

## The Influence of Learning Facilities on Students' Academic Achievement at the International Islamic Boarding School Malang

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**Abstract:** This research aims to describe the level of achievement of learning facility conditions and student learning achievement conditions as well as analyzing the influence of learning facilities on student learning achievement at International Islamic Boarding High School in Malang. This research was conducted on 11th class students at International Islamic Boarding High School level in Malang with a total of 150. The sample in this research consisted of 50 students using a random sampling approach. This research analysis uses a quantitative approach with the SPSS analysis method. Data was collected using a questionnaire research instrument. Then, the data was analyzed using a simple linear regression test. The results of this research are (1) the overall achievement of the independent variable for learning facilities at International Islamic Boarding High School level in Malang is in the high category with an average percentage of 76%; (2) the average achievement of student learning achievement variables reaches the high category with a percentage of 75%; (3) learning facilities have a positive and significant effect on student learning achievement. The correlation coefficient is 82% so the relationship between the two variables is very strong. The limitation of this research is that the proposed model was only tested on students at 3 International Islamic Boarding Schools for high school level in Malang out of a total of 5 schools in Malang. The theoretical implication in this research is that the findings from this research provide very valuable insights for the development of theory and practice related to learning facilities.

**Keywords:** Learning Facilities; Student Learning Achievement; International Islamic Boarding School

### INTRODUCTION

In the era of globalization, the world is facing significant changes in various aspects of life, including the field of education. These changes drive educational systems to continuously adapt to the needs of the times and the emerging challenges. In Indonesia, education plays a strategic role in developing human resources that are superior and competent in order to face the increasingly intense global competition. Education aims to maximize students' potential through the teaching and learning process, which involves various essential elements such as learning, teaching, curriculum, student development, learning techniques, teaching aids, facilities and infrastructure, as well as graduation competencies (Rusul, 2015).

One critical element that supports the success of the learning process is the availability of adequate learning facilities. Learning facilities include various components that support teaching and

learning activities, both physically and non-physically. These components include school buildings, classrooms, laboratories, libraries, teaching aids, multimedia rooms, and technology-based facilities. According to Cynthia et al. (2015), comprehensive learning facilities play a vital role in the smoothness of learning, both for academic achievement and non-academic student activities. For example, the presence of well-equipped laboratories allows students to conduct practical exercises that strengthen their understanding of theories, while a well-stocked library supports students' access to various learning references.

Research by Wardani dan Santosa (2021) also shows that learning facilities directly influence students' academic achievement. Their study found that a comprehensive learning environment can enhance students' motivation and learning outcomes. Further, a study by Hedayati et al. (2021) highlights that a comfortable and supportive physical environment can increase students' concentration during the learning process. Proper classroom arrangement, for instance, not only helps students understand the subject matter but also creates a more enjoyable learning experience. Taylor dan Vlastos (2020) add that the aesthetics of the learning space can have a positive psychological impact on students. A clean, organized, and visually appealing learning environment can boost students' motivation, confidence, and comfort during their studies, ultimately contributing to improved academic achievement.

On the other hand, students' academic achievement is the primary indicator of the success of the educational process. Academic achievement encompasses the results students obtain from the learning process, whether in the form of academic grades, mastery of competencies, or the development of non-academic skills. According to Wardani dan Santosa (2021), students' academic achievement is influenced not only by internal factors, such as interest and motivation, but also by external factors, including available learning facilities. Their research shows that schools with better learning facilities tend to produce students with higher achievement levels compared to schools with inadequate facilities.

In the context of technology integration, Smith dan Johnson (2023) found that technology-based learning facilities not only support traditional learning processes but also encourage students' creativity and innovation. The use of facilities such as interactive boards, computers, and stable internet access allows students to learn independently and collaboratively. The ability to use such technology is becoming an essential indicator in shaping students who are competent and prepared to face the challenges of the digital era.

Boarding schools, such as the International Islamic Boarding School, have unique characteristics, where students spend almost all of their time within the school environment, both for learning and daily activities. Therefore, learning facilities at these schools are not limited to classrooms but also include laboratories, libraries, dormitories, dining halls, and recreational spaces. The availability of adequate facilities is expected to meet students' learning needs holistically while supporting their daily activities.

