Unlocking Classroom Potential: Exploring the Mediating Role of Teacher Mindset on Embracing Differentiated Instruction

Enung Hasanah[*] iD
Universitas Ahmad Dahlan
Yogyakarta, Indonesia

M. Ikhsan Al Ghazy iD
Universitas Negeri Yogyakarta
Yogyakarta, Indonesia

Suyatno Suyatno iD **, Ika Maryani** iD
Universitas Ahmad Dahlan
Yogyakarta, Indonesia

Mohd Zailani Mohd Yusoff iD
Universiti Utara Malaysia
Kedah, Malaysia

Abstract. Differentiated Digital Instruction (DDI) is a viable solution to cater to students' personalised learning needs in 21st-century education. Despite the numerous benefits associated with this model, not every teacher has the capability or willingness to adopt it, primarily because of its perceived complexity. This research examines the direct and indirect relationship between teacher knowledge about digital differentiated learning and the availability of digital infrastructure in schools on implementing digital differentiated learning through the mediating role of teacher mindset through structural equation modelling. This study was conducted among junior high school teachers in West Sumatra, Indonesia. A simple random sampling technique was used for data collection. The collection and sample size consisted of 161 participants. The data analysis process was carried out using SmartPLS 4 Structural Equation Modelling (SEM) analysis. These findings contribute to the idea that the teacher's mindset is a mediator between digital differentiated learning and the availability of digital infrastructure for implementing digital differentiated learning. This research is helpful for school principals to prioritise developing teacher mindsets first before instructing the implementation of digital differentiated learning in schools. As this study highlighted the importance of this subject, it also

[*] Corresponding author: *Enung Hasanah; enung.hasanah@mp.uad.ac.id*

emphasised the need for further exploration of additional factors regarding the implementation of the digital differentiated instruction model.

Keywords: differentiated instruction; digital instruction; teacher mindset; quantitative; Indonesia

1. Introduction

Digital Differentiated Instruction (DDI) is a powerful educational approach that leverages technology to tailor learning experiences to individual students' needs, abilities and interests. It recognises that every learner is unique, and DDI empowers educators to provide customised content and support, fostering more effective and engaging learning. By harnessing the potential of digital tools and data-based insights, DDI has the potential to revolutionise education by promoting inclusivity and personalisation within the classroom, equipping students with values such as digital agility and knowledge of human diversity. The importance of students equipping themselves with values like digital agility and knowledge of human diversity cannot be overemphasised in this era of globalisation, as emphasised by Cénat (2020), Salmela et al. (2022), Jankelová et al. (2020) and Mishra et al. (2020). These competencies are fundamental prerequisites for students to achieve individual well-being (Killpack & Melón, 2016), and societal progress (Naziev, 2017) in the future. Moreover, it is equally essential for students to master cutting-edge knowledge and technology, have control over socio-emotional aspects, recognise their potential, develop a passion for learning and embrace positive self-acceptance (Anderson et al., 2022), in order to attain a complete well-being.

To realise student well-being within schools (Lindsay et al., 2023), teachers should be capable of fostering school connectedness, joy of learning, educational purpose and academic efficacy in the school environment (Zadworna et al., 2023). They must also be capable of providing adaptive and inclusive educational services that cater to the needs of each student, both individually and collectively (Aas, 2023; Prakosha et al., 2018; Svetlichnaya, 2022). This comprehensive approach is essential for nurturing the well-being and academic success of all students.

One form of inclusive and adaptive education concept to foster student well-being in this digital era is DDI (Hasanah, Suyatno, et al., 2022). Digital differentiated instruction is an educational approach that leverages technology to tailor instruction to the individual needs, interests and abilities of students. It builds on the principles of DI, which is an approach to teaching that recognises that students have diverse learning styles, abilities, and needs and seeks to adapt instruction to meet those differences. Digital tools and resources enable educators to deliver personalised and flexible learning experiences more effectively. By employing this model, teachers can adjust the curriculum and teaching methods to match the individual needs and abilities of students, thereby creating an inclusive learning environment and strengthening their overall well-being in the process. Digital tools can collect and analyse data on student performance and engagement, allowing teachers to tailor content, pace and assessments to each student. Adaptive learning platforms, such as Khan Academy, can automatically adjust

the difficulty of problems based on student performance. It is important to acknowledge that this learning model is highly beneficial for students, specifically those from diverse and multicultural countries such as Indonesia (Hasanah, Badar, et al., 2022).

