

## Exploring the Impact of Character Education and School Literacy on Students' Learning Outcomes

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ARTICLE INFO	ABSTRACT
<p><b>Article History:</b> Received: 10-11-2025 Revised: 08-12-2025 Accepted: 24-12-2025</p> <p><b>Keywords:</b> Character Building; Learning Outcomes; School Literacy Program.</p>	<p>This study aims to analyze the influence of character education and the school literacy program on students' Islamic Education (PAI) learning outcomes at SDN 102128 Nagaraja. Employing a quantitative ex post facto design, the research involved a saturated sample of 85 students, with data collected through validated and reliable Likert-scale questionnaires and documentation of academic scores. Data analysis included classical assumption tests and multiple linear regression using SPSS 25. The findings show that both character education and the school literacy program have a positive and significant partial effect on PAI learning outcomes, as indicated by the t-test results (<math>t = 4.676</math> for character education; <math>t = 8.268</math> for school literacy, both <math>&gt; t\text{-table} = 2.002</math>). Simultaneously, the two variables strongly influence learning outcomes, demonstrated by an F-value of 726.549 (Sig. = 0.000), confirming the acceptance of all alternative hypotheses. The regression model (<math>Y = 27.810 + 0.550X_1 + 0.987X_2</math>) shows that literacy contributes the largest effect, although character education also plays an important role in shaping students' academic performance. These results are reinforced by behavioral rubric data showing that more than 90% of students demonstrate consistent or frequent positive character traits, indicating successful internalization of character values. The study implies that strengthening literacy practices and character-building programs is essential for enhancing students' academic achievement, particularly in religious education. It further highlights the importance of integrated school policies that combine cognitive, moral, and literacy development to support holistic learning outcomes.</p>

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## INTRODUCTION

Character education is a necessity in facing the various challenges of character shifts we face today. In recent years, various phenomena among students—such as declining discipline, reduced

empathy, increased cases of bullying, digital addiction, and the weakening of learning motivation—show that many young people are experiencing moral and behavioral disorientation (Kamaruddin et al., 2023; Khoir & Suciptaningsih, 2024; Liu et al., 2023; Rahman et al., 2023). These issues illustrate the urgent need for strengthening students' moral foundations so that they are able to respond responsibly to social and technological changes occurring around them. Character education aims to develop a person's ability to make good and bad decisions, maintain what is good, and wholeheartedly embody that goodness in everyday life. Because character education is a habit, the formation of a person's character requires communities of character, or communities that can shape character (Ali et al., 2025; Minan et al., 2025; Suud et al., 2021). In this context, the role of schools as communities of character in character education is crucial. Schools develop character education processes through learning, habituation, extracurricular activities, and collaboration with families and communities in their development (Ferianto et al., 2025; Ikhwansyah et al., 2023; Munafiah et al., 2023).

In addition to character education, another internal factor that can influence student learning outcomes in this study is the school literacy program. In 2013, the Ministry of Education and Culture, through Ministerial Regulation (Permendikbud) No. 23 of 2013, launched Character Education (GLS). In accordance with this regulation, GLS in schools is implemented through structured stages such as the habituation stage (e.g., 15-minute daily reading and literacy-rich environments), the development stage (integration of literacy activities into subject learning), and the learning stage (explicit teaching and assessment of literacy across subjects) (Oktaviani & Kaltsum, 2023). Through these mechanisms, GLS strengthens students' ability to access, understand, and use information intelligently through reading, viewing, writing, and other forms of communication, thereby supporting improvements in learning outcome (Ekayani & Suwedawati, 2023; Mawardi et al., 2025). The school literacy program launched by the government through Character Education (GLS) is a comprehensive effort involving all school members and the community to support students' reading and writing habits. This program not only focuses on literal reading and writing skills, but also includes digital literacy, numeracy, science, and cultural literacy integrated in various subjects, including PAI.

Based on the results of initial observations, it shows that the school's character education and literacy programs have been implemented at SDN 102128 Nagaraja, yet there is still a gap between expectations and reality in achieving PAI learning outcomes. The observations were conducted through an analysis of daily test records, semester exam score recaps, and brief informal interviews with PAI teachers to verify student performance trends. Some students still show less than optimal learning outcomes, as seen from the daily test scores and semester exams that have not reached the Minimum Completion Criteria (KKM). For example, from a total of 120 students, 46% scored below the KKM of 75 in the most recent daily assessment, while 39% remained below the KKM in the semester examination. These quantitative findings provide clear evidence that a significant proportion of students are not meeting competency standards despite the ongoing implementation of character education and school literacy programs. Therefore, by taking the PAI subject variable, the researcher wants to know how much influence the character education and literacy programs implemented in schools have on student learning outcomes in PAI subjects.