However, research on the impact of learning facilities in the context of boarding schools is still limited. Some studies, such as those by Johnson & Lee, (2020) and Niebuhr (2020), suggest that adequate learning facilities in a boarding school environment have significant potential to improve students' academic performance. Nevertheless, these studies have not specifically examined how learning facilities affect student achievement in international Islamic high schools.

Furthermore, in boarding schools, learning facilities encompass not only classrooms but also laboratories, multimedia rooms, libraries, dormitories, and recreational areas, which collectively form the learning environment. The presence of supporting facilities is expected to enhance students' motivation to learn and achieve higher academic performance.

Based on the above discussion, this study aims to fill this gap by examining the influence of learning facilities on student achievement at the International Islamic Boarding School Malang. This research also aims to describe the condition of learning facilities at the school as a basis for evaluation and future improvements. By understanding the relationship between learning facilities and student achievement, it is hoped that this study will contribute practically to the development of education, particularly in boarding schools.

## **METHODS**

This study uses a quantitative research approach. The objective is to test the hypotheses that have been formulated, so quantitative research is often identified with numerical research (Sugiyono, 2017).

The population in this study consists of 11th-grade students in the 2023/2024 academic year at three International Islamic Boarding Schools in Malang: SMA Swasta Ar Rohmah IIBS Malang, SMA Thursina IIBS Malang, and SMA IIBS Tahfidz Al-Manshurin Malang, with a total of 150 respondents. The random sampling technique was employed to select the sample for this study. The sample size was determined using Isaac and Michael's sample size calculation table, with error margins set at 1%, 5%, and 10%. In this study, the researcher used a 1% error margin to achieve more accurate results (Isaac & Michael, 1971).

The variables used in this study are the independent variable, learning facilities (X), and the dependent variable, academic achievement (Y). The academic achievement variable is based on the average report card grades over three semesters: the 1st and 2nd semesters of grade X, and the 1st semester of grade XI. The data collection method used a research instrument in the form of a questionnaire.

The data analysis method employed in this study is descriptive analysis, which is processed using simple regression analysis and SPSS Version 26 software. In this analysis, there are several stages, starting from linearity testing and normality testing. If the data in this study is normally distributed and linear, Pearson Product Moment correlation analysis can be conducted. However, if

the data is not normally distributed or linear, the appropriate analysis would be using Spearman's Rank Correlation. Spearman's Rank Correlation can be used to examine the relationship between the research variables in non-parametric statistics. This analysis does not require normality and linearity assumptions (Field, 2018). The hypotheses of this study are as follows:

H0: Learning facilities do not have a significant effect on the academic achievement of students at the International Islamic Boarding School Malang.

H1: Learning facilities have a significant effect on the academic achievement of students at the International Islamic Boarding School Malang.

## RESULTS AND DISCUSSION

### RESULTS

#### Respondent Achievement Level Test (TCR)

**Table 1. Frequency, Achievement Level, and Category of Learning Facilities**

	Score	Mean	TCR	Category
X.1	567	3,78	76%	High
X.2	623	4,15	83%	High
X.3	618	4,12	82%	High
X.4	646	4,31	86%	Very High
X.5	630	4,20	84%	High
X.6	640	4,27	85%	Very High
X.7	615	4,10	82%	High
X.8	644	4,29	86%	Very High
X.9	574	3,83	77%	High
X.10	534	3,56	71%	High
X.11	567	3,78	76%	High
X.12	599	3,99	80%	High
X.13	253	1,69	34%	Fairly High
X.14	536	3,57	71%	High
X.15	582	3,88	78%	High
X.16	536	3,57	71%	High
X.17	552	3,68	74%	High
X.18	451	3,01	60%	Fairly High
X.19	622	4,15	83%	High
X.20	656	4,37	87%	Very High
X.21	618	4,12	82%	High
X.22	624	4,16	83%	High
X.23	522	3,48	70%	High
X.24	580	3,87	77%	High
X.25	602	4,01	80%	High
X.26	579	3,86	77%	High
X.27	554	3,69	74%	High
X.28	571	3,81	76%	High
X.29	598	3,99	80%	High

X.30	569	3,79	76%	High
X.31	457	3,05	61%	Fairly High
X.32	544	3,63	73%	High
X.33	583	3,89	78%	High
X.34	567	3,78	76%	High
X.35	566	3,77	75%	High
X.36	604	4,03	81%	High
X.37	507	3,38	68%	High
Total	21090	3,80	76%	High

Based on Table 1, the overall achievement of the independent variable, learning facilities, at the International Islamic Boarding School Malang falls into the "high" category, with an average percentage of 76%. This overall achievement is the result of the performance of each indicator of learning facilities that are represented and measured in this study. The indicator for the aesthetic decoration layout achieved the highest percentage among the other indicators, with item indicator number 20 (87%) falling into the "high" category.

