

## **Prevention of Cyberbullying Through Pedagogical Innovation and Digital Citizenship Curriculum Development: The Mediating Role of Local Wisdom Approach**

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### **ABSTRACT**

This study investigates the relationship between pedagogical innovation, digital citizenship curriculum development, local wisdom approaches, and cyberbullying prevention among primary school students in Surabaya, Indonesia. Using quantitative methods, a sample of 439 primary school teachers in Surabaya was selected to be representative of the city's western, eastern, southern, northern, and central areas. The survey was conducted in September 2025 by visiting schools face-to-face. The main finding of this study is that the local wisdom approach has a significant positive effect on cyberbullying prevention. Curriculum development also has a significant positive effect on the local wisdom approach. In addition, this study also revealed that the mediating role of the local wisdom approach has a significant positive effect. Therefore, the mediating role of local wisdom is crucial in preventing cyberbullying.

*Keywords:* Cyberbullying, digital citizenship, inclusive education, local wisdom, pedagogical innovation

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### **INTRODUCTION**

Cyberbullying, also known as electronic bullying or online bullying, has become an increasingly common negative behaviour in recent years. Cyberbullying is a deliberate act involving a series of aggressive actions through electronic means against individuals who are at a distance and cannot see the perpetrator (Kwan et al., 2020). It is also possible to increase the likelihood of the adolescents being exposed to cyberbullying,

which eventually worsens their sense of loneliness and isolation (McLoughlin et al., 2022; Wachs et al., 2022). This negative effect can also lead to depression (Attar-Schwartz et al., 2019; Bjereld et al., 2019; Cunningham et al., 2016; Gunther et al., 2016; Rajaleid et al., 2020; Swearer & Hymel, 2015). Sometimes, it may even lead to suicidal ideation (Visty, 2021). Research on cyberbullying is a relatively young domain when compared to studies on face-to-face bullying that has been conducted for four decades and is still growing as technology alters the way we communicate (Espelage & Hong, 2016).

Recently, there were reports that a large percentage of Indonesian netizens had to face their share of cyberbullying, many choose to turn a blind eye to the bullies or watch from the sidelines (Bukhori et al., 2024). A growing number of global findings report an increase in internet use among young learners worldwide. This trend can be observed in different countries (Badri, et al., 2017; Espelage & Hong, 2016). Some research has suggested that children usually start to be exposed to technology and cyberbullying at around grades 5-6 (Cole et al., 2016). According to the findings of Aizenkot and Kashy-Rosenbaum (2019), cyberbullying is more prevalent at grades 4-6 than in later years. In addition, research suggests that the stage of life at which the phenomenon of cyberbullies is most dominant is in primary and middle school, continuing into high school, university and working life (Kowalski et al., 2014). A further investigation: primary schools,

and in regard to how early age students are affected by cyberbullying, is warranted. To effectively prevent cyberbullying, it is necessary to take into account its impact on primary school children (Hamm et al., 2015; Zych et al., 2015).

A multitude of research indicates that bullying is a complex issue with both internal and external contributing factors. One of these factors is religiosity, a person's situated internal state that serves as a motivator for behaviours, views and activities that are in line with that person's religious beliefs (Bukhori, 2016). The report of Cucos et al. (2023) was in accordance with the results that those who learn religion as an academic subject had a higher intercultural sensitivity. This increased intercultural sensitivity was also found to correlate with fewer reports of cyberbullying. Conformity is another factor which can be defined as 'the act of matching one's attitudes, beliefs, and behaviour to group norms' (Yusuf, 2010). Adolescent cyberbullies are also influenced by conformity, an important element in controlling their behaviour. Conformity, underpinned by social cognition, is positively associated with cyber aggression (Bleize et al., 2021). The fourth factor is self-control, which is defined as having the ability to control one's own behaviour according to the values, morals or rules that exist within the community of society and to be able to control it to the extent that it is acceptable in the eyes of society (Tangney et al., 2004). The aggressive behaviour and online bullying behaviour are mediated by self-control (Peker & Yildiz, 2021).

### The Role of Schools and Teachers

Schools have a vital role and are the best place to address new challenges. Schools have been a significant target of attention in addressing cyberbullying (Tozzo et al., 2022), with a focus on intervention measures within the context of schools. Systematic and sustained cyberbullying interventions can be supported by a structured platform on providing education and empowerment (Nartgün & Limon, 2022). Schools are also centres for social contact and develop positive norms and deter negative conduct (Birhan et al., 2021). Nappa et al. (2021) indicate that strong student-teacher relations facilitate the detection of and offering support to victims of cyberbullying. Longobardi et al. (2020) demonstrated that traditional bullying aggression can be reduced through cyberbullying prevention programmes. This is a key step as many victims of cyberbullying also fall prey to traditional bullying (Fossum et al., 2023).

In addition, a safe and comfortable school environment is a factor in neutralising cyberbullying (Zych et al., 2019). Given that most students begin or increase their activity on social media at primary school age, efforts to intervene in cyberbullying should focus on this stage of education (Aizenkot & Kashy-Rosenbaum, 2021). Integrating local wisdom into classroom teaching provides a culturally grounded approach to tackling cyberbullying, strengthening students' empathy, moral values, and sense of social responsibility—traits that can mitigate aggressive online behaviour (Noboru, 2021; Hendry et al., 2023). Incorporating

local wisdom, through stories, proverbs and community norms, into digital citizenship and social-emotional learning curricula, can encourage respectful online behaviour that aligns with students' cultural identities and their everyday moral reasoning.

Therefore, pedagogical innovation is crucial (Amin & Ritonga, 2024), by utilising teachers' experience in developing the curriculum at the classroom level (Mustofa, 2023; Shower, 2017). Teachers can design contextually relevant and engaging learning that promotes proactive cyber ethical behaviour among students (Akhwani & Wulansari, 2021). When local cultural values are embedded in digital citizenship, students are more likely to internalise ethical principles and apply them to their online interactions. In the formative stages of social and moral development, early intervention through culturally relevant education can significantly reduce online aggression. Research shows that culturally responsive pedagogy increases student engagement, motivation and moral adaptation, making it an effective tool for shaping responsible digital citizens (Riley et al., 2025).

Evidence from previous research indicates that schools are the most strategic setting for preventing and addressing cyberbullying through systematic programmes, positive teacher-student relationships, and an overall safe school climate—all of which collectively promote responsible digital behaviour (Birhan et al., 2021; Longobardi et al., 2020; Nappa et al., 2021; Tozzo et al., 2022; Zych et al., 2019). Therefore, interventions at this

stage are crucial, given that social media use begins as early as elementary school (Aizenkot & Kasy-Rosenbaum, 2021). Furthermore, integrating local wisdom into digital citizenship education can strengthen students' empathy, social responsibility, and ethical behaviour; thus, teachers play a crucial role in developing contextual and culturally responsive learning strategies to prevent cyberbullying.

