

THE INFLUENCE OF PRINCIPAL LEADERSHIP, PEDAGOGICAL COMPETENCE AND TEACHER PERFORMANCE ON THE CHARACTER OF 21ST CENTURY LEARNING IN PUBLIC HIGH SCHOOL STUDENS IN PANDEGLANG REGENCY, BANTEN PROVINCE

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Abstract

This study aims to test the hypotheses (1) there is no/there is a direct influence of principal leadership on the character of 21st Century learning at SMAN Pandeglang; (2) there is no/there is a direct influence of pedagogical competence on the character of 21st Century learning at SMAN Pandeglang; (3) there is no/there is a direct influence of teacher performance on the character of 21st Century learning at SMAN Pandeglang; (4) there is no/there is a direct influence of principal leadership through teacher performance on the character of 21st Century learning at SMAN Pandeglang; (5) there is no/there is a direct influence of pedagogical competence through teacher performance on the character of 21st Century learning at SMAN Pandeglang. This study was conducted on high school students in Pandeglang Rwgwncy, Banten Province. This research is a quantitative study using a survey (correlational) method. The data collection technique in this study used a questionnaire. To test the research hypothesis, the analysis technique used to calculate statistics was the Statistical Package for the Social Sciences (SPSS) and the path analysis trial used Structural Equation Modeling – Partial Least Squares (SEM-PLS). The population in this study were 400 high school students in Pandeglang Regency from 20 high school. The results of the study showed that: (1) There is a positive and significant influence between principal leadership and 21st Century learning character; (2) There is a positive and significant influence between pedagogical competence and 21st Century learning character; (3) There is a positive and significant influence between teacher performance and 21st Century learning character; (4) There is a positive and significant influence between principal leadership through teacher performance on 21 st Century learning character; and (5) There is a positive and significant influence between pedagogical competence through teacher performance on 21st Century learning character.

Keywords: Principal Leadership, Pedagogical Competence, Teacher Performance and 21st Century Learning Characteritics.

1. INTRODUCTION

1.1. Background

The 21st century has witnessed significant changes in various sectors of life as a result of the rapid development of science and technology, including information and communication technology, and increasingly fierce global competition. These conditions require students to possess 21st-century skills (Ministry of Education and Culture, 2013: 25). Therefore, the learning process is directed toward achieving these skills, which include character, literacy, and competency (Trilling & Hood, 2019: 159).

Character development reflects efforts to improve students' abilities to navigate a constantly changing environment. One important aspect of the Independent Curriculum is helping students identify their potential, interests, and talents for career development in higher education and in society (Majir, 2020: 181). Students need to be trained to develop character traits relevant to the demands of the 21st century, such as faith and piety, love for their country, curiosity, initiative, perseverance, adaptability, leadership, social and cultural awareness, and accountable decision-making.

Based on the 21st-century learning framework, as explained by Bogoslov and Georgescu (2019: 24-28), there are skills that teachers and students need to possess, including:

1.2. Critical thinking and problem-solving skills, which include thinking to find solutions.

Critical thinking is the ability to analyze information, ideas, or situations logically, systematically, and objectively before making decisions. This involves: a). Analysis, which involves breaking down information into smaller parts to understand cause-and-effect relationships, patterns, or biases. B). Evaluation, which involves assessing the credibility of sources, the validity of arguments, or the strengths/weaknesses of an approach. C). Synthesis, which involves combining information from multiple perspectives to form a coherent understanding. D). Reflection, which involves examining one's own assumptions and validating the truth of a claim. For example, when reading the news, a critical thinker will examine sources, compare facts, and avoid conclusions based on emotion.

1.3. Communication and collaboration skills, namely interacting effectively with various parties.

Communication and collaboration skills refer to the ability to clearly exchange information, ideas, and resources, and to work together with people or groups from different backgrounds, roles, or interests to achieve common goals. These skills complement each other and encompass the effective delivery and reception of messages, both verbal (spoken/written) and non-verbal (body language, expressions).