Furthermore, based on previous research conducted by Praheto (2024) and Munawaroh et al. (2022), the research results show that in order to build character education, a culture of literacy is essential to be strengthened in schools. Through literacy activities, the character traits developed among students include (1) noble morals, (2) critical thinking, (3) creativity, and (4) integrity. Then, the research conducted by Mukhlisina & Danawati (2024), also supports the relevance of

literacy to character development. This study uses a qualitative descriptive approach and shows that the School Literacy Movement has been implemented through 15-minute reading activities before lessons begin, regular student visits to the library, and collaborative book-writing projects with students. Thus, both previous studies primarily explore qualitative descriptions of literacy and character education, whereas the gap addressed in this research lies in examining their combined influence on students' PAI learning outcomes in a different educational context (junior/senior high school). This study seeks to fill that gap by quantitatively assessing how these programs affect measurable academic performance.

Building on this empirical and theoretical foundation, this study aims to determine the influence of these two educational factors on student performance. Specifically, the study seeks to identify the extent to which character education influences PAI learning outcomes at SDN 102128 Nagaraja, to examine how the school literacy program contributes to PAI learning outcomes, and to analyze the simultaneous influence of character education and the school literacy program on students' PAI achievement. Thus, the objectives of this study are a logical continuation of the problems, preliminary findings, and research gaps described in the preceding paragraphs.

## **LITERATURE REVIEW**

### **The Concept of Character Education**

According to the National Education System Law Number 20 of 2003, Article 1 paragraph 1, the definition of education is "a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual, religious strength, self-control, personality, intelligence, noble morals and the skills needed by themselves, society and the state (Indonesia, 2003). Meanwhile, according to Madani (2019), Pradonansyah et al. (2025) and Firmansyah et al. (2025), education is a deliberate process of guidance, there are individuals responsible for implementing or administering education, and there are goals to be achieved. Education is a process of helping children develop their full potential. Pasaribu et al. (2024) In developing character, this can be done by instilling discipline and religiosity in students. In developing character, this can be done by instilling discipline and religiosity in students.

According to the Indonesian Dictionary, the word "character" means mental traits, morals, or manners that distinguish one person from another. Meanwhile, according to the Language Center of the Department of National Education, "character" means innate in the heart, soul, personality, manners, behavior, nature, disposition, temperament, and disposition (Kebudayaan, 2014). Etymologically, character comes from the Latin word character, which includes nature, disposition, mentality, personality, and morals. Terminologically, character is the mental, moral, or ethical traits that characterize a group of people. If someone's character shows signs of being unfavorable, change it immediately (Helzer et al., 2023). Change can only be achieved through education, whether formal, informal, or non-formal (Aryati et al., 2025; Irfan et al., 2025).

According to Al-Ghazali, morals or character are actions that become habits within a person, these actions are the result of a person's inner state and are repeated over and over again, becoming a habit, performed without prior, in-depth rational consideration. Thus, character can be defined as actions that become habits within a person (Nurhikmah, 2024).

Thus, character education is a conscious effort to realize virtue, namely objectively good human qualities, not only good for individuals but also good for society as a whole. Character education is defined as our deliberate efforts from the school dimension to foster optimal character development.

### **Factors Influencing Character Education**

Factors influencing character education are divided into two categories: internal and external. Internal factors (originating from within), include: 1) *Instinct*, is a characteristic that can give rise to actions that lead to a goal by thinking first towards that goal and not prior to practicing the action; 2) *customs or habits*, it is one of the important factors in human behavior because attitudes and behavior that become character or morals are very closely related to habits, which are actions that are always repeated, so they are easy to do; 3) *will/desire*, is the desire to carry out all ideas and intentions, even when accompanied by various obstacles and difficulties. The inner voice or conscience, within humans, contains a power that occasionally provides warnings (signals) when human behavior is on the verge of danger and evil; and 4) *descendants*, it is a factor that can influence human actions. There are two types of traits according to their lineage, namely physical traits and spiritual traits (Rahayu & Dong, 2023; Zubaedi, 2011).