Whilst it is true that previous studies have shown that teaching innovations, curriculum development and digital citizenship education contribute to a reduction in cases of cyberbullying, no study has yet explored the synergy between these educational strategies and other value systems embedded in culture-particularly local wisdom to foster ethical behaviour in the digital world. Furthermore, the role of local wisdom as a cultural instrument to facilitate the process of educational reform, which influences pupils' moral and ethical behaviour in the virtual space, has not yet

been studied in depth. Thus, this study aims to examine the reciprocal relationship between pedagogical innovation, curriculum development, and local wisdom in attempts to prevent cyberbullying in educational settings. Specifically, this study sought to determine how local wisdom functions as a cultural mechanism that transforms educational reforms-both pedagogical and curricular-into moral and ethical behaviour amongst students, as shown in Figure 1.

### Hypothesis Development

H1 : Pedagogical innovation has no impact on cyberbullying prevention.

Pedagogical innovation is often associated with improving teaching effectiveness and digital engagement, but innovations in teaching methods alone do not automatically result in changes in student behaviour or ethics in digital contexts. Pedagogical innovations, including technology-based learning and creative teaching strategies, tend

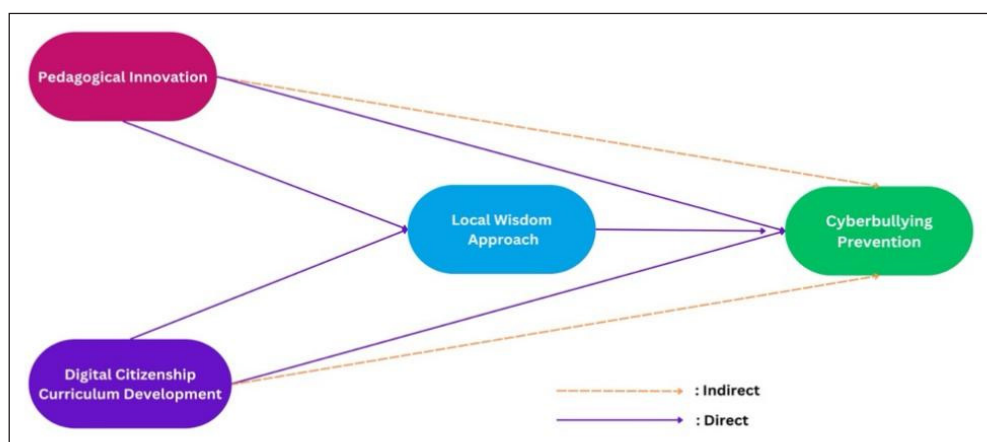


Figure 1. Conceptual model illustrating the relationship between pedagogical innovation, curriculum development, local wisdom approaches, and cyberbullying prevention

to prioritise enhancing cognitive learning outcomes (e.g., motivation, participation, or performance) over developing moral and ethical awareness (Fullan, 2020). It is striking, as Tondeur et al. (2017) pointed out, that teachers are generally very positive towards student-centred and innovative pedagogies to raise academic standards, without that pedagogy necessarily including digital citizenship or empathy education amongst others explicitly. Innovative pedagogies may not be enough to prevent cyberbullying, however, if not intentionally reinforced by moral and social-emotional elements.

H2 : Pedagogical innovation has a significant positive effect on local wisdom approach.

Cultural values could indeed be revitalised and incorporated into teaching and learning process using appropriate teaching strategies. Raihani (2018) asserts that, by incorporating local wisdom into educational innovation, educators propagate their global competence and local identity through culturally responsive pedagogy. This finding supports constructivism theory, which suggests that meaningful learning occurs when contextualised within the learner's socio-cultural environment (Vygotsky, 1978).

H3 : The local wisdom approach has a significant positive effect on cyberbullying prevention.

Deviant digital behaviours such as cyberbullying are prevented effectively with the incorporation of local cultural elements, such as respect, empathy and harmony for the community. Collective responsibility and empathy play an important role in the Asian culture, particularly in Indonesia, and in this matter local wisdom is relevant. As noted by Wolke et al. (2015), empathy and social connectedness are two critical protective factors against being the victim of online bullying and aggression. Mahanani (2019) and Stolba et al. (2024) found that developing emotional intelligence and moral character through culture-based learning is essential in promoting ethical online communication. In a socio-cultural lens, local wisdom can be interpreted as a prescriptive instrument, even a guide, for online conduct that is to prevent-like a 'moral compass' if you will. Schools can turn cultural attitudes into digital ethics and curb cyberbullying by grounding technology education in local moral frameworks.

H4 : Curriculum development digital citizenship has no significant positive effect on cyberbullying prevention.

Although the digital citizenship curriculum aims to promote responsible online behaviour, research shows that it often fails to significantly reduce cyberbullying. Curriculum changes alone will not change behaviour unless they are supported by moral development and contextual reinforcement. As noted by Fullan (2007), educational reforms that

ignore cultural and moral dimensions are rarely successful. Students generally learn about digital citizenship in terms of online ethics and privacy, but these lessons often lack moral depth, making it difficult for students to apply ethical thinking online. Standardised and value-neutral content further weakens its emotional and ethical impact (Choi, 2018). Furthermore, without consistent examples from teachers, peer support, and parental guidance, such curricula have minimal behavioural influence (Livingstone & Stoilova, 2021). Short-term implementation also fails to build sustainable ethical reflection (Ribble, 2015). Therefore, although these programmes raise awareness, their impact in preventing cyberbullying remains limited due to weak moral integration, inadequate social support, and superficial implementation.

H5 : Curriculum development digital citizenship has a significant positive effect on local wisdom approach.

Education that is culturally relevant and morally grounded is enhanced by curriculum design that integrates local wisdom principles. Holistic learning, incorporating cognitive, emotional and moral dimensions, is supported by curriculum development that reflects community values. Suastra (2017) emphasised that a curriculum based on local wisdom promotes identity, cultural pride and ethical awareness among learners. Furthermore, Mahanani (2019) and Madya and Ishartiwi (2018) both provide empirical evidence that integrating local cultural elements into the curriculum

enhances students' socio-emotional skills and moral reasoning. UNESCO's (2021) vision of 'glocal', education is to balance global knowledge with local identity to produce ethically aware digital citizens. The integration of local wisdom in curriculum development is in line with this.

H6 : The mediating role of the local wisdom approach in pedagogical innovation has a positive effect on cyberbullying prevention.

The local wisdom approach serves as a bridge between innovative teaching practices and cyberbullying prevention efforts. This is in line with Social-Ecological Theory (Bronfenbrenner, 1979), which states that moral and behavioural outcomes arise from dynamic interactions between individual, cultural, and institutional systems. The impact of pedagogical innovation on students' cyber ethics depends on how it is mediated through a cultural lens that fosters empathy, respect, and moral reflection (Madya & Ishartiwi, 2018; Wolke et al., 2015). Local wisdom thus transforms pedagogical reform into culturally rooted moral actions, which effectively prevent cyberbullying.

H7 : The mediating role of the local wisdom approach in curriculum development has a positive effect on cyberbullying prevention.

Local wisdom approaches also mediate the relationship between curriculum development and cyberbullying prevention.



Integrating local values into the curriculum ensures that anti-cyberbullying initiatives are aligned with students' cultural experiences and ethical understanding. This mediation reinforces the idea that curriculum design must be contextualised within the moral framework of the community to achieve sustainable behavioural change. By integrating local wisdom into curriculum content, abstract educational goals become meaningful and implementable, guiding students towards responsible digital behaviour (Livingstone & Stoilova, 2021; Wolke et al., 2015).