In previous studies, it was found that Indonesian teachers admitted to struggling with the implementation of DDI because the model is relatively new and requires more effort and complex time management compared to traditional teaching methods (Aminuriyah et al., 2022; Martanti et al., 2022). Moreover, the lack of digital infrastructure was identified as a basic challenge hindering the successful implementation of this teaching method in remote areas (Hasanah, Suyatno, et al., 2022). It is crucial to address these challenges to effectively implement DDI and achieve high-quality educational outcomes (Widyanti, 2018).

Previous studies (Bi et al., 2023; Stollman, 2018) extensively explored many factors directly influencing the adoption of differentiated instruction (DI) strategies, including knowledge of the model (Lavania & Mohamad Nor, 2021), social construction of culture (Kinyanjui et al., 2015; Moulin-Stożek, 2019), teacher competence (Hanafi & Setiyani, 2021; Ruaya et al., 2022), transformative leadership skills of school principals (Et.al, 2021; Hoogeboom & Wilderom, 2019; Manik, 2016), and the availability of digital learning facilities (Caldera et al., 2021; Ghazi et al., 2021, 2022; Nosova et al., 2019; Øvrelid & Bygstad, 2019). Accordingly, DDI implementation in Indonesia is primarily influenced by critical factors namely teacher knowledge and the availability of digital resources, both of which are mediated by teacher mindset. It is expedient to acknowledge that the impact of teacher mindset in connecting various factors influencing DDI practices has not been adequately explored. To address this empirical gap, a survey was conducted to examine the mediating role of teachers' mindset in DI practices by linking teacher knowledge pertaining to the model and the availability of digital learning resources.

In terms of DDI practices, two dominant factors have been identified to play a dominant role in enabling teachers to adopt innovative teaching principles. These factors include the knowledge level of teachers pertaining to the proposed teaching method and the availability of digital learning facilities. However, these factors alone may not successfully influence the adoption of advanced teaching innovations if not supported by the willingness of teachers to embrace new innovative approaches. The mindset of teachers plays a crucial role in determining whether or not they are willing to adopt innovative and renewed work approaches (Caniëls et al., 2023). Despite the significance, the impact of teacher mindset in connecting various factors that influence DDI practices has not been adequately explored. This empirical gap was examined by means of a survey on the role of mindset in instruction practices by linking teacher knowledge on DDI and the availability of digital learning resources.

A profound understanding of the mediating role of teacher mindset in DDI practices may provide valuable insights for the development of inclusive and adaptive education that prioritises the needs of students (Sewagegn, 2020). Therefore, this study aimed to identify the possible relationships by considering teacher mindset, teacher knowledge on DI principles, and the availability of

digital learning resources. It also examined the relationship between teacher competence, transformative leadership of school principals, the availability of digital learning facilities, and the quality of DI implementation, with the growth of teacher mindset serving as the mediating variable.

2. Theoretical Background and Hypothesis Development

This section delves into several essential concepts pertaining to the quality of DI practices, drawing insights from various literature sources. By exploring multiple variables, this explanation aims to assist the formulation of indicators that are capable of describing the latent variables and strengthen logical flow.

2.1 DDI implementation influenced by teacher knowledge about DI

The principles of DDI emphasise acknowledging individual differences among students and providing learning experiences that align with their needs and interests (Tomlinson, 2001; Tomlinson et al., 2003). In this situation, teachers with a growth mindset employ diverse and flexible strategies to meet the needs of students with different learning styles (Mesler et al., 2021). The mediating role of a growth mindset in DDI practices extends to influencing how students perceive their abilities and fostering an adaptive attitude toward challenges (Frondozo et al., 2022). By reinforcing the belief of students in their capacity to grow through effort, teachers with a growth mindset can establish a learning environment that promotes motivation and perseverance in achieving goals (Tan & Maeda, 2021).