Furthermore, in Rizka Harfiani In general, there are two factors that influence the learning outcomes achieved by students, including: First, internal factors, namely from the student's side, there are two things that can influence their activities and learning outcomes, namely psychological and physiological conditions. Psychological conditions are the state of the soul or spirit (Harfiani, 2017;77)

The external factors (from outside) that influence character education are as follows: 1) education, is an effort to improve oneself in all aspects and has a significant influence on character formation. Religious education needs to be manifested through various media, including formal education in schools, informal education in the community, the family environment, and existing non-formal education; and 2) *environment (milie)*, it is something that surrounds a living body, such as plants, soil, air, and human interaction. Living humans are always in contact with other humans and with the natural world around them (Zubaedi, 2011).

### **School Literacy Program**

The term "literacy" originates from the Latin *litteratus* (*littera*), which is equivalent to the English word "letter," referring to the ability to read and write. Literacy, defined as the ability to read and write, later evolved into the ability to master knowledge in a particular field (Barton & Lennon, 2020). Etymologically, literacy comes from the Latin word *littera*, which means the writing system that accompanies it (Mallawi et al., 2017). Meanwhile, literacy is the ability to read and write, where literacy is a fundamental human right and the foundation for lifelong learning.

GLS (Character Education) is an effort or activity that is participatory in nature involving school residents (students, teachers, principals, education staff, school supervisors, school committees, parents/guardians of students), academics, publishers, mass media, the community (community figures who can represent role models, the business world, etc.), and stakeholders under the coordination of the Directorate General of Primary and Secondary Education, Ministry of Education and Culture (Oktaviani & Kaltsum, 2023).

### **Character Education Goals**

Character education has general and specific objectives, including the following: *First*, general objective: to develop students' character through cultivating a school literacy ecosystem that is realized in character education so that they become lifelong learners. *Second*, special purpose: 1) cultivating a culture of literacy in schools; 2) increasing the capacity of citizens and school environments to be literate; 3) make the school a fun and child-friendly learning park so that school residents are able to manage knowledge; and 4) maintaining the continuity of learning by providing a variety of reading books and accommodating various reading strategies (Hidayati et al., 2020).

### **Learning Outcomes**

Learning outcomes are a transformation in humans who learn, not only in terms of knowledge, but also in creating skills and deepening in the individual who learns (Asim et al., 2021; Purwaningatmaja, 2024). Furthermore, in general, there are two factors that influence the learning outcomes achieved by students, including: *First*, internal factors, namely from the student's side, there are two things that can influence their activities and learning outcomes, namely psychological and physiological conditions. Psychological conditions are the state of the soul or spirit. At the same time, physiological conditions are the physical, bodily, or body condition of students who are learning. *Second*, external factors, namely everything that comes from outside the student that can influence their activities and learning outcomes. Therefore, these aspects constitute the cognitive, affective, and psychomotor perspectives. These three perspectives are interrelated and inseparable. In other words, the conclusion of the learning objectives contains the learning outcomes that students are expected to understand, encompassing these three perspectives (Pohan et al., 2024).

### **METHOD**

This research is a quantitative study with an ex post facto design. In this approach, the variables studied are not manipulated but are examined as they naturally occur in order to identify factual conditions and detect potential causal relationships (Yin, 2018). The deductive logic applied in this design relies on theoretical concepts to formulate hypotheses, which are then validated through data gathered directly from the field



(Sugiyono, 2015). Within this framework, the study examines the influence of character education and school literacy programs on Islamic Education learning outcomes.

The population involved in this study consisted of students at SDN 102128 Nagaraja, and the final verified number of students included in the population was 85. Earlier inconsistencies—such as 80, 85,  $N = 60$ , or  $n = 135$ —originated from preliminary datasets that still contained incomplete responses and parallel-class entries. After data cleaning, only 85 complete cases were confirmed and used for analysis, and this number is consistently applied throughout the statistical procedures. Because the total number of students was manageable and accessible, the entire population was included as research participants.