**Table 2. Frequency, Achievement Level, and Category of Academic Achievement**

	Score	Mean	TCR	Category
Y.1	535	3,57	71%	High
Y.2	559	3,73	75%	High
Y.3	590	3,93	79%	High
Total	1684	3,74	75%	High

The results of the descriptive analysis using SPSS in Table 2 show that the average achievement of the students' academic performance variable in this study falls into the "high" category, with a percentage of 75%. The average student response was 3.87, which corresponds to an average report card grade of 85-90. This overall achievement is the result of the performance of each academic achievement indicator, which was measured in this study. The indicator for the average report card grade in the 2nd semester of grade X achieved the highest percentage among the other indicators, with indicator item number 2 reaching 79%.

### Validity Test

**Table 3. Results of Validity Test**

	N	Correlation	Significance	Description
X.1	150	.585**	0,000	Valid
X.2	150	.585**	0,000	Valid
X.3	150	.641**	0,000	Valid
X.4	150	.539**	0,000	Valid
X.5	150	.616**	0,000	Valid
X.6	150	.640**	0,000	Valid
X.7	150	.649**	0,000	Valid
X.8	150	.524**	0,000	Valid
X.9	150	.555**	0,000	Valid

X.10	150	.632**	0,000	Valid
X.11	150	.539**	0,000	Valid
X.12	150	.425**	0,000	Valid
X.13	150	.234**	0,004	Valid
X.14	150	.559**	0,000	Valid
X.15	150	.610**	0,000	Valid
X.16	150	.459**	0,000	Valid
X.17	150	.548**	0,000	Valid
X.18	150	.508**	0,000	Valid
X.19	150	.572**	0,000	Valid
X.20	150	.560**	0,000	Valid
X.21	150	.693**	0,000	Valid
X.22	150	.669**	0,000	Valid
X.23	150	.655**	0,000	Valid
X.24	150	.542**	0,000	Valid
X.25	150	.662**	0,000	Valid
X.26	150	.661**	0,000	Valid
X.27	150	.690**	0,000	Valid
X.28	150	.692**	0,000	Valid
X.29	150	.672**	0,000	Valid
X.30	150	.666**	0,000	Valid
X.31	150	.469**	0,000	Valid
X.32	150	.517**	0,000	Valid
X.33	150	.579**	0,000	Valid
X.34	150	.500**	0,000	Valid
X.35	150	.577**	0,000	Valid
X.36	150	.509**	0,000	Valid
X.37	150	.528**	0,000	Valid
Y.1	150	.727**	0,000	Valid
Y.2	150	.708**	0,000	Valid
Y.3	150	.629**	0,000	Valid

Table 3 shows that there are no missing analyses, as evidenced by the valid number of responses for all indicators, which is 150, the total number of respondents in this study. Each item has a significance value of  $0.000 < 0.05$ , indicating that all items in this study are valid and can be analyzed in the subsequent process.

### Reliability Test

**Table 4. SPSS Reliability Output**

Cronbach's Alpha	N of Items
0,945	40

According to Wiratna Sujerweni (2014) a questionnaire is considered reliable if the Cronbach's Alpha value is greater than 0.6. In Table 4, the Cronbach's Alpha value shows  $0.945 > 0.6$ , indicating that the items in this study are reliable and can be analyzed in the subsequent process.

### Linearity Test

**Table 5. SPSS Linearity Output**

	Sum of Squares	df	Mean Square	F	Sig.
Combined	327,656	63	5,201	6,332	0,000
Linearity	276,251	1	276,251	336,334	0,000
Deviation from Linearity	51,405	62	0,829	1,009	0,479
	70,637	86	0,821		
Total	398,293	149			

Based on Table 5, the Sig. deviation from linearity value is  $0.479 > 0.05$ . This indicates that there is a linear relationship between the independent variable, learning facilities, and the dependent variable, academic achievement.