The importance of teacher knowledge (Zabeli et al., 2021) about DI cannot be overestimated. This model offers an approach that allows teachers to accommodate individual differences among students in the classrooms (Pozas et al., 2021). Teachers with adequate knowledge on DI strategies can identify the unique needs and learning styles of each of their students, thereby enabling the development of appropriate lesson plans. Skilled teachers in this context can provide relevant and meaningful learning experiences for all students, ensuring they can reach their maximum potential (Smale-Jacobse et al., 2019). Moreover, this approach promotes inclusion and acceptance in the classroom, leading to the establishment of a positive and supportive learning environment (Garrote et al., 2020). From the obtained results, it can be seen that teacher knowledge is a key factor in creating effective and inclusive learning experiences for all students. Based on the comprehensive literature review, Hypothesis 1 was formulated as follows:

H_1 = Teacher knowledge on DI is positively and significantly related to the quality of DDI implementation.

2.2 DDI Implementation Influenced by the Digital Infrastructure Availability

Adequate digital infrastructure is an external factor that significantly influences the quality of DI implementation (Mahoney & Hall, 2017). For successful implementation, teachers require access to various digital resources, including educational software, educational applications, online learning platforms, and other supporting materials (Timotheou et al., 2023). Therefore, in cases where digital infrastructure is lacking, teachers may face limitations in effectively implementing DDI. The infrastructure required for digital learning implementation includes internet access, learning management systems, devices,

and computers (Supardi & Hasanah, 2020). Previous studies have shown that technology-oriented DI effectively motivates students to learn scientific knowledge, leading to significant differences compared to traditional learning methods. Based on the literature review, Hypothesis 2 was formulated as follows:

H_2 = The availability of digital learning resources is positively and significantly related to the quality of DI implementation.

2.3 The Principle of DI Influenced by Teacher Mindset.

The principle of DI is strongly influenced by the growth mindset of teachers (Ginja & Chen, 2020). In this context, growth mindset refers to the belief that intelligence and abilities are not fixed but can be developed and enhanced through effort and dedication. Accordingly, individuals with a growth mindset adhere to beliefs centred around effort and growth (Yilmaz, 2022). In an educational setting, teachers with a growth mindset believe that the abilities and intelligence of students can be developed through appropriate effort, practice and perseverance (Ng, 2018). They view failure as an opportunity to learn and improve, and tend to have an open attitude toward change, readily embracing new approaches to teaching (Kaya & Yuksel, 2022). Based on the comprehensive literature review, Hypothesis 3 was formulated as follows:

H_3 = Teacher mindset is positively and significantly related to the quality of DI implementation.

Based on the assumptions made in this study, a conceptual framework was developed, which can be seen in Figure 1.
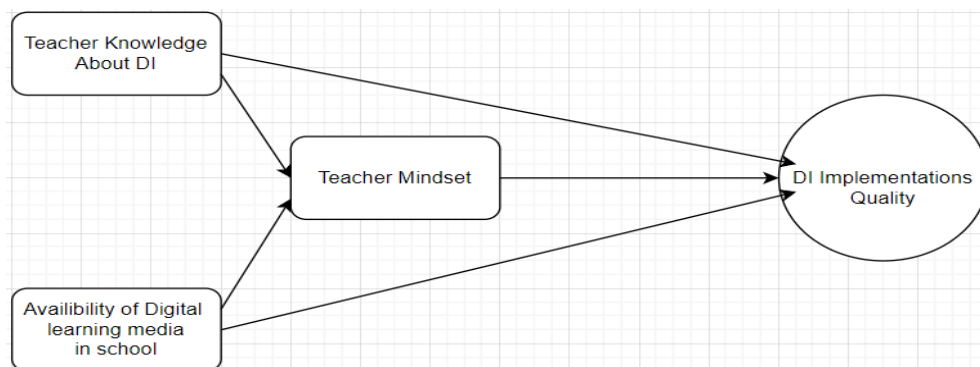