1.4. Creativity and innovation, which focus on developing new ideas to create breakthroughs.

Creativity and innovation are two sides of the same coin. Creativity provides the fuel for fresh ideas, while innovation transforms them into world-changing solutions. Breakthroughs don't emerge instantly, but through a creative process that combines the courage to think differently and persistence in execution.

1.5. Information and communication technology (ICT) literacy, to improve understanding of work in daily activities.

ICT literacy refers to an individual's ability to understand, use, manage, and evaluate digital technology and communication tools effectively, responsibly, and critically. In the context of school learning, ICT literacy aims to improve efficiency, productivity, and the quality of learning outcomes through the use of technology.

1.6. Contextual learning, as part of self-development.

Contextual learning emphasizes the connection between the material being studied and real-life situations that students can observe and analyze. This means that during learning activities, students can experience and directly see the real-life application of the material being studied. Examples of contextual learning in the classroom include: a). The teacher demonstrates the butterfly stroke in front of the students; b). The teacher displays a picture of a human skeleton to demonstrate the parts of the human skeleton; c). The teacher brings teaching materials such as germination to demonstrate the process of seed growth; d). The teacher brings examples of newspapers or magazines to discuss the news; e). The teacher takes students to areas prone to flooding or landslides to explain soil structure. Information and media literacy, to utilize communication media to convey ideas and collaborate. Information and media literacy includes:

- a) Searching for, assessing the credibility of, and using information effectively, for example, distinguishing facts from hoaxes;
- b) Understanding the ethics of information use, such as copyright and privacy;
- c) Critically analyzing the role of media (text, visual, and audio), including its purpose, bias, and propaganda;
- d) Recognizing the impact of media on public perception, for example, the influence of advertising or social media algorithms.

These skills are an essential foundation for building a generation capable of competing in the global era. In addition to technical skills, 21st-century humans also require a number of character and behavioral aspects to support their success. These aspects include:

- 1) Leadership: the ability to lead and take initiative to create innovations.
- 2) Personal Responsibility: taking responsibility for all actions taken as an independent individual.
- 3) Ethics: respecting and adhering to ethical values in social life.
- 4) People Skills: possessing the basic skills to function as an individual and a social being.
- 5) Adaptability: the ability to adapt to various changes in life.
- 6) Self-Direction: having clear goals and principles to achieve ideals.
- 7) Accountability: the ability to be accountable for every action based on clear reasons.
- 8) Social Responsibility: concern for the environment and surrounding community.
- 9) Personal Productivity: the ability to improve one's quality of life through daily activities.

The teaching and learning process must also involve environments beyond the classroom to broaden students' horizons. A 21st-century national education strategy

in the context of Indonesia, with its geo-demographic and cultural diversity, must consider both local and global challenges. Some steps that must be taken include:

- 1) Fostering commitment and empowering stakeholders, from the central government to regional governments.
- 2) Enhancing the role of the informal sector and communities in non-formal education.
- 3) Developing community creativity in implementing local cultural paradigms.
- 4) Improving the quality of human resources in education.
- 5) Ensuring equitable distribution of formal and non-formal education based on community needs.
- 6) Designing a new paradigm-based education strategy that encompasses planning, implementation, and evaluation.

Pandeglang Regency is one of four regencies located in Banten Province, Indonesia. It was established on April 1, 1874. Its capital is Pandeglang District. It consists of 35 sub-districts, 326 villages, and 13 urban villages. At the end of 2024, Pandeglang had a population of 1,413,897. Most of Pandeglang Regency consists of lowlands and rolling plains. Among the rivers flowing through it are the Ciliman River, which flows westward, and the Cibaliung River, which flows southward. (www.pandeglang.kab.go.id).

Pandeglang Regency borders Serang Regency to the north, Lebak Regency to the east, and the Indian Ocean to the west and south. Its territory also includes Panaitan Island (separated by the Panaitan Strait to the west) and several small islands in the Indian Ocean, including Deli Island and Tinjil Island. The Ujung Kulon Peninsula is the westernmost tip of Java, home to a wildlife sanctuary that protects the now-almost-extinct one-horned rhinoceros. Its indigenous people are the Banten Sundanese. Pandeglang Regency is home to three mountains: Mount Aseupan, Mount Karang, and Mount Pulosari (AKARSARI).