### Normality Test

**Table 6. SPSS Normality Output**

N		150
Normal Parameters <sup>a,b</sup>	Mean	0,0000000
	Std. Deviation	0,90502700
Most Extreme Differences	Absolute	0,127
	Positive	0,127
	Negative	-0,084
Test Statistic		0,127
Asymp. Sig. (2-tailed)		.000 <sup>c</sup>

Based on Table 6, the results of the normality test show a significance value of  $0.000 < 0.05$ , which means that the residuals are not normally distributed. This leads to the conclusion that the data in this study cannot be analyzed using Pearson Product Moment correlation. Therefore, the researcher used Spearman's Rank Correlation analysis, as it does not require assumptions of normality and linearity.

**Spearman's Rank Correlation Test****Table 7. Spearman's Rank Correlation Test**

		Facilities	Achievement
Facilities	Correlation Coefficient	1.000	.820**
	Sig. (2-tailed)	.	.000
	N	150	150
Achievement	Correlation Coefficient	.820**	1.000
	Sig. (2-tailed)	.000	.
	N	150	150

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Based on Table 7, the significance value between the variables of facilities and achievement is  $0.000 < 0.05$ , indicating a correlation between the independent variable, learning facilities (X), and the dependent variable, academic achievement (Y). It can be seen that the sig. (2-tailed) value is  $0.01 < 0.05$ , indicating a significant relationship between the independent variable, learning facilities (X), and the dependent variable, academic achievement (Y).

In Table 5, the correlation coefficient value is 0.820, which falls within the range of 0.76-0.99. This suggests that the strength of the correlation or relationship between the independent variable, learning facilities (X), and the dependent variable, academic achievement (Y), is very strong at 82%. The positive correlation coefficient value of 0.820 indicates that the direction of the relationship between the variables is positive.

Based on the Spearman's rank correlation calculation performed using SPSS Version 26, the conclusion is that H<sub>0</sub> (no effect of learning facilities on students' academic achievement) is rejected, and H<sub>1</sub> (learning facilities significantly affect academic achievement) is accepted. This conclusion is based on the sig. (2-tailed) value of  $0.01 < 0.05$ , indicating a significant relationship between the independent variable, learning facilities (X), and the dependent variable, academic achievement (Y). The significance value also supports this, with a value of  $0.000 < 0.05$ .

The limitation of this study is that the proposed model was only tested on students from three of the five International Islamic Boarding Schools in Malang. This limitation was due to permission constraints from the other two schools.

## **DISCUSSION**

### **Learning Facilities**

The results of the descriptive analysis using SPSS show that the average achievement of the independent variable, learning facilities, at SMA International Islamic Boarding School Malang, falls into the high category with an average percentage of 76%. This overall achievement reflects the contribution of each indicator of learning facilities that were measured in this study. The indicator related to the beautiful decoration layout achieved the highest percentage among the other indicators, with item number 20 reaching 87%, which falls into the high category. This suggests that the visual and aesthetic elements of the school environment are highly appreciated by the students and possibly by the school staff as well. This can contribute to the comfort and positive learning atmosphere in the school. Attractive and beautiful decoration arrangements can have a positive psychological impact, motivating students to study harder, and creating a conducive learning environment, which in turn positively affects academic achievement (Hedayati et al., 2021; Taylor & Vlastos, 2020).

This finding is consistent with a report from the National Center for Education Statistics (NCES) in 2023, which shows that the overall condition of school facilities affects students' health, comfort, and academic performance in public schools in the United States (NCES, 2023). The report emphasizes that good facilities are crucial in creating a conducive learning environment, which positively impacts students' academic outcomes.

Another study by (Sholikhah & Agustina, 2023) also found that the quality of laboratory facilities and infrastructure in senior high schools plays an important role in supporting learning, especially in science subjects. This research suggests that adequate facilities can improve laboratory readiness and students' practical learning experiences, which are essential for effective science education.