## METHODS

### Design and Participants

This study employs a quantitative approach, which is a research approach aimed at testing theories by measuring research variables through the collection of numerical data and analysing that data using statistical techniques to answer the research questions objectively. Data were collected with the use of questionnaires and fulfilled the study's prerequisites after a review based on shards and population (Malhotra et al., 2012). The population in this study is primary school teachers in Surabaya as many as  $\pm 10,800$  teachers. The sample was drawn from 439 respondents from five regional divisions in Surabaya (Table 2). To ensure that the questionnaires were completed accurately, they were distributed directly to schools. The researchers visited schools in pre-determined areas, which included subdistricts in the eastern, western, southern, northern, and central parts of Surabaya.

However, the schools included in the study were selected at random. Teachers who met the criteria were asked to complete a questionnaire. Since participation in this study was voluntary, no incentives were offered to the participants.

### Measures and Data Analysis

The purpose of this questionnaire is to gather information on the main aspects of primary education listed in Table 1. Pedagogical innovation and the development of a digital citizenship curriculum with a local wisdom approach to prevent cyberbullying.

The questionnaire was initially created in Indonesian and subsequently translated into English by an expert. The assessment of all items was conducted using a 5-point Likert scale, where 1 represented 'strongly disagree' and 5 represented 'strongly agree' (Sekaran & Bougie, 2016). This scale enabled respondents to express their level of agreement or disagreement with each statement. To estimate the model relationships, this study used PLS-SEM. PLS is a technique used in SEM that does not make the assumption that common factors explain all the covariances between a group of indicators. The method doesn't restrict the covariances between indicators in the same construct; instead, it creates a composite by combining each indicator linearly. This linear combination then serves as a proxy for the conceptual variables under study (Henseler et al., 2014). To determine the relationships in the model, this study uses the PLS-SEM method. PLS is a technique for SEM that uses a combination of different factors to explain

Table 1  
*Instrument of research*

| Variable                                         | References                          | Item and Indicator                                                                   |
|--------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|
| Pedagogical Innovation (PI)                      | Carvalho et al. (2021)              | PI1 = Teachers actively seek out and implement new teaching methods                  |
|                                                  |                                     | PI2 = Creatively integrating technology into teaching                                |
|                                                  |                                     | PI3 = Teachers are active in pedagogical professional development                    |
|                                                  | Asmayawati et al. (2024)            | PI4 = Students who responded positively and engaged with the new teaching method     |
|                                                  |                                     | PI5 = Project-based or problem-based implementation project-based or problem-based   |
| Digital Citizenship Curriculum Development (DCD) | Sari, (2026)                        | DCD1 = Adaptation of the digital citizenship curriculum in response to student needs |
|                                                  |                                     | DCD2 = Ensuring digital literacy for all school members                              |
|                                                  |                                     | DCD3 = Regular review and evaluation of curriculum adjustments                       |
|                                                  |                                     | DCD4 = Integration of moral and ethical values into learning                         |
|                                                  |                                     | DCD5 = Holding seminars/socialisation on internet navigation ethics                  |
| Local Wisdom Approach (LWA)                      | French, et al., (2020)              | LWA1 = Local values are integrated into learning materials                           |
|                                                  |                                     | LWA2 = The community is involved in teaching and learning planning.                  |
|                                                  |                                     | LWA3 = Learning reflects local traditions or wisdom                                  |
|                                                  | Asmayawati et al. (2024)            | LWA4 = Internalising student identity through the learning process                   |
|                                                  |                                     | LWA5 = Cooperation between schools and local communities in curriculum adaptation    |
| Cyberbullying Prevention                         | Aizenkot and Kashy-Rosenbaum (2021) | CP1 = Programme Implementation & Participation                                       |
|                                                  |                                     | CP2 = Reduction in Cyberbullying Behaviours                                          |
|                                                  |                                     | CP3 = Quality of Classroom Social Environment                                        |
|                                                  |                                     | CP4 = Students' Emotional Connection to the Class                                    |
|                                                  |                                     | CP5 = Effectiveness Evaluation                                                       |

the relationships between sets of indicators. Our analysis utilised SmartPLS 4.0 software to reflect the model parameters.

A PLS-SEM analysis consists of two sub-models. In this context, the measurement model is also known as the outer model and the structural model as the inner model

(Ghozali & Latan, 2015). The validity and reliability of latent constructs were tested using a measurement model. It is also used to explain the relationship between observed indicators (manifest variables) and latent constructs. The evaluation of convergent validity is based on external loadings and



Table 2  
*Respondents' characteristic of the research*

| Respondents Characteristic | Frequency | Percentage (%) |
|----------------------------|-----------|----------------|
| <b>Year of Teaching</b>    |           |                |
| 1-5                        | 105       | 23.9%          |
| 6-10                       | 70        | 15.9%          |
| 11-15                      | 81        | 18.5%          |
| 16-20                      | 91        | 20.7%          |
| 21-25                      | 34        | 7.7%           |
| 26-30                      | 20        | 4.6%           |
| 31-35                      | 19        | 4.3%           |
| 36-40                      | 13        | 3.0%           |
| <b>School Category</b>     |           |                |
| Public                     | 363       | 82.7%          |
| Private                    | 76        | 17.3%          |
| <b>School Areas</b>        |           |                |
| East Surabaya              | 84        | 19.1%          |
| West Surabaya              | 100       | 22.8%          |
| South Surabaya             | 105       | 23.9%          |
| North Surabaya             | 103       | 23.5%          |
| Central Surabaya           | 47        | 10.7%          |
| <b>Gender</b>              |           |                |
| Male                       | 125       | 28.5%          |
| Female                     | 314       | 71.5%          |
| <b>Frequency</b>           | 439       |                |

Source: Authors' work

Average Variance Extracted (AVE) values in models that use reflective indicators. Discriminant validity is tested through differences between constructs. Reliability is measured using composite reliability (CR) and Cronbach's alpha (CA). Structural models, on the other hand, are used to analyse causal relationships between latent constructs. These relationships are evaluated through R-Square values on endogenous constructs, Q<sup>2</sup> values as a measure of predictive relevance, and significance tests through bootstrapping techniques. In addition, PLS-SEM also provides three

indicators to assess the overall quality of the model, namely the communality index, redundancy index, and model fit index (GoF), as a basis for evaluating the measurement model, structural model, and overall model (Ghozali & Latan, 2015).

**RESULTS**  
**Respondents' Profile**

The sample size must be at least five times the number of variables to be analysed (Hair et al., 2017). Overall, the total number of online questionnaires distributed was

439, which can be used as a basis for further analysis with teachers, parents, and stakeholders. Therefore, the size in this study ( $n = 439$ ) is considered adequate for PLS-SEM in testing the proposed hypotheses regarding the four characteristics (Table 2) presented using the frequency test. Respondent characteristics are based on length of teaching, school category, school region, and gender.