Figure 1. Conceptual framework model

3. Research Methodology
3.1 Study Design
The purpose of this research is to investigate the role of the teacher's mindset as a mediating variable that connects teacher competence and the availability of digital media to teachers' ability to implement digital-based differentiated learning. We used a quantitative approach to collect the empirical data required for this study. This method provides a structured and systematic approach to data collection, analysis and interpretation, which has various advantages in the context of this research. Simple random sampling was chosen as the best strategy for participant selection because it allowed the researchers to reach individuals from the easily

accessible target population. Junior high school teachers in West Sumatra, Indonesia, were the target group in this study. Data from participants were collected using standardised questionnaires. The survey was divided into two main parts: demographic data and factors influencing the use of e-learning technology. Participants were asked to provide information about their age, gender, their perception of competence in DI, the availability of digital media in their respective schools, the implementation of DDI, and teachers' paradigms regarding learning.

3.2 Procedures and Respondents
This research is part of a multi-year project funded by the Indonesian Ministry of Education, Culture, Research and Technology. The chosen research area was West Sumatra. West Sumatra was selected as the research area because it is one of the provinces in Indonesia that is currently experiencing development. However, in some parts of the region, there are still remote areas that lack adequate educational facilities. This is the second-year research, which aims to identify barriers and challenges in enhancing teachers' abilities to implement digital differentiated learning models in West Sumatra, one of which is to emphasise the role of teachers' mindsets in improving the quality of education. In this context, the quality of education measured is digitally based differentiated learning. In this study, a total of 161 teachers from both public and private junior high schools in West Sumatra, Indonesia, were selected by means of simple randomisation (Horton, 2022). The researchers ensured that the sample size used adhered to the minimum requirement of 100 samples, as recommended by Hair et al. (2014), for conducting SEM analysis.

3.3 Data Collection Process
The instrument used in this study was developed by the author. During the data collection process, instruments were developed based on the theoretical framework prepared previously. In the initial stage, permission was obtained from the Governor of West Sumatra to conduct a multi-year study spanning three years (2022-2024), with a focus on DI implementation in junior high schools in the province. After obtaining the permission, data were collected through an online Google Form, which was distributed to teachers in these schools during the period from June to July 2023. Subsequently, the data collection instrument presented to teachers consisted of positive statements pertaining to all the variables observed in this study. Teachers were asked to express their perceptions using a 4-point Likert Scale. On this scale, the scores 1, 2, 3 and 4 represented very high disagreement, disagreement, agreement and very high agreement, respectively (Bacon-Shone, 2015).

3.4 Data Analysis Process
In this study, the data analysis process was conducted using the SEM method with the Smart PLS 4 software (Hair et al., 2017). SEM is a statistical technique used to test and model the relationships between variables in a complex system. Using SmartPLS software version 4.0, the relationships between teacher knowledge on DI and the readiness of digital learning tools were effectively and easily identified. This process was mediated by Teacher Growth Mindset, by exploring significant indirect influences. Additionally, the analysis examined direct influences to

gather further evidence of the impact of these various factors (Hair et al., 2017). During the analysis, two types of mediation were considered, namely, full and partial mediations. Full mediation occurs when there is only a statistically significant indirect influence, while partial mediation occurs when both the direct influence on the dependent variable and the indirect influence through the mediator is significant (Hair et al., 2017; Timothy, 2022).

Partial mediation can be further categorised into two namely complementary partial mediation and competitive partial mediation. Complementary partial mediation arises when both the indirect and direct influences are significant and move in the same direction. Competitive partial mediation, on the other hand, occurs when both influences are significant but move in opposite directions (Kono & Sato, 2023).

The data analysis was carried out in two main stages including (1) calculating path coefficients using the SmartPLS algorithm and (2) evaluating the significance of path coefficients and mediation influences through the SmartPLS bootstrap procedure. Following this, during the bootstrap process, 5000 samples were used, following the recommendations of (Hair et al., 2017), to calculate coefficients, as well as direct and indirect influences.