In Pandeglang Regency, there are 20 State Senior High Schools (SMAN) under the Banten Province Education and Culture Office (Dindikbud). The 20 SMANs include SMAN 1 Pandeglang located in Karang Tanjung District, SMAN 2, 6 and SMA Cahaya Madani Banten Boarding School (CMBBS) located in Majasari District. Meanwhile, SMAN 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19 are located in Labuan, Menes, Cibaliung, Munjul, Kadu Hejo, Sobang, Cisata, Cikedal, Picung, Cadasari, Banjar, Carita, Sumur, Cigeulis, Cikeusik and Cipeucang Districts, respectively.

In Pandeglang Regency, the quality of 21st-century learning during the 2020–2023 period remains far from expectations. Various factors contribute to the low quality of education, such as the impact of the COVID-19 pandemic. The pandemic has resulted in suboptimal learning; teachers only carry out formal tasks without adhering to standard operating procedures (SOPs). Furthermore, limited facilities and infrastructure, low teacher technological literacy (53% according to the Ministry of Education and Culture), and a lack of parental support are obstacles.

As a result, by 2024, there will be a learning loss of 60% in numeracy and 50% in literacy. This is equivalent to the loss of six months of literacy learning and five months of numeracy learning. However, learning loss can be overcome if all educational components are implemented in accordance with the National Education Standards (SNP). The SNP guarantees that 21st-century learning can be achieved if implemented optimally.

The quality of 21st-century learning can be measured through the results of the Minimum Competency Assessment (AKM). The AKM analysis provides a standard overview of 21st-century learning characteristics that can be implemented in every school, based on data from the Indonesian Ministry of Education and Culture, as shown in the following table.

Table 1.1. Data on 21st Century Learning Characteristics in Banten Province

| District/City Name | Average Ability of High School Students to Think Critically, Creatively and Innovatively, Collaborative Communication, based on National Assessment | | | Average High School Numeracy Ability Based on National Assessment | | |
|------------------------|---|-------------------|-------------------|---|-------------------|-------------------|
| | Achievements 2021 | Achievements 2022 | Achievements 2023 | Achievements 2021 | Achievements 2022 | Achievements 2023 |
| Kab. Pandeglang | 4,54 | 4,64 | 4,74 | 4,48 | 4,58 | 4,68 |
| Kab. Lebak | 4,58 | 4,68 | 4,78 | 4,54 | 4,64 | 4,74 |
| Kab. Tangerang | 4,65 | 4,75 | 4,85 | 4,60 | 4,70 | 4,80 |
| Kab. Serang | 4,56 | 4,66 | 4,76 | 4,48 | 4,58 | 4,68 |
| Kota Tangerang | 4,84 | 4,94 | 5,04 | 4,63 | 4,73 | 4,83 |
| Kota Cilegon | 4,66 | 4,76 | 4,86 | 4,52 | 4,62 | 4,72 |
| Kota Serang | 4,73 | 4,83 | 4,93 | 4,52 | 4,62 | 4,72 |
| Kota Tangerang Selatan | 4,91 | 5,01 | 5,11 | 4,85 | 4,95 | 5,05 |

(Sumber: Kemendikbud.go.id)

The table shows that low levels of critical thinking, creativity, innovation, communication, and collaboration indicate poor teacher performance in the learning process. This significantly impacts the achievement of optimal results, especially when compared to the targets set by the Pandeglang Regency Government for the coming years. Therefore, it is crucial to immediately improve the quality of learning and teacher

performance. Without appropriate improvements, it will be difficult to effectively achieve these targets.

In carrying out their role as school leaders, principals require a leadership model and style that are not accidental but reflect underlying principles. Components that influence individual performance and quality, such as values (beliefs), norms, and school culture, significantly determine the quality of education implemented. School culture, encompassing the collection of values, beliefs of each individual, assumptions, understandings, and expectations shared by all members of the school community, serves as a guideline for behavior and problem-solving. As the basis for personal or group life transformation, this culture plays a crucial role in creating a supportive environment. Wiyani (2020: 91) emphasizes that principals must have the ability to facilitate teachers in efforts to improve the character of 21st-century learning in their schools, which involves developing skills and values relevant to the demands of the times.