### Measurement Model Assessment

In the initial stage of the study, the measurement model was evaluated to ensure that the proposed constructs were indeed correlated with the proposed variables. Measurement validation involved assessing discriminant and convergent validity. Convergent validity was evaluated by analysing item loadings and Average Variance Extracted (AVE). AVE reflects the average squared value of the indicator loadings related to the research construct (Hair et al., 2017). As recommended by

Hair et al. (2017), the loading and AVE values should be equal to or greater than 0.50. Figure 2 shows that, for all variables in this study, all statement items were greater than 0.50. This indicates the validity of the statement items for each variable in this study.

Specifically, Figure 2 shows that all items are above 0.50, with AVE values ranging from 0.722 to 0.882, exceeding the recommended threshold of 0.50. This indicates that at least 50% of the item variance is explained by their respective constructs (Hair et al., 2019). Furthermore, the internal consistency of constructs was examined by computing CR. As per Hair et al. (2019), the minimum threshold for CR is 0.70. The findings of this study reveal that the values of CR are 0.821 to 0.967, which are all above the acceptable value. In addition, Cronbach's alpha (CA) was adopted as an additional indicator to evaluate the construct reliability. The research concluded that all CA values varied

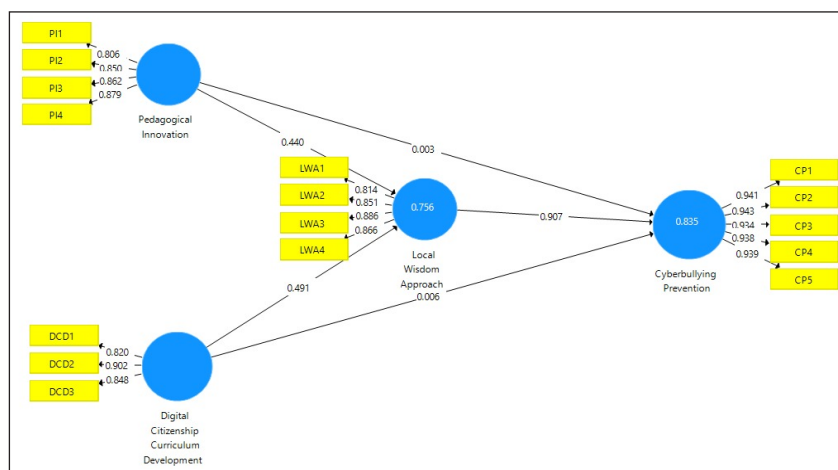


Figure 2. Measurement model

between 0.818 and 0.967, exceeding the cut-off point of 0.70, which indicated that the measurement could be deemed as reliable. With convergent validity being confirmed, the subsequent stage in the analysis was to enable a test of discriminant validity (Table 3). Discriminant validity was assessed by testing whether the square root of the Average Variance Extracted (AVE) is larger than the correlation coefficient between latent constructs.

The square root of the AVE was higher than the correlation other constructs and hence the discriminant validity was

confirmed (Table 4). This suggests that each latent construct is more strongly related to its own indicators than with the indicators of another construct. The results of the study were then analysed through using three boxes. The five-point Likert scale standards were employed to segment the value scale into three levels, each measuring 1.33 points: I = 1.00-2.33 (weak), II = 2.34-3.67 (moderate), and III = 3.68-5.00 (strong). This classification rests on to the interpretation of the average value for each research variable. The three latent variable is in a high-level group based on respondents' evaluation of

Table 3  
*The latent validity and reliability of the measurement model*

| Item                                              | Outer Loading | AVE   | CR    | CA    | Mean |
|---------------------------------------------------|---------------|-------|-------|-------|------|
| <b>Pedagogical Innovation</b>                     |               | 0,722 | 0,872 | 0,871 | 4,43 |
| PI1                                               | 0,806         |       |       |       | 4,44 |
| PI2                                               | 0,850         |       |       |       | 4,42 |
| PI3                                               | 0,862         |       |       |       | 4,45 |
| PI4                                               | 0,879         |       |       |       | 4,43 |
| <b>Digital Citizenship Curriculum Development</b> |               | 0,735 | 0,821 | 0,818 | 4,32 |
| DCD1                                              | 0,820         |       |       |       | 4,32 |
| DCD2                                              | 0,902         |       |       |       | 4,31 |
| DCD3                                              | 0,848         |       |       |       | 4,35 |
| <b>Cyberbullying Prevention</b>                   |               | 0,882 | 0,967 | 0,967 | 2,96 |
| CP1                                               | 0,941         |       |       |       | 2,92 |
| CP2                                               | 0,943         |       |       |       | 2,97 |
| CP3                                               | 0,934         |       |       |       | 2,97 |
| CP4                                               | 0,938         |       |       |       | 3,01 |
| CP5                                               | 0,939         |       |       |       | 2,97 |
| <b>Local Wisdom Approach</b>                      |               | 0,731 | 0,879 | 0,877 | 4,34 |
| LWA1                                              | 0,814         |       |       |       | 4,35 |
| LWA2                                              | 0,851         |       |       |       | 4,29 |
| LWA3                                              | 0,886         |       |       |       | 4,40 |
| LWA4                                              | 0,866         |       |       |       | 4,32 |

*Note.* CR, composite reliability; CA, Cronbach's alpha; AVE, average variance extracted

Source: Table based on primary data collected by the authors

Table 4  
Discriminant validity (Fornell-Larcker criterion)

| Fornell Larcker Criterion |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| Variable                  | PI    | CP    | LWA   | DCD   |
| PI                        | 0,850 |       |       |       |
| CP                        | 0,737 | 0,939 |       |       |
| LWA                       | 0,805 | 0,914 | 0,855 |       |
| DCD                       | 0,743 | 0,750 | 0,818 | 0,857 |

Source: Table based on primary data collected by the authors

the research variables, but the four latent is in a low-level group. Nevertheless, the cyberbullying prevention is in the middle rank. The research variables are as follows: Pedagogical Innovation = 4.43; Cyberbullying Prevention = 2.96; Local Wisdom Approach = 4.34; and Curriculum Development = 4.32.

The structural model (internal model) was evaluated using the coefficient of determination ( $R^2$ ) and predictive relevance ( $Q^2$ ). The  $R^2$  value for cyberbullying prevention is 0.835, indicating that local wisdom, curriculum development and pedagogical innovation collectively account for 83.5 per cent of the variance in cyberbullying prevention, whilst the remaining 16.5 per cent is attributable to factors not included in the model. According to the guidelines proposed by Hair et al. (2022), this value indicates substantial explanatory power. Furthermore, the  $R^2$  value for the local wisdom construct is 0.756, indicating that 75.6% of the variance in local wisdom is explained by curriculum development and pedagogical innovation, whilst the remaining 24.4% is explained by other factors outside the model. The predictive validity analysis yielded a  $Q^2$

value of 0.959, which is significantly greater than zero, indicating that the structural model has strong predictive validity for the endogenous construct. The formula for predicting relevance is detailed as such:

$$\begin{aligned}
 Q_p^2 &= 1 - (\sqrt{1 - R_1^2}) \times (\sqrt{1 - R_2^2}) \\
 Q_p^2 &= 1 - (\sqrt{1 - 0,835^2}) \times (\sqrt{1 - 0,756^2}) \\
 Q_p^2 &= 1 - (\sqrt{0,165}) \times (\sqrt{0,244}) \\
 Q_p^2 &= 1 - 0,040 \\
 Q_p^2 &= 0,959
 \end{aligned}$$

[1]

### Goodness of Fit (GoF)

A set of three models is required for each part of the model: a measurement model, a structural model and an overall model. Assessing model fit is possible by measuring how well the resulting model fits, and this can be done using the GoF value. The results of the GoF calculation are presented in Table 5. The GoF index is a measure of the overall model's predictive power. Manually calculate GoF, as it is not output by SmartPLS. GoF is the geometric mean of the average similarity for the outer model and the average R-squared for the inner model. GoF is equal to the root mean square of the similarity multiplied by the root mean

square of  $R^2$ . The scope of values that can be allocated to GoF ranges from zero to one. A good GoF value is close to 1, and a value of at least 0.33 indicates a reasonable path model estimate. The GoF index for this research model is 0.67, which is considered to be a medium-sized effect. The validity of the measurement model is demonstrated by the good predictive power of this study. The structural model is also valid. The overall model is valid. This is shown in Table 5.

