teachers' digital literacy can be detailed as follows:

1. Ability to Access and Use Digital Technology
Teachers are able to operate hardware and software for learning purposes.

2. Ability to Select and Evaluate Digital Information
Teachers can sort out relevant and credible information from digital sources.

3. Creativity in Using Digital Media
Teachers are able to utilize various applications or platforms to organize teaching materials in an innovative way.

4. Digital Ethics and Cybersecurity
Teachers understand the importance of ethics in the use of technology, such as copyright, data privacy, and information security.

5. Digital Collaboration
Teachers are able to communicate and collaborate online with students, fellow teachers, or other parties in the context of education.

C. Innovative Learning

1) Definition of Innovative Learning
According to Sulaiman & Arifin (2021): Innovative learning is a learning approach that integrates creativity, technology, and varied teaching strategies to create a fun, meaningful, and active learning process that facilitates active student engagement.

2) Innovative Learning Indicators
Based on the synthesis from Sulaiman & Arifin (2021):

1. Utilization of Technology in Learning
Teachers use digital media or learning technology to support the teaching and learning process in an interactive and effective manner.

2. Use of Varied Teaching Methods
Teachers not only use lectures, but also adopt methods such as problem-based learning, project-based learning, blended learning.

3. Facilitation of Active and Participatory Learning
Teachers encourage student engagement through discussions, group collaborations, simulations, educational games, or hands-on practice.

4. Empowering Students' Critical and Creative Thinking
Learning is focused on how students can develop ideas, solve problems, and think out-of-the-box.

5. Suitability of Learning with Students' Needs and Characteristics
Teachers design learning that is flexible and responsive to students' interests, talents, and learning styles.
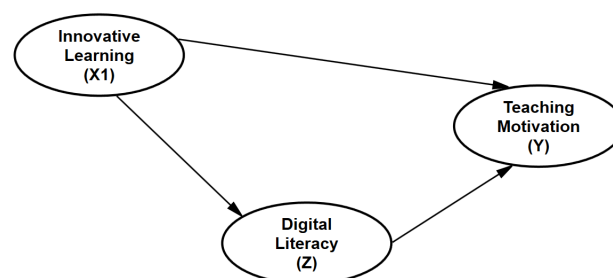
D. Conceptual Framework

Fig. 1. Conceptual Framework

E. Research Hypothesis

H1: Innovative learning has a positive and significant effect on teaching motivation in SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

H2: Innovative learning has a positive and significant effect on digital literacy at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

H3: Digital literacy has a positive and significant effect on teaching motivation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

H4: Innovative learning has a positive and significant effect on teaching motivation through digital literation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

III. RESEARCH METHODS

A. Types of Research
The type of research that the researcher uses is quantitative research. This type of quantitative research was conducted to make a study that aims to adjust a research and to analyze the analysis of the role of digital literacy in mediating the influence of innovative learning on teacher motivation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

B. Research Location and Research Time
The location of the research was conducted at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency, which is located on Jl. Raya Bireuen - Takengon, Alur Gading, Pintu Rime Gayo District, Bener Meriah Regency, Aceh. The research was carried out for 3 months, from May to July 2025.

C. Population and Sample

In this study, the population is 64 people, consisting of 55 civil servants and 9 PPPK teachers. The sample used in this study is a saturated sample because all populations are used as samples because the number is relatively small and it is possible to study it as a whole.

D. Research Data Sources

The data source used in this study is primary data.

IV. RESULTS AND DISCUSSION

A. Outer Model Review

Outer Model *analysis* using *the PLS Algorithm*, yielding:

1) Validity Test

TABLE I.   VALUE OF OUTER LOADINGS

	Digital Literacy	Innovative Learning	Teacher Motivation
X1.1		0,805	
X1.2		0,807	
X1.3		0,852	
X1.4		0,838	
Y.1			0,775
Y.2			0,751
Y.3			0,769
Y.4			0,795
Y.5			0,706
Z.1	0,821		
Z.2	0,799		
Z.3	0,763		
Z.4	0,835		
Z.5	0,833		

Source: PLS Smart Output, 2025

Based on the values in Table 1 above, showing the results of the outer model test through the loading factor / outer loadings value, all indicators in each variable have a loading value $\geq$ 0.70. This shows that each indicator is able to represent a measured construct validly and robustly. So that all items in the questionnaire have met the criteria of convergent validity and can be used in the next analysis.
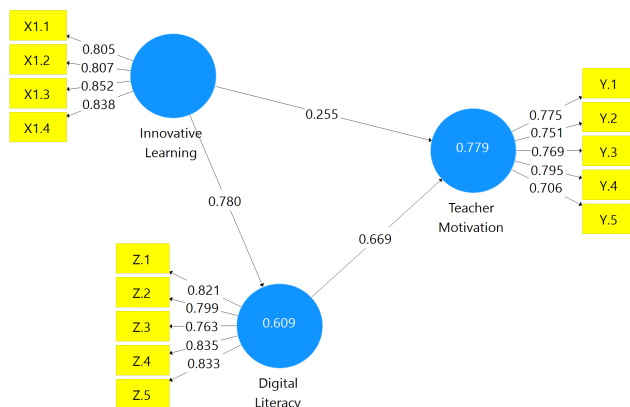