1.7. Problem Identification

Based on the research background, the following research problems can be identified:

1. Principal leadership has not fully developed 21st-century learning characteristics.
2. Teacher pedagogical competence is still low for implementing 21st-century learning.
3. Teacher performance is still low in supporting 21st-century learning.
4. Students' ability to absorb 21st-century learning is also still low.
5. Facilities and infrastructure are inadequate for 21st-century learning.

1.8. Problem Delimitation

Based on the problem identification presented above, this research focuses on three main aspects influencing 21st-Century Character Learning in Public Senior High Schools in Pandeglang Regency: Principal Leadership, Pedagogical Competence, and Teacher Performance. This study aims to explore how these three factors contribute to the implementation of 21st-Century character learning in these schools. The focus on principal leadership relates to their ability to lead and facilitate student character development, while pedagogical competence refers to teachers' abilities to teach and apply methods appropriate to 21st-century learning. Teacher performance, as a determining factor in the implementation of character learning, is also a primary focus of this study.

1.9. Problem Formulation

The problem formulation in this study is as follows:

1. Is there a direct influence of principal leadership on the 21st-Century learning character of public high school students in Pandeglang Regency?

2. Is there a direct influence of teacher pedagogical competence on the 21st-Century learning character of public high school students in Pandeglang Regency?
3. Is there a direct influence of teacher performance on the 21st-Century learning character of public high school students in Pandeglang Regency?
4. Is there an indirect influence of principal leadership through teacher performance on the 21st-Century learning character of public high school students in Pandeglang Regency?
5. Is there an indirect influence of teacher pedagogical competence through teacher performance on the 21st-Century learning character of public high school students in Pandeglang Regency?

1.10. Research Objectives

The objectives of this research are to analyze:

1. The direct influence of principal leadership on 21st-Century learning characteristics in public high school students in Pandeglang Regency.
2. The direct influence of teacher pedagogical competence on 21st-Century learning characteristics in public high school students in Pandeglang Regency.
3. The direct influence of teacher performance on 21st-Century learning characteristics in public high school students in Pandeglang Regency.
4. The indirect influence of principal leadership through teacher performance on 21st-Century learning characteristics in public high school students in Pandeglang Regency.
5. The indirect influence of teacher pedagogical competence through teacher performance on 21st-Century learning characteristics in public high school students in Pandeglang Regency.

2. METHODOLOGY

This study uses a descriptive qualitative approach with the aim of understanding and interpreting the symbolic meaning of gender roles constructed in advertisements for household products in Indonesia. A qualitative approach was chosen because this study focuses on meanings, symbols, and representations that cannot be measured quantitatively, but rather need to be understood in depth through the interpretation of social and cultural contexts. Qualitative research allows researchers to capture the complexity of meaning contained in advertising messages and the underlying gender ideology (Sugiyono, 2022; Mulyana, 2022).

2.1. Type, Location, and Time of Research

2.1.1. Type of Research

This type of research is correlational, with the aim of determining the direct and indirect effects between the variables studied. The variables studied are: Principal

Leadership (variable X1), Teacher Pedagogical Competence (X2), Teacher Performance (X3), and 21st-Century Learning Characteristics (Variable Y).

2.1.2. Research Location

This research was conducted at a public senior high school (SMA) in Pandeglang Regency, Banten Province.

2.1.3. Research Time

May 2025 – December 2025

2.2 Materials and Tools

2.2.1. Materials

The research materials that the author will use include survey results, observations, and data collection for questionnaire instruments, as well as other secondary data such as school data or profiles of public senior high schools in Pandeglang Regency.

2.2.2. Tools

The research tool is a computer used to process the dissertation and research data, with typical desktop computer specifications. Computers use data processing software with application specifications used according to field needs.