Table 5  
*Index goodness of fit (GoF)*

| Variable  | Communality | R-Square |
|-----------|-------------|----------|
| PI        | 0,524       |          |
| DCD       | 0,454       |          |
| CP        | 0,809       | 0,835    |
| LWA       | 0,537       | 0,756    |
| Average   | 0,581       | 0,795    |
| Index GoF | 0,679       |          |

Source: Table based on primary data collected by the authors

Structural Model Assessment

To evaluate the significance of the proposed hypotheses, a structural model analysis was conducted. This assessment included examining path coefficients, p-values, and t-statistics, as recommended by Hair et al. (2019). The results of the analysis indicate that all hypotheses were supported (Table 6).

The results reveal that pedagogical innovation has no impact on cyberbullying prevention. An insignificant relationship is confirmed by path analysis ( $\beta = 0.003$ ,  $t = 0.070$ ,  $p > 0.05$ ), meaning that H1 is rejected. H2 demonstrates that pedagogical innovation exerts a positive and significant effect on the local wisdom approach.

Table 6  
*Hypotheses testing*

| Relationship Amongst Variables                                                                | Original Sample | T-Stat | P-Value | Description |
|-----------------------------------------------------------------------------------------------|-----------------|--------|---------|-------------|
| <b>Direct Effect</b>                                                                          |                 |        |         |             |
| Pedagogical Innovation → Cyberbullying Prevention                                             | 0,003           | 0,070  | 0,944   | rejected    |
| Pedagogical Innovation → Local Wisdom Approach                                                | 0,440           | 9,307  | 0,000   | accepted    |
| Local Wisdom Approach → Cyberbullying Prevention                                              | 0,907           | 24,391 | 0,000   | accepted    |
| Digital Citizenship Curriculum Development → Cyberbullying Prevention                         | 0,006           | 0,164  | 0,870   | rejected    |
| Digital Citizenship Curriculum Development → Local Wisdom Approach                            | 0,491           | 10,571 | 0,000   | accepted    |
| <b>Indirect Effect</b>                                                                        |                 |        |         |             |
| Pedagogical Innovation → Local Wisdom Approach → Cyberbullying Prevention                     | 0,399           | 8,462  | 0,000   | accepted    |
| Digital Citizenship Curriculum Development → Local Wisdom Approach → Cyberbullying Prevention | 0,446           | 9,927  | 0,000   | accepted    |

Source: Table based on primary data collected by the authors

Path analysis confirms a significant, positive relationship ( $\beta = 0.440$ ,  $t = 9.307$ ,  $p < 0.05$ ), so H2 is accepted. The local wisdom approach has a positive and significant effect on cyberbullying prevention, as demonstrated by H3. Path analysis confirms a significant positive relationship ( $\beta = 0.907$ ,  $t = 24.391$ ,  $p < 0.05$ ), so H3 is accepted. Curriculum development has no effect on preventing cyberbullying, as demonstrated by H4. Path analysis confirmed an insignificant relationship ( $\beta = 0.006$ ,  $t = 0.164$ ,  $p > 0.05$ ), thus H4 was rejected. H5, meanwhile, showed that curriculum development has a positive effect on the local wisdom approach. The results of the path analysis confirmed a significant positive relationship ( $\beta = 0.491$ ,  $t = 10.571$ ,  $p < 0.05$ ), thus H5 was accepted.

**Mediation Analysis.** The results of this study demonstrated a substantial mediating effect of the local wisdom approach on the association between pedagogical innovation and cyberbullying prevention ( $\beta = 0.399$ ,  $t = 8.462$ ,  $p < 0.05$ ), thereby supporting Hypothesis 6. Subsequent analysis showed that the local wisdom approach moderated the relationship between curriculum development and cyberbullying prevention ( $\beta = 0.446$ ,  $t = 9.927$ ,  $p < 0.05$ ), meaning that H7 was proven to be correct.

## DISCUSSION

Analysis of the results of this research showed a clear pattern of relationships between teaching innovation, curriculum development, local wisdom and preventing cyberbullying. H1, showing that pedagogical

innovation has no direct positive effect on cyberbullying prevention ( $\beta = 0.003$ ,  $p = 0.944$ ), was rejected. This suggests that innovative teaching methods, which do increase student engagement and creativity, are not enough to change students' digital behaviour unless there is also a moral or cultural basis. As Fullan (2020) emphasises, innovations must be aligned with moral and community values if they are to have a sustainable impact on education. This finding is consistent with Pokhrel et al. (2024) research, which shows that pedagogical innovations alone do not significantly shape moral outcomes unless mediated by a values-based framework. Therefore, to influence students' online behaviour, innovations must be integrated with socio-cultural and ethical principles, especially through local wisdom.

Innovation of the pedagogy is a process of bringing in the local wisdom-based teachings. Teachers can use their own personal philosophies to build on how to embed cultural and ethical values in the classroom. This study is in line with the research of Asmayawati et al. (2024) that highlighted the importance positive effect of innovation in teaching and curriculum development in enhancing local LWA and digital literacy. LWA acts as a conduit that intervenes in the relationship between teaching innovation and desired positive digital literacy outcomes. The findings confirm that the application of local wisdom in pedagogical innovation can effectively influence the quality of the teacher (Mustofa, 2026). It enables teachers to move beyond the abstract nature of ethics and be able to



transform them into purposeful, experience (laden with context) that deeply enrich moral learning and digital responsibility. Therefore, the pedagogical innovation had a positive effect on the local wisdom approach and H2 was accepted.

The results indicate that local wisdom has a very strong positive influence on the prevention of cyberbullying ( $\beta = 0.907$ ,  $p < 0.001$ ), which supports H3 and highlights its role as a solid ethical foundation for digital behaviour. This substantial effect size suggests that values embedded in the culture, including *gotong royong* (mutual cooperation), tolerance and *sopan santun* (politeness), have been internalised as moral norms that foster empathy, respect and collective responsibility, whilst preventing online aggression and harmful interactions. In contrast to approaches that rely primarily on technological controls or punitive measures, local wisdom promotes self-regulation by guiding individuals to make ethical decisions during online interactions. These findings are particularly relevant in the Indonesian context, where cultural values continue to shape social behaviour both offline and online. In line with previous research, culturally responsive education has been shown to strengthen prosocial behaviour, emotional regulation and moral reasoning in digital environments (Yue, 2019). Therefore, integrating local wisdom into digital citizenship education offers a culturally meaningful approach to the prevention of cyberbullying by strengthening ethical decision-making and responsible digital participation, supporting

the view that culture-based education provides an effective moral framework for addressing contemporary challenges in the digital age (Yue, 2019; Pangrazio & Sefton-Green, 2021).