3.4.1 Measurement Model Evaluation
The measurement model in this study consisted of both reflective and formative measurements. The variables of teacher knowledge on DI, availability of digital learning facilities and teacher mindset were measured reflectively, while the quality of DI implementation was assessed in a formative manner (Hanafiah, 2020).

In this study, the cross-loading table was employed as the initial step to assess the presence of discriminant validity among the constructs. The SmartPLS 4 data analysis method used to assess the outer model comprised four criteria, which include average variance extracted (AVE), composite reliability (CR), discriminant validity and convergent validity. A model is considered acceptable when the factor loading of each item exceeds 0.7, CR surpasses 0.7, AVE is above 0.5, and the HTMT value is below 0.90 (Hair et al., 2017). The formative model was evaluated based on the significance of the outer weightings and the absence of multicollinearity among the items, which was evidenced through the VIF values below 5. A comprehensive view of these construct values is presented in Table 1.

Table 1. Outer loading, composite reliability and average variance extracted

Latent Variable	Measurement item	Outer Loading	Cronbach's alpha	rho_a	rho_c	AVE
Availability of digital learning media in schools	Speed and reliability of internet connection on the school premises	0.877	0.923	0.925	0.942	0.764

Latent Variable	Measurement item	Outer Loading	Cronbach's alpha	rho_a	rho_c	AVE
	In my school has integrated smart boards	0.852				
	Availability of projectors or interactive screens for digital presentations	0.841				
	Accessibility of devices to all students, including those with special needs	0.911				
	Availability of digital learning applications that support the teaching and learning process	0.888				
DI implementation	I use technology to differentiate instructions	0.881	0.852	0.861	0.895	0.631
	I use a study contract in my classroom	0.818				
	I make a variety of digital-based teaching materials	0.737				
	I allow students in my class to work from higher grade-level textbooks	0.818				
	I group students by ability across classes at the same grade level	0.707				
Teacher Knowledge on DI	I understand about the Student Interest Centre	0.778	0.832	0.842	0.881	0.598

Latent Variable	Measurement item	Outer Loading	Cronbach's alpha	rho_a	rho_c	AVE
	I can make a variety of digital-based teaching materials	0.721				
	I understand the Student Choice Terms: [about content, process, and/or product]	0.827				
	I can do graded assessments in class	0.781				
	I can design different lessons based on student interests	0.757				
Teacher Mindset	There are many ways to help students achieve optimal learning outcomes	0.867	0.909	0.915	0.936	0.786
	I am ready to adapt and change my earning methods according to the needs of students	0.912				
	The abilities of everyone will grow through various practices	0.879				
	Student-centre learning can produce quality educational output	0.888				

Based on the results presented in Table 1, it is evident that the study instrument is valid and reliable. This validity can be observed from the cross-loading values, which exceeded 0.7. Additionally, the obtained Cronbach's alpha values were above 0.7 (Brown, 2002; "Confiabilidad y Coeficiente Alpha de Cronbach," 2010),

indicating good reliability. The convergent validity test results based on AVE were compared to the predetermined threshold values. AVE measures the amount of variance explained by the construct represented by its indicators. Higher AVE values indicate better construct reliability (Hair et al., 2014). Accordingly, from the results presented in Table 1, it can be seen that the AVE values for all variables were above 0.5. This indicated that the instruments used had satisfactory convergent validity. To further evaluate the measurement model, this study also estimated the HTMT values, as presented in Table 2 below:

Table 2. HTMT

	Availability of Digital Learning Media in Schools	DI implementation	Teacher Knowledge on DI	Teacher Mindset
DI Implementation	0.510			
Teacher Knowledge on DI	0.451	0.605		
Teacher Mindset	0.356	0.683	0.529	

The discriminant validity measure HTMT was considered more sensitive and accurate in detecting discriminant validity. This was because the HTMT values for all variables fell within the recommended threshold, which was below 0.90 (Hair et al., 2017), as shown in Table 2.