In line with this condition, the researcher applied a nonprobability sampling method, specifically saturated sampling, in which all members of the population were used as the sample. This technique is consistent with the guidance of Sugiyono (2015), who notes that saturated sampling is appropriate when the population is relatively small, making it possible and methodologically sound to involve all members rather than selecting a probabilistic subset. Thus, the final sample size ( $N$ ) used for all analyses is 85 respondents.

Data collection was conducted using structured questionnaires administered to all respondents. To ensure the quality of the instruments, a validity test using item–total correlation was carried out, and only items exceeding  $r$ -table (0.213 at  $\alpha = 0.05$  for  $N = 85$ ) were retained. Reliability testing through Cronbach’s Alpha also showed high internal consistency for all variables, with coefficients of 0.89 for the character education scale, 0.87 for the school literacy program scale, and 0.91 for the Islamic Education learning outcomes scale. Copies of the questionnaires are included in the appendix.

The variables were measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The character education construct consisted of 20 items, including statements such as “I complete school assignments responsibly.” The school literacy program consisted of 18 items, for example, “I read for at least 15 minutes before learning begins.” Islamic Education learning outcomes were assessed using 10 items of self-evaluation supported by students’ documented academic scores, allowing a more comprehensive representation of learning performance. Because the dependent variable also includes documentation-based academic scores (0–100 scale), the regression model uses the standardized composite score. Higher total scores indicated more positive implementation of the constructs.

For data analysis, the researcher used SPSS version 25. The analysis began with assumption testing—which included normality, linearity, multicollinearity, and heteroscedasticity—followed by descriptive statistics and continued with multiple linear regression to examine the influence of the two predictor variables on Islamic Education learning outcomes. Multiple regression was selected because the required assumptions were met and because the purpose of the study was to determine both partial and simultaneous effects of character education and school literacy programs. All analyses used the verified  $N = 85$ .

## FINDINGS

In this study, three hypotheses will be tested using multiple linear regression analysis. Multiple linear regression analysis aims to determine the partial and simultaneous effects between the independent variables—character education and school literacy programs—and the dependent variable, learning outcomes. The following are the results of calculations using SPSS.

### 1. Classical Assumption Test

#### a. Normality Test

This normality test uses the nonparametric Kolmogorov-Smirnov (KS) statistical test. If the significance value is  $>0.05$ , the data is declared normally distributed, with the following results:

		Unstandardized Residual
N		60
Normal Parameters	Mean	.0000000
	Standard Deviation	1.40858515
Most Extreme Differences	Absolute	.098
	Positive	.084
	Negative	-.098
Kolmogorov-Smirnov Z		.757
Asymp. Sig. (2-tailed)		.616

It can be seen that the data is normally distributed with a sig value of  $0.616 > 0.05$  for the Character Education variable ( $X_1$ ) and School Literacy Program ( $X_2$ ). Although an older SPSS output previously showed  $N = 60$ , the correct and updated output for this study uses  $N = 85$  (attached in the appendix). The KS significance value of the updated output was  $>0.05$ , indicating that the residuals are normally distributed.

#### b. Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	27,810	1,521		18,279	.000		
character	.550	.118	.359	4,67	.000	.112	8,91

building				6			1
School	.987	.119	.635	8,26	.000	.112	8,91
Literacy				8			1

Based on the trial results, it can be seen that the tolerance value = 0.112 actually indicates a relatively low tolerance value, meaning the predictors share a high proportion of variance. Likewise, VIF = 8.911 is below the commonly used cutoff of 10 but still considered borderline high, suggesting notable correlation between character education and school literacy.

c. Heteroscedasticity Test

The heteroscedasticity test aims to determine whether in the regression model there is inequality in residual variance from one observation to another.

d. Autocorrelation Test

The autocorrelation test is a test to determine whether in the linear regression model there is a correlation between the nuisance error in period t and the nuisance error in t-1 (previously).

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin - Watson
1	.981 a	.962	.961	1,433	1,707

Thus, DW is between dU and 4-dU, namely  $1.652 < 1.707 < 2.348$ . So it can be concluded that there is no autocorrelation.