2.3. Research Method

This research method uses a quantitative approach with an ex post facto survey (research conducted to examine the cause-and-effect relationship of an event that has already occurred). This method was chosen based on the objective of analyzing the influence of principal leadership, pedagogical competence, and teacher performance on the character of 21st-century learning in public high schools in Pandeglang Regency. This study did not involve any deliberate intervention by the researcher, but rather used data already available in the field and owned by the respondents. Therefore, data collection was conducted using a questionnaire.

2.4. Population and Sample

2.4.1. Population

A research population is a group of objects used as research sources, whether objects, people, or events. Populations include not only humans but also other objects. The population in this study was 18,808 students, of which 400 students were sampled, with 20 students from each school from 20 public senior high schools across 18 of the 35 sub-districts in Pandeglang Regency.

Tabel Data on Senior High Schools in Pandeglang

| No. | School name | Number of Teachers | Number of Students | Address | Student Sample |
|-----|-------------------|--------------------|--------------------|---------------|----------------|
| 1 | SMAN 1 Pandeglang | 59 | 1.320 | Karangtanjung | 20 |
| 2 | SMAN 2 Pandeglang | 60 | 1.103 | Majasari | 20 |
| 3 | SMAN 3 Pandeglang | 58 | 1.279 | Labuan | 20 |

| No. | School name | Number of Teachers | Number of Students | Address | Student Sample |
|--------|--------------------|--------------------|--------------------|-----------|----------------|
| 4 | SMAN 4 Pandeglang | 60 | 1.203 | Menes | 20 |
| 5 | SMAN 5 Pandeglang | 50 | 989 | Cibaliung | 20 |
| 6 | SMAN 6 Pandeglang | 71 | 1.089 | Majasari | 20 |
| 7 | SMAN 7 Pandeglang | 40 | 1.001 | Munjul | 20 |
| 8 | SMAN 8 Pandeglang | 51 | 1.095 | Kaduhejo | 20 |
| 9 | SMAN 9 Pandeglang | 31 | 955 | Sobang | 20 |
| 1 | SMAN 10 Pandeglang | 52 | 1000 | Cisata | 20 |
| 1 | SMAN 11 Pandeglang | 62 | 980 | Cikedal | 20 |
| 1 | SMAN 12 Pandeglang | 29 | 983 | Picung | 20 |
| 1 | SMAN 13 Pandeglang | 33 | 890 | Cadasari | 20 |
| 1 | SMAN 14 Pandeglang | 27 | 976 | Banjar | 20 |
| 1 | SMAN 15 Pandeglang | 33 | 901 | Carita | 20 |
| 1 | SMAN 16 Pandeglang | 26 | 804 | Sumur | 20 |
| 1 | SMAN 17 Pandeglang | 27 | 807 | Cigeulis | 20 |
| 1 | SMAN 18 Pandeglang | 20 | 606 | Cikeusik | 20 |
| 1 | SMAN 19 Pandeglang | 20 | 286 | Cipeucang | 20 |
| 2 | SMAN CMBBS | 54 | 541 | Majasari | 20 |
| Jumlah | | 863 | 18.808 | | 400 |

Sumber : www.dapodik.kemendikdasmen.go.id

3. FINDINGS AND DISCUSSION

This chapter presents the research findings based on data collected from respondents. The results are presented systematically, starting with a descriptive analysis of respondent characteristics, the distribution of research variables, and hypothesis testing in accordance with the research objectives. Data presentation aims to provide an initial overview of the sample conditions and the relationships between variables, which serves as the basis for subsequent interpretation and discussion. The following are the findings of this research:

3.1 Deskripsi Responden

Table Respondent Characteristics Based on Age

| Age | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| 15 | 112 | 28.0 | 28.0 | 28.0 |
| 16 | 102 | 25.5 | 25.5 | 53.5 |
| 17 | 91 | 22.8 | 22.8 | 76.3 |
| 18 | 95 | 23.8 | 23.8 | 100.0 |
| Total | 400 | 100.0 | 100.0 | 100.0 |

Based on the distribution of respondents' ages, the majority of students were 15 years old (112 respondents (28.0%)), followed by 102 respondents (25.5%) aged 16 years, 91 respondents (22.8%), and 95 respondents (23.8%) aged 17 years. This shows that the sample taken covers the 15–18 year age range proportionally, so that

the age characteristics of the respondents are representative enough to describe the high school student population in Pandeglang Regency.