4. Results
4.1 Structural Model Evaluation
The evaluation of the structural model is closely tied to hypothesis testing. The inner or structural model serves as a framework for predicting cause-and-effect relationships between latent variables or parameters that cannot be directly measured. This structural model delineates the interplay of causal relationships among latent variables, based on the underlying theoretical framework. In evaluating the structural model, bootstrapping and blindfolding procedures were employed in SmartPLS software.

During this evaluation process, several key components were examined, including:
(1) Coefficient of determination (R-square): This value gauges the explanatory power of endogenous constructs within the model. R-square values of 0.67 (strong), 0.33 (moderate), and 0.19 (weak) provide insights into the strength of the relationship within the model.

(2) Path Coefficients Estimation: Path coefficients, representing the magnitude of relationships between latent constructs, were also estimated. This estimation was carried out through the bootstrapping procedure, which helped to establish the significance and reliability of these coefficients.

(3) Effect Size (F Square): This metric was employed to evaluate the goodness of the model.

Table 3. R-Square

	R-square	R-square adjusted
DI implementation	0.484	0.474
Teacher Mindset	0.243	0.234

From the results presented in Table 3, the relationship between the variables in this study fell under a moderate category since the obtained values were between 0.19 and 0.67. An R-Square value of 0.48 was observed, indicating that the independent variable was capable of explaining 48% of the variance in the dependent variable. However, the remaining 52% could not be explained by the independent variable and may be attributed to other factors beyond its scope (error component).

Based on the hypothesis testing results (Table 4), the following findings were observed:

1. The first hypothesis was accepted (H_1), indicating a significant influence of the availability of digital learning media in schools on DI implementation. The obtained path coefficient was 0.223, with a p-value of 0.000. This showed that an increase in the availability of digital learning media in schools led to an improvement in the quality of the implementation process. Following this, at the 95% confidence interval, the effect of digital learning media availability on DI implementation was between 0.106 and 0.345. This finding highlighted the importance of digital facilities in schools to support the achievement of high-quality implementation of the digital learning model.

2. The second hypothesis was accepted (H_2), emphasising that teacher knowledge on DI exerted a significant influence on its implementation. The obtained path coefficient for this variable was 0.231, with a p-value of 0.000. These values indicated that an increase in teacher knowledge undoubtedly increased the quality of the implementation process. Furthermore, at the 95% confidence interval, the influence of teacher knowledge on the implementation was between 0.075 and 0.378. These values underscored the importance of enhancing teacher knowledge on DI to achieve high-quality digital DI implementation.

3. The third hypothesis was accepted (H_3), indicating that teacher mindset significantly influenced DI implementation. The obtained path coefficient was 0.429, with a p-value of 0.000. This means that every change in teacher mindset led to an increase in the quality of the learning model implementation process. Accordingly, at the 95% confidence interval, the influence of teacher mindset on DI implementation was found to be between 0.309 and 0.543. This underscored the importance of fostering a growth mindset among teachers regarding DI. The study proved that mindset has the highest direct influence compared to other variables in achieving high-quality implementation of the digital learning model.

Table 4. Hypothesis Testing

	Path coefficients	Original sample (O)	Sample mean (M)	95% coefficient path analysis		P values
				lower limit	upper limit	
Availability of digital learning media in schools -> DI implementation	0.223	0.223	0.227	0.106	0.345	0
Availability of digital learning media in schools -> Teacher Mindset	0.171	0.171	0.173	0.03	0.316	0.021
Teacher Knowledge on DI -> DI implementation	0.231	0.231	0.23	0.076	0.378	0
Teacher Knowledge on DI -> Teacher Mindset	0.399	0.399	0.405	0.241	0.56	0
Teacher Mindset -> DI implementation	0.429	0.429	0.43	0.309	0.543	0

Table 5. Specific indirect influence

	Specific indirect influences
Teacher Knowledge on DI -> Teacher Mindset -> DI implementation	0.171
Availability of digital learning media in schools -> Teacher mindset -> DI implementation	0.073

Based on the indirect influences presented in Table 5, it can be concluded that:

1. The indirect influence of teacher knowledge on the implementation quality of DI through teacher mindset was 0.171. This means that when teacher knowledge on DI increased by one unit, the quality of DI implementation also increased indirectly through teacher mindset by 17.1%, indicating a positive influence.