Simultaneously H4 was tested that the digital citizenship curriculum development has a positive effect on cyberbullying prevention, which was rejected ( $\beta = 0.006$ ,  $p = 0.870$ ). This indicates that reform of curriculum in isolation may not be sufficient to lead to behaviour change unless it is explicitly informed by moral and cultural values. Curriculum change is a cultural as well as a technical activity, and shared beliefs, norms and local contexts influence what it means to teach and learn (Gunn & Palmer, 2025). Additionally, culturally aligned curricula (based on local cultural values and traditions) promote higher teacher engagement and learner transformation (Voogt et al., 2016). Curriculum change alone will not suffice, it must be developed as a culturally relevant initiative to foster ethical conduct and to deter online misbehaviours.

H5 also confirmed that innovation in teaching and curriculum design contributed to the prevention of cyberbullying through school-based wisdom (indirect  $\beta = 0.399$  and  $0.446$ ,  $p < 0.001$ ). This mediation illustrates the connecting force local discretion to that which educational reform without any moral behaviour. A comparable mediation was confirmed in Asmayawati et al., (2024) study where local wisdom acted as a mediator between pedagogical and curricular innovations and digital literacy

results. This suggests that culture-based moral constructs can influence cognitive and procedural learning, potentially leading to ethical behaviour. Local wisdom should therefore be integrated into innovations in teaching and curriculum so that a culturally sustainable pathway is created to foster digital empathy and prevent cyberbullying. This confirms that educational reform can achieve behavioural impact when grounded in local moral awareness.

On the other hand, H6 and H7, which tested the mediating and moderating roles, produced significant and accepted results. This confirms that the mediating and moderating roles are very important, considering that not all variables were accepted, as explained above. The results of this study indicate that mediation and moderation, such as local wisdom in teaching, are very important. The significant mediation effect ( $\beta = 0.399$ ,  $t = 8.462$ ,  $p < 0.05$ ) indicates that pedagogical innovation alone is not sufficient to encourage behavioural change, such as cyberbullying, unless it integrates local values that are in line with community values and digital ethics (Fullan, 2007; Sahlberg, 2011). As stated by Darling-Hammond et al. (2020), local policies will serve as a contextual bridge that can translate innovative teaching practices into culturally relevant behavioural norms. In addition, the moderation of local wisdom ( $\beta = 0.446$ ,  $t = 9.927$ ,  $p < 0.05$ ) suggested that the creativity of teachers in creating cyberbullying prevention curricula is also contingent upon the creativity of teachers at the local level (i.e., at how

creatively teachers in different schools respond to local realities). This is in line with Bronfenbrenner's (1979) Ecological Systems Theory, which states that behaviour in educational settings is influenced by interactions at the individual, institutional and policy levels. Consequently, through the application of a local wisdom framework, pedagogical and curricular reforms become more locally relevant and sustainable in addressing complex socio-digital issues such as cyberbullying.

## CONCLUSION AND IMPLICATIONS

This study describes the importance of pedagogical innovation and curriculum design in increasing the digital literacy of primary school students in Indonesia. However, that's not enough-teachers also need to be able to bring those ideas into their own local culture. This way the local content can be used contextualised in enrichment of the teaching-learning procedure and in the curriculum design. Besides advancing on digital citizenship, the research sought to offer a potential in maintaining local culture in the digital age. Since it is not all variables (H1 and H4) that lead to positive outcomes, the mediating term of local wisdom is significant in teaching incorporation of local values to make teachers more culture sensitive. This is also supported in the findings of H6 and H7, which reinforce the approach of local wisdom as a mediator between pedagogical innovation and digital citizenship curriculum development, and the prevention of cyberbullying. The study

affirms teachers' creativity in pedagogical innovation and the curricular autonomy in the classroom. It also acknowledges that a local wisdom approach is necessary championing a culturally rich educational environment and shielding against, cyberbullying. The creativity of teachers allows them to teach cultural awareness to primary pupils notwithstanding the strong influence of globalisation. To conclude, the main message of the present study is in accordance with Sustainable Development Goal 4 (SDG 4) and underlines the importance of an inclusive education, the development of digital competences and the integration of local knowledge to provide the culturally enriched learning environment that primary students deserve. Recommendations for future research include research and development aimed at creating modules to design a curriculum development model—specifically, how to incorporate local wisdom into digital citizenship education through teachers' pedagogical innovations.

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APPENDIX

a. Respondent Characteristics

| Length of service as a teacher |             |           |         |               |                    |
|--------------------------------|-------------|-----------|---------|---------------|--------------------|
|                                |             | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid                          | 1-5 tahun   | 105       | 23.9    | 24.2          | 24.2               |
|                                | 6-10 tahun  | 70        | 15.9    | 16.2          | 40.4               |
|                                | 11-15 tahun | 81        | 18.5    | 18.7          | 59.1               |
|                                | 16-20 tahun | 91        | 20.7    | 21.0          | 80.1               |
|                                | 21-25 tahun | 34        | 7.7     | 7.9           | 88.0               |
|                                | 26-30 tahun | 20        | 4.6     | 4.6           | 92.6               |
|                                | 31-35 tahun | 19        | 4.3     | 4.4           | 97.0               |
|                                | 36-40 tahun | 13        | 3.0     | 3.0           | 100.0              |
|                                | Total       | 433       | 98.6    | 100.0         |                    |
| Missing                        | System      | 6         | 1.4     |               |                    |
| Total                          |             | 439       | 100.0   |               |                    |

| School |        |           |         |               |                    |
|--------|--------|-----------|---------|---------------|--------------------|
|        |        | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Negeri | 363       | 82.7    | 82.7          | 82.7               |
|        | Swasta | 76        | 17.3    | 17.3          | 100.0              |
|        | Total  | 439       | 100.0   | 100.0         |                    |

| Area  |                  |           |         |               |                    |
|-------|------------------|-----------|---------|---------------|--------------------|
|       |                  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Surabaya Timur   | 84        | 19.1    | 19.1          | 19.1               |
|       | Surabaya Barat   | 100       | 22.8    | 22.8          | 41.9               |
|       | Surabaya Selatan | 105       | 23.9    | 23.9          | 65.8               |
|       | Surabaya Utara   | 103       | 23.5    | 23.5          | 89.3               |
|       | Surabaya Pusat   | 47        | 10.7    | 10.7          | 100.0              |
|       | Total            | 439       | 100.0   | 100.0         |                    |

| Gender |           |           |         |               |                    |
|--------|-----------|-----------|---------|---------------|--------------------|
|        |           | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid  | Laki Laki | 125       | 28.5    | 28.5          | 28.5               |
|        | Perempuan | 314       | 71.5    | 71.5          | 100.0              |
|        | Total     | 439       | 100.0   | 100.0         |                    |