Table Respondent Characteristics Based on Class

| Class | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| X | 127 | 31.8 | 31.8 | 31.8 |
| XI | 132 | 33.0 | 33.0 | 64.8 |
| XII | 141 | 35.3 | 35.3 | 100.0 |
| Total | 400 | 100.0 | 100.0 | 100.0 |

The distribution of respondents by class shows that 127 students (31.8%) were in grade 10, 132 (33.0%) were in grade 11, and 141 (35.3%) were in grade 12. Although uneven, this distribution remains relatively even, allowing for data analysis that reflects the conditions of each class in the entire sample of 400 students.

Table Respondent Characteristics Based on Gender

| Jenis Kelamin | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Laki-laki | 194 | 48.5 | 48.5 | 48.5 |
| Perempuan | 206 | 51.5 | 51.5 | 51.5 |
| Total | 400 | 100.0 | 100.0 | 100.0 |

The distribution of respondents by gender shows that 194 male students (48.5%) and 206 female students (51.5%) were female. This percentage indicates that the sample is fairly balanced between males and females, so that the research results can reflect the conditions of both groups representatively in the high school student population in Pandeglang.

3.1.1 Validity and Reliability Test Results

3.1.2.1. Validity Test Results

Validity testing is an important initial stage in the research data analysis process to ensure that each instrument or item in the questionnaire is truly capable of measuring the intended variable. The primary objective of validity testing is to assess the extent to which the questions align (relevance) with the theoretical construct being measured, ensuring that the research results are reliable and reflect the actual situation. An instrument is considered valid if the correlation between item scores and the total score (Corrected Item-Total Correlation) shows significant results and exceeds the table's r value at a certain significance level ($\alpha = 0.05$). Thus, validity testing serves as a step to verify the quality of the instrument before it is used in hypothesis testing, ensuring that the data obtained are truly accurate and representative of the phenomenon being studied. The following are the results of the validity test in this study:

Table Principal Leadership Instruments

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r Tabel (0.098) | Information |
|----|-----------|---------------------|-----------------|-----------------|-------------|
| 1 | KKS1 | 0.634 | 0.000 | 0.098 | Valid |
| 2 | KKS2 | 0.643 | 0.000 | 0.098 | Valid |
| 3 | KKS3 | 0.671 | 0.000 | 0.098 | Valid |
| 4 | KKS4 | 0.550 | 0.000 | 0.098 | Valid |
| 5 | KKS5 | 0.644 | 0.000 | 0.098 | Valid |
| 6 | KKS6 | 0.590 | 0.000 | 0.098 | Valid |
| 7 | KKS7 | 0.443 | 0.000 | 0.098 | Valid |
| 8 | KKS8 | 0.527 | 0.000 | 0.098 | Valid |
| 9 | KKS9 | 0.603 | 0.000 | 0.098 | Valid |
| 10 | KKS10 | 0.512 | 0.000 | 0.098 | Valid |
| 11 | KKS11 | 0.523 | 0.000 | 0.098 | Valid |
| 12 | KKS12 | 0.372 | 0.000 | 0.098 | Valid |
| 13 | KKS13 | 0.696 | 0.000 | 0.098 | Valid |
| 14 | KKS14 | 0.476 | 0.000 | 0.098 | Valid |
| 15 | KKS15 | 0.505 | 0.000 | 0.098 | Valid |
| 16 | KKS16 | 0.649 | 0.000 | 0.098 | Valid |
| 17 | KKS17 | 0.426 | 0.000 | 0.098 | Valid |
| 18 | KKS18 | 0.670 | 0.000 | 0.098 | Valid |
| 19 | KKS19 | 0.579 | 0.000 | 0.098 | Valid |
| 20 | KKS20 | 0.646 | 0.000 | 0.098 | Valid |
| 21 | KKS21 | 0.405 | 0.000 | 0.098 | Valid |
| 22 | KKS22 | 0.388 | 0.000 | 0.098 | Valid |

Based on the validity test results of the Principal Leadership variable instrument consisting of 22 statement items, all items showed a calculated r value $> r$ table (0.098) and a significance value < 0.05 . This indicates that each item has a significant correlation with the total score of the variable, so that all statement items are declared valid. Thus, all items in the Principal Leadership instrument can be used to measure the intended construct, because it has been proven to be able to represent aspects of principal leadership consistently and relevantly in the context of this study.