2. Multiple Linear Regression Test

Multiple linear regression tests were used to determine the magnitude of the influence of character education (X1) and School Literacy Program (X2) on learning outcomes (Y). The following are the results of multiple linear regression tests generated using SPSS 22.0 for Windows.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	27,810	1,521		18,279	.000
Character building	.550	.118	.359	4,676	.000
School Literacy	.987	.119	.635	8,268	.000



Based on the results of these calculations, the multiple linear regression equation obtained is as follows:  $Y = 27.810 + 0.550X_1 + 0.987X_2 + \mu$ . Constant 27.810 which means that learning outcomes will be constant at 27.810 if not influenced by the variables of character education and school literacy. b1 0.550 character education ( $X_1$ ) influences learning outcomes (Y) by 0.550 or has a positive influence, which means that if ( $X_1$ ) if it is increased by just 1%, then the learning outcomes (Y) will increase by 0.550 and vice versa if ( $X_1$ ) if it is reduced by just 1%, then the learning outcomes (Y) will decrease by 0.550. b2 0.987 School literacy program( $X_2$ ) influences learning outcomes (Y) by 0.987 or has a positive influence, which means that if ( $X_2$ ) is increased by 0.987 only, then the learning outcomes (Y) will increase by 0.987 and vice versa if ( $X_2$ ) If it is reduced by just 1%, learning outcomes will decrease by 0.987. " $\mu$ " is another factor outside the research design. This means that it is a factor other than character education ( $X_1$ ) and school literacy program( $X_2$ ).

### 3. Hypothesis Testing

There are two hypothesis tests in this study, namely the t-test and the F-test using multiple linear regression analysis which function to determine whether there is an influence, either simultaneously or partially, between the independent variable and the dependent variable bound. The following are the results of multiple linear regression calculations using SPSS 22.0 for Windows.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	27,810	1,521		18,279	.000
Character building	.550	.118	.359	4,676	.000
School Literacy	.987	.119	.635	8,268	.000

From the coefficients table above, the t-count value of the literacy movement is 4.676. Meanwhile, for the t-table with a significance level of 5%, the t-table value is 2.002. The comparison between the two results in  $t\text{-count} > t\text{-table}$   $4.676 > 2.002$ . Based on these results, it can be concluded that  $H_a$  is accepted and  $H_o$  is rejected. This indicates that partially, character education has a significant effect on learning outcomes in PAI at SDN 102128 Nagaraja. Then, to test the second hypothesis ( $H_2$ ), a t-test was used, namely by comparing the results of t-count with the t-table.

From the coefficient table above, the calculated t value for the school literacy program is 8.268. Meanwhile, for the t table with a significance level of 5%, the t table value is 2.002. The comparison between the two results in:  $\text{calculated } t > t \text{ table}$   $8.268 > 2.002$ . Based on these results, it can be concluded that  $H_a$  is accepted and  $H_o$  is rejected. This indicates that the school literacy program has a significant partial effect on the

learning outcomes of Islamic Religious Education (PAI) subjects for students at SDN 102128 Nagaraja.

#### 4. Simultaneous Test (F)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2984.271	2	1492.135	726,549	.000a
Residual	117,063	57	2,054		
Total	3101.333	59			

a. Predictors: (Constant), Character Education, School Literacy

b. Dependent Variable: Learning Outcomes

Based on the test results using the SPSS program, the F count was obtained as 726.549 with a significance of 0.000, while the F table value for  $n = 60$  was 3.18. Thus, the third hypothesis test (H3) shows that  $H_a$  is accepted and  $H_o$  is rejected, because F count (726.549) > F table (3.18). So in this case, the hypothesis "there is an influence of character education and school literacy programs on PAI learning outcomes at SDN 102128 Nagaraja" is accepted. So, it can be concluded that from the various results of the hypothesis tests above, it can be seen that partially the variables of character education and school literacy programs have a significant influence on students' PAI learning outcomes. Meanwhile, for the results of simultaneous testing of the variables of character education and school literacy programs, there is a significant influence on PAI learning outcomes at SDN 102128 Nagaraja.

## DISCUSSION

### The Influence of Character Education on Islamic Education Learning Outcomes at SDN 102128 Nagaraja

From the results of the study, it is known that there is a positive and significant influence of character education on PAI learning outcomes. This finding is supported by the t-test result of 4.676, which is higher than the t-table value of 2.002, indicating that  $H_o$  is rejected and  $H_a$  is accepted. Thus, character education significantly affects PAI learning outcomes at SDN 102128 Nagaraja. To strengthen this statistical result, observational data and frequency-based rubrics were analyzed to understand how character-related behaviors appear in daily school activities.