**b. Descriptive Statistics for Variables**

## Statistics

|         | IP1  | IP2  | IP3  | IP4  | PK1  | PK2  | PK3  |
|---------|------|------|------|------|------|------|------|
| N Valid | 439  | 439  | 439  | 439  | 439  | 439  | 439  |
| Missing | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mean    | 4.44 | 4.42 | 4.45 | 4.43 | 4.32 | 4.31 | 4.35 |
| Minimum | 1    | 2    | 1    | 1    | 2    | 1    | 1    |
| Maximum | 5    | 5    | 5    | 5    | 5    | 5    | 5    |

| PC1  | PC2  | PC3  | PC4  | PC5  | PKL1 | PKL2 | PKL3 | PKL4 |
|------|------|------|------|------|------|------|------|------|
| 439  | 439  | 439  | 439  | 439  | 439  | 439  | 439  | 439  |
| 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| 2.92 | 2.97 | 2.97 | 3.01 | 2.97 | 4.35 | 4.29 | 4.40 | 4.32 |
| 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| 5    | 5    | 5    | 5    | 5    | 5    | 5    | 5    | 5    |

**IP1**

|       |              | Frequency  | Percent      | Valid Percent | Cumulative Percent |
|-------|--------------|------------|--------------|---------------|--------------------|
| Valid | 1            | 3          | .7           | .7            | .7                 |
|       | 2            | 1          | .2           | .2            | .9                 |
|       | 3            | 6          | 1.4          | 1.4           | 2.3                |
|       | 4            | 218        | 49.7         | 49.7          | 51.9               |
|       | 5            | 211        | 48.1         | 48.1          | 100.0              |
|       | <b>Total</b> | <b>439</b> | <b>100.0</b> | <b>100.0</b>  |                    |

**IP2**

|       |              | Frequency  | Percent      | Valid Percent | Cumulative Percent |
|-------|--------------|------------|--------------|---------------|--------------------|
| Valid | 2            | 1          | .2           | .2            | .2                 |
|       | 3            | 10         | 2.3          | 2.3           | 2.5                |
|       | 4            | 233        | 53.1         | 53.1          | 55.6               |
|       | 5            | 195        | 44.4         | 44.4          | 100.0              |
|       | <b>Total</b> | <b>439</b> | <b>100.0</b> | <b>100.0</b>  |                    |

**IP3**

|       |              | Frequency  | Percent      | Valid Percent | Cumulative Percent |
|-------|--------------|------------|--------------|---------------|--------------------|
| Valid | 1            | 2          | .5           | .5            | .5                 |
|       | 3            | 8          | 1.8          | 1.8           | 2.3                |
|       | 4            | 219        | 49.9         | 49.9          | 52.2               |
|       | 5            | 210        | 47.8         | 47.8          | 100.0              |
|       | <b>Total</b> | <b>439</b> | <b>100.0</b> | <b>100.0</b>  |                    |

|       |   |           |         |               |                    |
|-------|---|-----------|---------|---------------|--------------------|
| IP4   |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 1         | .2      | .2            | .2                 |
|       | 2 | 1         | .2      | .2            | .5                 |
|       | 3 | 10        | 2.3     | 2.3           | 2.7                |
|       | 4 | 225       | 51.3    | 51.3          | 54.0               |
|       | 5 | 202       | 46.0    | 46.0          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PK1   |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 2 | 5         | 1.1     | 1.1           | 1.1                |
|       | 3 | 13        | 3.0     | 3.0           | 4.1                |
|       | 4 | 256       | 58.3    | 58.3          | 62.4               |
|       | 5 | 165       | 37.6    | 37.6          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PK2   |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 1         | .2      | .2            | .2                 |
|       | 2 | 1         | .2      | .2            | .5                 |
|       | 3 | 18        | 4.1     | 4.1           | 4.6                |
|       | 4 | 259       | 59.0    | 59.0          | 63.6               |
|       | 5 | 160       | 36.4    | 36.4          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PK3   |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 2         | .5      | .5            | .5                 |
|       | 2 | 3         | .7      | .7            | 1.1                |
|       | 3 | 25        | 5.7     | 5.7           | 6.8                |
|       | 4 | 220       | 50.1    | 50.1          | 56.9               |
|       | 5 | 189       | 43.1    | 43.1          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PC1   |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 129       | 29.4    | 29.4          | 29.4               |
|       | 2 | 81        | 18.5    | 18.5          | 47.8               |
|       | 3 | 47        | 10.7    | 10.7          | 58.5               |
|       | 4 | 60        | 13.7    | 13.7          | 72.2               |
|       | 5 | 122       | 27.8    | 27.8          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |

| <b>PC2</b> |              |                  |                |                      |                           |
|------------|--------------|------------------|----------------|----------------------|---------------------------|
|            |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
| Valid      | 1            | 113              | 25.7           | 25.7                 | 25.7                      |
|            | 2            | 82               | 18.7           | 18.7                 | 44.4                      |
|            | 3            | 75               | 17.1           | 17.1                 | 61.5                      |
|            | 4            | 41               | 9.3            | 9.3                  | 70.8                      |
|            | 5            | 128              | 29.2           | 29.2                 | 100.0                     |
|            | <b>Total</b> | <b>439</b>       | <b>100.0</b>   | <b>100.0</b>         |                           |

| <b>PC3</b> |              |                  |                |                      |                           |
|------------|--------------|------------------|----------------|----------------------|---------------------------|
|            |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
| Valid      | 1            | 116              | 26.4           | 26.4                 | 26.4                      |
|            | 2            | 84               | 19.1           | 19.1                 | 45.6                      |
|            | 3            | 62               | 14.1           | 14.1                 | 59.7                      |
|            | 4            | 49               | 11.2           | 11.2                 | 70.8                      |
|            | 5            | 128              | 29.2           | 29.2                 | 100.0                     |
|            | <b>Total</b> | <b>439</b>       | <b>100.0</b>   | <b>100.0</b>         |                           |

| <b>PC4</b> |              |                  |                |                      |                           |
|------------|--------------|------------------|----------------|----------------------|---------------------------|
|            |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
| Valid      | 1            | 101              | 23.0           | 23.0                 | 23.0                      |
|            | 2            | 93               | 21.2           | 21.2                 | 44.2                      |
|            | 3            | 71               | 16.2           | 16.2                 | 60.4                      |
|            | 4            | 48               | 10.9           | 10.9                 | 71.3                      |
|            | 5            | 126              | 28.7           | 28.7                 | 100.0                     |
|            | <b>Total</b> | <b>439</b>       | <b>100.0</b>   | <b>100.0</b>         |                           |

| <b>PC5</b> |              |                  |                |                      |                           |
|------------|--------------|------------------|----------------|----------------------|---------------------------|
|            |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
| Valid      | 1            | 116              | 26.4           | 26.4                 | 26.4                      |
|            | 2            | 84               | 19.1           | 19.1                 | 45.6                      |
|            | 3            | 66               | 15.0           | 15.0                 | 60.6                      |
|            | 4            | 44               | 10.0           | 10.0                 | 70.6                      |
|            | 5            | 129              | 29.4           | 29.4                 | 100.0                     |
|            | <b>Total</b> | <b>439</b>       | <b>100.0</b>   | <b>100.0</b>         |                           |