Table Teacher Pedagogical Competence Instrument

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r Tabel (0.098) | Information |
|----|-----------|---------------------|-----------------|-----------------|-------------|
| 1 | KPG1 | 0.686 | 0.000 | 0.098 | Valid |
| 2 | KPG2 | 0.561 | 0.000 | 0.098 | Valid |
| 3 | KPG3 | 0.701 | 0.000 | 0.098 | Valid |
| 4 | KPG4 | 0.749 | 0.000 | 0.098 | Valid |

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r Tabel (0.098) | Information |
|----|-----------|---------------------|-----------------|-----------------|-------------|
| 5 | KPG5 | 0.775 | 0.000 | 0.098 | Valid |
| 6 | KPG6 | 0.527 | 0.000 | 0.098 | Valid |
| 7 | KPG7 | 0.570 | 0.000 | 0.098 | Valid |
| 8 | KPG8 | 0.584 | 0.000 | 0.098 | Valid |
| 9 | KPG9 | 0.616 | 0.000 | 0.098 | Valid |
| 10 | KPG10 | 0.774 | 0.000 | 0.098 | Valid |
| 11 | KPG11 | 0.749 | 0.000 | 0.098 | Valid |
| 12 | KPG12 | 0.762 | 0.000 | 0.098 | Valid |
| 13 | KPG13 | 0.528 | 0.000 | 0.098 | Valid |
| 14 | KPG14 | 0.739 | 0.000 | 0.098 | Valid |

Based on the results of the instrument validity test for the Teacher Pedagogical Competence variable consisting of 14 statement items, all calculated r values show numbers greater than r table (0.098) and have a significance value of $0.000 < 0.05$. This indicates that each item in the KPG variable has a significant correlation to its total score, so that all statement items are declared valid. Thus, all items in the Teacher Pedagogical Competence instrument are suitable for use because they are able to consistently represent aspects of teacher pedagogical competence which are the focus of this study.

Table Teacher Performance Instrument

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r Tabel (0.098) | Information |
|----|-----------|---------------------|-----------------|-----------------|-------------|
| 1 | KG1 | 0.597 | 0.000 | 0.098 | Valid |
| 2 | KG2 | 0.598 | 0.000 | 0.098 | Valid |
| 3 | KG3 | 0.784 | 0.000 | 0.098 | Valid |
| 4 | KG4 | 0.592 | 0.000 | 0.098 | Valid |
| 5 | KG5 | 0.794 | 0.000 | 0.098 | Valid |
| 6 | KG6 | 0.791 | 0.000 | 0.098 | Valid |
| 7 | KG7 | 0.801 | 0.000 | 0.098 | Valid |
| 8 | KG8 | 0.799 | 0.000 | 0.098 | Valid |
| 9 | KG9 | 0.812 | 0.000 | 0.098 | Valid |
| 10 | KG10 | 0.599 | 0.000 | 0.098 | Valid |

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r Tabel (0.098) | Information |
|----|-----------|---------------------|-----------------|-----------------|-------------|
| 11 | KG11 | 0.632 | 0.000 | 0.098 | Valid |
| 12 | KG12 | 0.576 | 0.000 | 0.098 | Valid |
| 13 | KG13 | 0.584 | 0.000 | 0.098 | Valid |
| 14 | KG14 | 0.798 | 0.000 | 0.098 | Valid |
| 15 | KG15 | 0.444 | 0.000 | 0.098 | Valid |
| 16 | KG16 | 0.687 | 0.000 | 0.098 | Valid |

Based on the results of the instrument validity test for the Teacher Performance variable consisting of 16 statement items, all calculated r values show numbers greater than the r table (0.098) with a significance value of $0.000 < 0.05$. This indicates that each item has a significant relationship with the total score of the variable, so that all items are declared valid. Thus, all statement items in the Teacher Performance variable are suitable for use in research because they have been statistically proven to be able to consistently and accurately describe the aspects of teacher competence being measured.