2. The indirect influence of the availability of digital learning media in schools on the implementation quality of DI through teacher mindset was 0.073. This means that for every one-unit increase in the availability of digital learning media in schools, the quality of DI implementation potentially increased indirectly through teacher mindset by 7.3%, also indicating a positive influence.

4.2 Standardised Root Mean Square Residual (SRMR)
SRMR is a measure that assesses the discrepancy between the observed and implied correlations by the model. Although the use of PLS-SEM in the structural analysis limits reporting on traditional model fit indices, it was useful in formulating the report on the SRMR value. The results of the structural model, which include the variance explained (R^2) of teacher knowledge on DI and the availability of digital learning media in schools, are presented in Table 6.

Table 6. SRMR

	Saturated model	Estimated model
SRMR	0.067	0.067
d_ULS	0.851	0.851
d_G	0.389	0.389
Chi-square	366.583	366.583

The model fit test is essential in determining if a model accurately fits the data, and in the case of PLS models, SRMR value is used to assess fitness. A value of SRMR less than 0.1 indicates a good fit, while a value below 0.08 is considered perfect. In this study, the obtained SRMR value was 0.067, which fell below the threshold of 0.1 and met the criteria for a perfect fit. This indicates that the proposed model fits well and aligns closely with the estimated and empirical data correlation matrices respectively.

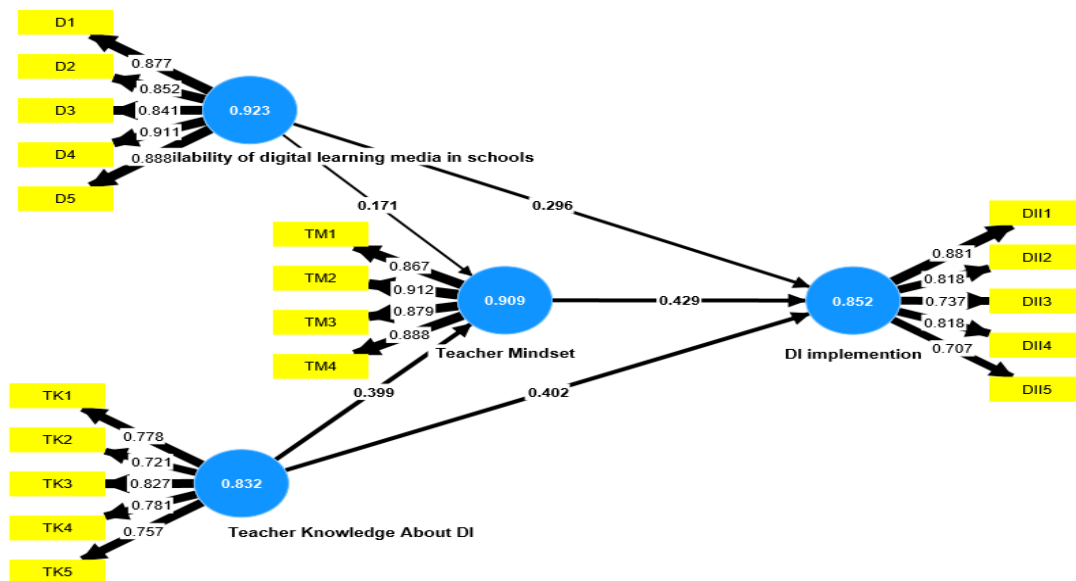The results of the model fit test are visually represented in Figure 2:

Figure 2. Model of the relationship between variables

6. Discussion

The obtained results showed that teacher knowledge yielded a significant positive influence on the implementation quality. This underscores the pivotal role of teacher knowledge as a foundational element for the effective implementation of the digital learning model. This finding aligns with previous research (Bozena Górska-Poręcka, 2013; Suarta et al., 2022) that highlighted the substantial impact of teacher knowledge concerning instructional strategies on teaching quality. Accordingly, it is important to comprehend the critical role of teacher knowledge in achieving teaching goals (Tatto, 2021).