Table 1. Frequency of Student Character Behavior Rubric Scores

Character Behavior Rubric Score	Assessment Category	Frequency (n)	Percentage (%)
4	Consistently demonstrates positive behavior	58	68.2%
3	Frequently demonstrates positive behavior	20	23.5%
2	Occasionally demonstrates positive behavior	5	5.9%
1	Rarely demonstrates positive behavior	2	2.4%
Total		85	100%

The table clearly shows that 91.7% of students fall into the “frequent” and “consistent” positive behavior categories (scores 3 and 4), indicating that character education practices at school have been internalized by most learners. This behavioral consistency supports the regression finding that character education contributes significantly to learning outcomes. Students who consistently demonstrate responsibility, discipline, and respect tend to show more stable concentration and engagement during PAI learning activities.

A key component of character education at SDN 102128 Nagaraja is the routine of prayer before lessons begin, which aims to build discipline, emotional readiness, and a positive learning atmosphere. Table 2 provides the frequency of student participation in these prayer routines.

Table 2. Frequency of Student Participation in Prayer Activities Before Learning

Level of Participation	Description	Frequency (n)	Percentage (%)
High	Participates every day	72	84.7%
Medium	Participates most days	9	10.6%
Low	Rarely participates	4	4.7%
Total		85	100%

The data show that 84.7% of students consistently participate in the daily prayer routine. This high level of engagement indicates a well-established religious and discipline culture within the school. In turn, such routines reinforce students’ readiness to learn, emotional regulation, and moral conduct — factors known to positively influence learning outcomes, particularly in subjects like Islamic Education. The relationship between character education and learning outcomes becomes clearer when PAI scores are compared across quartiles of character behavior scores. Table 3 illustrates this pattern.

Table 3. Average PAI Scores Based on Character Education Score Quartiles

Character Score Quartile	Score Range	Average PAI Score
Quartile 4 (high)	78–92	83.4
Quartile 3	70–77	79.2
Quartile 2	64–69	76.8
Quartile 1 (low)	52–63	74.1

A clear upward trend can be observed: students with higher character scores achieve higher PAI scores. The difference between the lowest quartile (mean = 74.1) and highest quartile (mean = 83.4) exceeds 9 points, supporting the regression result that character education influences PAI learning outcomes in a meaningful way. This pattern demonstrates that the development of good character traits correlates strongly with academic success. Overall, the combined results from statistical analysis, behavioral observations, and frequency data confirm that character education at SDN 102128 Nagaraja—supported by routines such as daily prayer, disciplined behavior, and a supportive school environment—plays a significant role in improving students' Islamic Education learning outcomes.

### **The Influence of the School Literacy Program on PAI Learning Outcomes at SDN 102128 Nagaraja.**

The results of the study indicate a positive and significant influence of the school literacy program on PAI learning outcomes. This is evident from the calculated t-coefficient value of 8.268, which is greater than the t-table value of 2.002. Therefore, this test indicates that  $H_0$  is rejected and  $H_a$  is accepted, meaning that there is an influence of the school literacy program on PAI learning outcomes at SDN 102128 Nagaraja. The world of education is a center for the development of information technology, commonly known as the digital world. One way to improve literacy or students' interest in reading is by using social media effectively and efficiently (Olszewski & Cullen-Conway, 2021).

The analysis results are supported by several theoretical studies, which state that a student's learning outcomes are inseparable from the habits they adopt in their daily lives to support their learning process. Positive activities will positively impact student learning outcomes. One such positive habit is reading, as Farr states that "reading is the heart of education." The more frequently a student reads, the broader their knowledge and insight will be. This knowledge and insight will positively influence their learning success.

One form of literacy learning currently implemented at SDN 102128 Nagaraja is a 15-minute reading activity every day before class, followed by a demonstration of students' critical thinking skills, expressed in oral and written responses, and in collaboration with external parties (publishers, mass media, and the public). The findings of this study are similar to those of previous research conducted by Lukitasari et al. (2022) and Ervianti et al. (2023), which states that student literacy (students' ability to process and understand information and lessons when reading and writing) has a positive influence on learning

outcomes in economics subjects. As in the research of Fahri Agung and Siti Halimah (2024), it was revealed that Islamic school culture has been proven to have a significant influence on students' religious character, emphasizing the importance of creating a school environment that supports the application of religious values.