Table 21st Century Learning Character Instruments

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r tabel (0.098, N=400) | Information |
|----|-----------|---------------------|-----------------|------------------------|-------------|
| 1 | KPA1 | 0.710 | 0.000 | 0.098 | Valid |
| 2 | KPA2 | 0.566 | 0.000 | 0.098 | Valid |
| 3 | KPA3 | 0.482 | 0.000 | 0.098 | Valid |
| 4 | KPA4 | 0.559 | 0.000 | 0.098 | Valid |
| 5 | KPA5 | 0.749 | 0.000 | 0.098 | Valid |
| 6 | KPA6 | 0.447 | 0.000 | 0.098 | Valid |
| 7 | KPA7 | 0.769 | 0.000 | 0.098 | Valid |
| 8 | KPA8 | 0.743 | 0.000 | 0.098 | Valid |
| 9 | KPA9 | 0.732 | 0.000 | 0.098 | Valid |
| 10 | KPA10 | 0.680 | 0.000 | 0.098 | Valid |
| 11 | KPA11 | 0.700 | 0.000 | 0.098 | Valid |
| 12 | KPA12 | 0.515 | 0.000 | 0.098 | Valid |
| 13 | KPA13 | 0.489 | 0.000 | 0.098 | Valid |
| 14 | KPA14 | 0.542 | 0.000 | 0.098 | Valid |
| 15 | KPA15 | 0.479 | 0.000 | 0.098 | Valid |

| No | Kode Item | Pearson Correlation | Sig. (2-tailed) | r tabel (0.098, N=400) | Information |
|----|-----------|---------------------|-----------------|------------------------|-------------|
| 16 | KPA16 | 0.686 | 0.000 | 0.098 | Valid |
| 17 | KPA17 | 0.393 | 0.000 | 0.098 | Valid |
| 18 | KPA18 | 0.669 | 0.000 | 0.098 | Valid |
| 19 | KPA19 | 0.741 | 0.000 | 0.098 | Valid |
| 20 | KPA20 | 0.708 | 0.000 | 0.098 | Valid |

Based on the results of the instrument validity test for the 21st Century Learning Character variable consisting of 20 statement items, all calculated r values show numbers greater than r table (0.098) with a significance value of $0.000 < 0.05$. This indicates that each statement item has a significant correlation to the total score of the variable, so that all items are declared valid. Thus, all statements in the 21st Century Learning Character variable are suitable for use in this study because they have been empirically proven to be able to represent well the construct of 21st century learning character, which includes aspects of critical thinking, creativity, collaboration, and communication in the context of modern education.

4. CONCLUSION

1. Based on the results of data analysis and hypothesis testing, several conclusions can be formulated as follows.
2. Principal leadership has a positive and significant influence on 21st-Century Learning Character. This finding indicates that the better the implementation of principal leadership, the stronger the 21st-Century learning character formed in students.
3. Teacher Pedagogical Competence has a positive and significant influence on 21st-Century Learning Character. This variable has the largest influence coefficient, making teacher pedagogical quality a primary factor in realizing critical, creative, collaborative, and communicative learning, focused on digital literacy. Teacher performance has a positive and significant impact on 21st-century learning characteristics. Competent teachers are better able to manage modern learning, utilize technology, and create learning interactions conducive to the development of 21st-century skills.
4. Principal leadership has a positive and significant impact on teacher performance. Effective principals are able to improve teacher competence through support, supervision, and professional empowerment.
5. Teacher performance acts as a significant mediator in the relationship between principal leadership and pedagogical competence on 21st-century learning characteristics. This indicates that improving 21st-century learning characteristics

is not only directly influenced by leadership and pedagogy, but is also greatly determined by the quality of teacher competence as an intermediary.

Overall, these findings confirm that the role of the principal and the quality of teachers are key factors in shaping the 21st century learning character of high school students.

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