Based on the outcomes of the first hypothesis, it becomes imperative for educational institutions and policymakers to prioritise the enhancement of teacher knowledge on DI (Tometten et al., 2021). In this situation, comprehensive training and professional development programmes for teachers should include key aspects of DI, such as differentiation strategies, effective classroom management in diverse settings, and the use of learning resources that cater to the individual needs of students. Moreover, it is crucial to integrate DI knowledge into teacher education curricula (Gottfried et al., 2020). Prospective teachers should also be equipped with a solid understanding of DI concepts and strategies during their academic tenure at colleges or teacher education institutions. Additionally, experienced teachers should be actively involved in continuous professional development programmes in order to obtain a deeper understanding of DI concepts and enhanced implementation proficiencies within classroom settings.

The second hypothesis aimed to examine the influence of the availability of digital learning media in schools on DI implementation. The results showed a significant and positive correlation between the two observed variables under this hypothesis. The result was consistent with several previous studies that showed the direct influence of digital devices on the execution of digital learning (Antara & Dewantara, 2022; Neofotistos & Karavakou, 2018). Based on the outcomes, it

was concluded that investing in digital infrastructure and devices in school environments enhances the quality and effectiveness of DI. However, it is important to acknowledge the potential limitations within this study.

The third hypothesis shed light on the noteworthy discovery that teacher knowledge on DI and the availability of digital learning media in schools gained enhanced positive influence when synergistically supported by growth of teacher mindset. This observation corroborated the results of several studies, which underscored the pivotal role played by teacher mindset as a patent mediating factor in shaping the willingness and ability of teachers to adopt and implement DI principle (Mesler et al., 2021). The results are expected to offer profound insights into the importance of integrating psychological aspects and teacher beliefs into the implementation of DI principle and the effective use of educational technology. The deficiencies in the availability of digital infrastructure can be effectively mitigated through the instillation of a growth-oriented perspective among educators. However, it is important to acknowledge that the results can be influenced by various other factors, such as the transformational leadership skills of the school principal (Kartiwi, 2020; Sari & Rina Novianty Ariawaty, 2019), the broader school context (Planson, 2022), administrative support (Araneta et al., 2020; Özdemir, 2020; Wu et al., 2023), and student characteristics (Boelens et al., 2018; Széll, 2013). Based on this finding, it can be concluded that further comprehensive studies and in-depth analysis are essential to gain a more profound understanding and validation of the intricate relationships between the three aforementioned variables.

7. Conclusion
In conclusion, the significance of teacher knowledge on DI and the availability of digital learning media within schools was heightened when underpinned by "growth of teacher mindset." The results underscored the pivotal role played by the beliefs exhibited by teachers, such as the ability to continuously grow and develop, in influencing their willingness and capability to adopt and implement DI principles.

The results also strengthened the robustness of previous studies that highlighted the crucial role of teacher mindset as a strong mediator in shaping the extent to which teachers were willing to and capable of implementing different teaching approaches to meet individual student needs (DI principle). In other words, teachers with a growth mindset experienced greater receptivity to DI, a heightened willingness to explore and adopt various teaching methods, and were better equipped to face challenges and difficulties that may arise during the DI implementation process. Furthermore, this synergistic relationship bolstered the nexus between knowledge on DI and the availability of digital learning media within educational institutions.

8. Recommendation
Based on the results from this study, it is recommended that teachers and stakeholders in the educational sector pay attention to the significance of developing a growth mindset. This strategic emphasis on nurturing a growth-oriented perspective is instrumental in bolstering the efficacy of DI

implementation and fostering the effective use of digital technology within the pedagogical process.

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