| <b>PKL1</b> |              |                  |                |                      |                           |
|-------------|--------------|------------------|----------------|----------------------|---------------------------|
|             |              | <b>Frequency</b> | <b>Percent</b> | <b>Valid Percent</b> | <b>Cumulative Percent</b> |
| Valid       | 1            | 3                | .7             | .7                   | .7                        |
|             | 2            | 1                | .2             | .2                   | .9                        |
|             | 3            | 15               | 3.4            | 3.4                  | 4.3                       |
|             | 4            | 240              | 54.7           | 54.7                 | 59.0                      |
|             | 5            | 180              | 41.0           | 41.0                 | 100.0                     |
|             | <b>Total</b> | <b>439</b>       | <b>100.0</b>   | <b>100.0</b>         |                           |

| PKL2  |   |           |         |               |                    |
|-------|---|-----------|---------|---------------|--------------------|
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 2         | .5      | .5            | .5                 |
|       | 2 | 4         | .9      | .9            | 1.4                |
|       | 3 | 18        | 4.1     | 4.1           | 5.5                |
|       | 4 | 257       | 58.5    | 58.5          | 64.0               |
|       | 5 | 158       | 36.0    | 36.0          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PKL3  |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 1         | .2      | .2            | .2                 |
|       | 3 | 7         | 1.6     | 1.6           | 1.8                |
|       | 4 | 244       | 55.6    | 55.6          | 57.4               |
|       | 5 | 187       | 42.6    | 42.6          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |
| PKL4  |   |           |         |               |                    |
|       |   | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 1         | .2      | .2            | .2                 |
|       | 2 | 2         | .5      | .5            | .7                 |
|       | 3 | 20        | 4.6     | 4.6           | 5.2                |
|       | 4 | 248       | 56.5    | 56.5          | 61.7               |
|       | 5 | 168       | 38.3    | 38.3          | 100.0              |
| Total |   | 439       | 100.0   | 100.0         |                    |



### c. Convergent Validity

| Outer Loadings |                   |                          |                           |                        |
|----------------|-------------------|--------------------------|---------------------------|------------------------|
| Matrix         | Copy to Clipboard |                          |                           |                        |
|                | Inovasi Pedagogis | Pencegahan Cyberbullying | Pendekatan Kearifan Lokal | Pengembangan Kurikulum |
| IP1            | 0.806             |                          |                           |                        |
| IP2            | 0.850             |                          |                           |                        |
| IP3            | 0.862             |                          |                           |                        |
| IP4            | 0.879             |                          |                           |                        |
| PC1            |                   | 0.941                    |                           |                        |
| PC2            |                   | 0.943                    |                           |                        |
| PC3            |                   | 0.934                    |                           |                        |
| PC4            |                   | 0.938                    |                           |                        |
| PC5            |                   | 0.939                    |                           |                        |
| PK1            |                   |                          |                           | 0.820                  |
| PK2            |                   |                          |                           | 0.902                  |
| PK3            |                   |                          |                           | 0.848                  |
| PKL1           |                   |                          | 0.814                     |                        |
| PKL2           |                   |                          | 0.851                     |                        |
| PKL3           |                   |                          | 0.886                     |                        |
| PKL4           |                   |                          | 0.866                     |                        |

### d. Discriminant Validity

| Discriminant Validity     |                   |                           |                           |                                 |
|---------------------------|-------------------|---------------------------|---------------------------|---------------------------------|
| Fornell-Larcker Criter... | Cross Loadings    | Heterotrait-Monotrait ... | Heterotrait-Monotrait ... | Copy to Clipboard: Excel Format |
|                           | Inovasi Pedagogis | Pencegahan Cyberbullying  | Pendekatan Kearifan Lokal | Pengembangan Kurikulum          |
| Inovasi Pedagogis         | 0.850             |                           |                           |                                 |
| Pencegahan Cyberbullying  | 0.737             | 0.939                     |                           |                                 |
| Pendekatan Kearifan Lokal | 0.805             | 0.914                     | 0.855                     |                                 |
| Pengembangan Kurikulum    | 0.743             | 0.750                     | 0.818                     | 0.857                           |

### e. Construct Reliability

| Construct Reliability and Validity |                  |       |                       |                                  |
|------------------------------------|------------------|-------|-----------------------|----------------------------------|
| Matrix                             | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extract...      |
|                                    | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (AVE) |
| Inovasi Pedagogis                  | 0.871            | 0.872 | 0.912                 | 0.722                            |
| Pencegahan Cyberbullying           | 0.967            | 0.967 | 0.974                 | 0.882                            |
| Pendekatan Kearifan Lokal          | 0.877            | 0.879 | 0.916                 | 0.731                            |
| Pengembangan Kurikulum             | 0.818            | 0.821 | 0.892                 | 0.735                            |

## f. R-Square

| Matrix                    | R Square | R Square Adjusted |
|---------------------------|----------|-------------------|
|                           | R Square | R Square Adjusted |
| Pencegahan Cyberbullying  | 0.835    | 0.834             |
| Pendekatan Kearifan Lokal | 0.756    | 0.755             |

## g. Resampling Bootstrapping

### 1. Direct Effect

| Path Coefficients                                     |                      |                               |              |                |          |
|-------------------------------------------------------|----------------------|-------------------------------|--------------|----------------|----------|
| Mean, STDEV, T-Values, P-...                          | Confidence Intervals | Confidence Intervals Bias ... | Samples      | Copy to Clipbo |          |
|                                                       | Original ...         | Sample ...                    | Standard ... | T Statistic... | P Values |
| Inovasi Pedagogis -> Pencegahan Cyberbullying         | 0.003                | 0.002                         | 0.038        | 0.070          | 0.944    |
| Inovasi Pedagogis -> Pendekatan Kearifan Lokal        | 0.440                | 0.441                         | 0.047        | 9.307          | 0.000    |
| Pendekatan Kearifan Lokal -> Pencegahan Cyberbullying | 0.907                | 0.909                         | 0.037        | 24.391         | 0.000    |
| Pengembangan Kurikulum -> Pencegahan Cyberbullying    | 0.006                | 0.006                         | 0.035        | 0.164          | 0.870    |
| Pengembangan Kurikulum -> Pendekatan Kearifan Lokal   | 0.491                | 0.491                         | 0.046        | 10.571         | 0.000    |

### 2. Indirect Effect

| Specific Indirect Effects                                                       |                      |                               |              |                    |              |
|---------------------------------------------------------------------------------|----------------------|-------------------------------|--------------|--------------------|--------------|
| Mean, STDEV, T-Values, P-...                                                    | Confidence Intervals | Confidence Intervals Bias ... | Samples      | Copy to Clipboard: | Excel Format |
|                                                                                 | Original ...         | Sample ...                    | Standard ... | T Statistic...     | P Values     |
| Inovasi Pedagogis -> Pendekatan Kearifan Lokal -> Pencegahan Cyberbullying      | 0.399                | 0.401                         | 0.047        | 8.462              | 0.000        |
| Pengembangan Kurikulum -> Pendekatan Kearifan Lokal -> Pencegahan Cyberbullying | 0.446                | 0.446                         | 0.045        | 9.927              | 0.000        |