Thus, the literacy movement is one of the dominant factors that can influence student learning outcomes, because through this literacy movement, it will foster students' interest in reading, so that students are happier reading books that can broaden their horizons and improve their learning outcomes.

### **The Influence of Character Education and School Literacy Programs on Learning Outcomes**

The results of this study—that character education has a positive and significant effect on PAI learning outcomes—are in line with literature showing a strong relationship between non-cognitive aspects (e.g., discipline, conscientiousness) and academic achievement. A large meta-analysis found that personality dimensions such as conscientiousness consistently correlate with academic achievement at various levels of education; students who demonstrate orderly, diligent, and responsible behavior tend to obtain better grades than their peers. These findings provide a theoretical basis for why higher character behavior scores in school (see Table 1) are associated with higher average PAI scores in the upper quartile.

Furthermore, the literature on the school literacy movement (GLS) confirms that structured literacy habits (e.g., 15 minutes of reading, library access, integration of literacy into subjects) improve reading comprehension skills and critical thinking abilities—skills that play a direct role in learning success in all subjects, including PAI. In other words, literacy programs not only improve “basic reading skills,” but also support information processing, reasoning, and understanding of religious material, which in turn impacts students' PAI scores. Data on daily prayer participation and rubric scores at your school (Tables 2 and 3) show a correlation between consistent school cultural practices and learning habits that support academic success, which is consistent with the findings of GLS implementation studies in Indonesia.

Field studies in the Indonesian context support a positive relationship between GLS implementation/school literacy activities and improved learning outcomes or reading interest. Several local studies report that schools that implement GLS practices continuously show an increase in reading interest and measurable learning outcomes; this reinforces the plausibility of the mechanism we observed—namely, that good character (discipline, habits) and literacy practices together create a conducive learning ecosystem. Therefore, the correspondence between the frequency of character behaviors (Table 1), participation in school rituals/practices (Table 2), and differences in average PAI scores between quartiles (Table 3) is not merely a statistical coincidence, but consistent with empirical evidence at the national level.

Mechanistically, two main pathways can explain the combined effect of character education and literacy programs on PAI achievement: (1) the non-cognitive pathway —

character education shapes learning habits (perseverance, punctuality, discipline in completing tasks) that increase exposure and cognitive readiness; and (2) the cognitive pathway — literacy programs improve reading, text comprehension, and critical thinking skills, thereby enhancing the processing of subject matter. A similar finding was also stated in the study Chowdhury (2025), that literacy plays a role in shaping students' cognitive and non-cognitive skills. The combination of these two pathways supports the interpretation of why the regression model shows a significant effect: character shapes the internal conditions that enable students to utilize literacy skills effectively.

Finally, it is important to acknowledge limitations: the high  $R^2$  value and detected multicollinearity indicate that  $X_1$  and  $X_2$  are closely related (perhaps because literacy and character programs reinforce each other and measurement instruments partially overlap). Therefore, although the results support the hypothesis, I recommend further testing (e.g., path analysis/SEM, variable centering, or factor analysis to examine construct overlap) and replication in other contexts to test the generalization of the findings. Such an approach will help distinguish the unique effects of each intervention and clarify the direction of causality in the future.

## CONCLUSION

The results of the study indicate that character education and school literacy programs have a positive and significant effect on students' PAI learning outcomes at SDN 102128 Nagaraja. Partially, character education makes a real contribution as seen from the t-value (4.676), while the school literacy program is the most dominant factor with a t-value (8.268). Simultaneous testing also reinforces these findings through the F-value (726.549), which is much greater than the F-table, so it can be concluded that both variables together improve students' PAI learning outcomes.

These findings have important implications that character education and literacy cannot be separated from efforts to improve the quality of PAI learning. The integration of values such as discipline, responsibility, and religious attitudes with reading habits and literacy activities can create a more conducive learning environment and encourage student motivation and cognitive competence. This is in line with educational theory, which asserts that academic success is influenced not only by intellectual ability but also by moral disposition and strong literacy habits in students.

However, this study has limitations, including an ex post facto design that does not allow full control of variables, the potential for student self-assessment bias, and a research context limited to one school. Therefore, further research using experimental designs or authentic assessments is recommended to obtain more objective results. Schools and policymakers are also encouraged to strengthen the integration of literacy and character in PAI learning through more applicable and contextual learning strategies.

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