Fig. 2. Outer Loadings

B. Reliability Test

TABLE II.   \ UJI CONSTRUCT RELIABILITY AND VALIDITY

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Digital Literacy	0,869	0,871	0,906	0,657
Innovative Learning	0,844	0,845	0,896	0,682
Teacher Motivation	0,817	0,821	0,872	0,577

Source: PLS Smart Output, 2025

From Table 2 above, the reliability test results show that Cronbach's Alpha and Composite Reliability values on all constructs have values above 0.70. This shows that all indicators have high internal consistency and are reliable in measuring their respective constructs. Thus, the research instrument is declared reliable and feasible for use in structural model testing.

C. Coefficient of Determination (R2)

In assessing a model with PLS it starts by looking at the R-square for each dependent latent variable. The table below is the result of Rsquare estimation using SmartPLS.

TABLE III.   R SQUARE RESULTS

	R Square	R Square Adjusted
Digital Literacy	0,609	0,606
Teacher Motivation	0,779	0,776

Source: Smart PLS, 2025

In table 3, there is an R square value in both dependent variables for the digital literacy variable, there is an R square value of 0.609, meaning that the influence of innovative learning is 0.609 or 60.9%, the rest is in other variables outside the model. The R square value of teaching motivation is 0.779, meaning that innovative learning and digital literacy are 0.779 or 77.9%, the rest are in other variables outside the model.

D. Structural Model Testing (Inner Model)

1) Pengujian Hypothesis

a) Direct Influence Between Variables

The direct influence between variables can be seen in the value *of path coefficients*. The results of the data processing show the value of direct influence can be seen in the following table.

TABLE IV.   *PATH COEFFICIENTS* (DIRECT INFLUENCE)

	Original Sample	T Statistics	P Values	Conclusion
Innovative Learning -> Teacher Motivation	0,255	3,299	0,001	Accepted
Innovative Learning -> Digital Literacy	0,780	14,678	0,000	Accepted
Digital Literacy -> Teacher Motivation	0,669	10,026	0,000	Accepted

Source: PLS Smart Output, 2025

In the results of Table 4, there is a direct influence value which will be explained as follows:

1. Innovative learning has a positive and significant effect on teaching motivation with a t-statistical value of 3.299 above 1.96 and a significance of 0.001 below 0.05, meaning that innovative learning has a positive and significant effect on teaching motivation because the significance value is below 0.05. The results of this study are in line with the results of previous research which stated that innovative learning has a positive and significant effect on teaching motivation (Wulandari & Nisrina, 2023).

2. Innovative learning has a positive and significant effect on digital literacy with a t-statistical value of 14.678 above 1.96 and a significance of 0.000 below 0.05, meaning that innovative learning has a positive and significant effect on teaching motivation because the significance value is below 0.05. The results of this study are in line with the results of previous research which stated that innovative learning has a positive and significant effect on digital literacy (Surur, 2024).

3. Digital literacy has a positive and significant effect on teaching motivation with a t-statistical value of 10.026 above 1.96 and a significance of 0.000 below 0.05, meaning that innovative learning has a positive and significant effect on teaching motivation because the significance value is below 0.05. The results of this study are in line with the results of previous research which stated that digital literacy has a positive and significant effect on teaching motivation (Wulandari & Nisrina, 2023).

E. Indirect Influence Between Variables

The indirect influence between variables can be seen in the value *of specific indirect effects*. The results of data processing show the value of indirect influence can be seen in Table 5 below.

TABLE V.   SPECIFIC INDIRECT EFFECTS

	Original Sample	T Statistics	P Values	Conclusion
Innovative Learning -> Digital Literacy -> Teacher Motivation	0,522	8,746	0,000	Accepted

Source: Smart PLS, 2025

In table 5, there is an indirect influence between variables which will be explained as follows:
Innovative learning has a positive and significant effect on teaching motivation through digital literacy with a t-statistical value of 8.746 and a significance value of 0.000,

meaning that digital literacy plays an intervening variable between innovative learning and teaching motivation.

V. CONCLUSION

1. Innovative learning has a positive and significant effect on teaching motivation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.
2. Innovative learning has a positive and significant effect on digital literacy at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.
3. Digital literacy has a positive and significant effect on teaching motivation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.
4. Innovative learning has a positive and significant effect on teaching motivation through digital literation at SMP Negeri 1 Pintu Rime Gayo, Bener Meriah Regency.

VI. SUGGESTION

1. In the innovative learning variable, it turns out that the indicator that has the lowest score is the statement "I often use a different learning approach than usual". Suggestions that can be used are to continue to explore and evaluate various learning approaches that are in accordance with student characteristics so that learning is more effective and not monotonous.
2. For the digital literacy variable with the statement "I use an online learning application or platform in teaching". Take advantage of interactive features in the online learning platform to increase student engagement and participation during the learning process.
3. Motivation to teach with the statement "I feel responsible for the success of students' learning". Increase that responsibility by conducting regular evaluations of student learning progress and providing constructive feedback.

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