### **Academic Achievement**

Students' academic achievement includes three main aspects: cognitive, which involves knowledge, understanding, and application of the material; affective, which includes attitudes, responses, values, organization, and characterization; and psychomotor, which includes movement skills, actions, and both verbal and non-verbal expressions (Bloom et al., 1956). This can be reflected in students' report card grades over several semesters as indicators of their learning outcomes.

The results of the descriptive analysis using SPSS show that the average achievement of the students' academic performance variable in this study falls into the high category, with a percentage of 75% and an average score of 3.87, which corresponds to an average report card grade of 85-90. The indicator related to the average report card grade in the 2nd semester of grade X achieved the highest percentage among the other indicators, with item number 2 reaching 79%. This reinforces the idea that these results reflect the good quality of learning at the school. This can be interpreted that the learning environment at SMA International Islamic Boarding School Malang, possibly driven by

factors such as teacher competence and the learning environment, as well as the learning facilities, contributes positively to students' academic achievement (Smith & Johnson, 2023).

### **Learning Facilities and Academic Achievement**

Based on the analysis conducted, the results indicate that learning facilities have a significant impact on students' academic achievement at SMA International Islamic Boarding School Malang (H1). This is consistent with previous statements that learning facilities contribute positively to teachers' ability to integrate technology into the teaching process.

Referring to the most significant aspect affecting achievement, learning facilities are the key factor that shows a high percentage of achievement. This aligns with previous research that suggests that adequate learning facilities have a significant impact on students' academic performance (Lee & Bowen, 2020; Sani & Ilyas, 2021). Other studies have also shown that a good learning environment can increase students' motivation and concentration, which ultimately contributes to higher academic achievement. Similarly, research by (Mensah et al., 2017) found that students studying in schools with adequate facilities and good learning support tend to show higher academic performance. This is because a supportive learning environment allows students to focus and engage fully in the learning process.

Therefore, it can be concluded that adequate learning facilities have a significant positive impact on students' academic achievement at SMA International Islamic Boarding School Malang. Investing in good learning facilities and optimal learning support can help improve students' academic performance.

## **CONCLUSIONS AND SUGGESTIONS**

### **CONCLUSIONS**

This study reveals that the learning facilities at SMA International Islamic Boarding School Malang fall into the high category, with one of the prominent indicators being the aesthetically well-designed decoration layout, which greatly contributes to the comfort and motivation of student learning. Student learning achievements also show excellent results, falling into the high category, with the majority of students being able to achieve academic scores that reflect their superior abilities.

The results of the validity and reliability tests show that the research instruments used in data collection have a high level of accuracy, with all items in the questionnaire being valid and reliable. Additionally, the linearity analysis shows a linear relationship between the independent variable (learning facilities) and the dependent variable (student learning achievements). However, since the data did not meet the normality assumption, the researcher used the Spearman Rank correlation analysis, which does not require normality or linearity assumptions.

The analysis results show a significant and very strong relationship between learning facilities and student learning achievements. This relationship is positive, meaning that the better the learning facilities provided, the higher the students' learning achievements. This shows that the quality of learning facilities, including aspects such as the decoration layout, cleanliness, comfort of learning spaces, and the availability of supporting resources, contributes significantly to improving student learning outcomes.

The main conclusion of this study is that learning facilities not only function as supporting elements but also play a strategic role in encouraging students' academic achievements. By improving and enhancing the quality of learning facilities, schools can create a conducive and motivating learning environment, thereby directly contributing to students' academic success. This study also provides evidence that the physical aspects of the learning environment are closely correlated with students' success in academics.

Recommendations from this study are that schools and education stakeholders need to pay more attention to the management of learning facilities. This includes developing comfortable classroom designs, providing complete supporting facilities, and regularly maintaining these facilities. Thus, these efforts can become a long-term strategy to ensure that students can reach their best academic potential.

## **SUGGESTIONS**

Suggestions for the Principal of SMA International Islamic Boarding School Malang given that the decoration layout indicator achieved the highest percentage (79.46%), the school should continue to maintain and improve classroom aesthetics. An attractive layout and beautiful decorations not only make the learning atmosphere more enjoyable but can also boost students' motivation. The school could involve students in decoration projects to enhance their sense of ownership and responsibility towards the learning environment.

Although the learning facilities are categorized as high, technological development continues to advance. The school should continue to update and add technological resources such as computers, projectors, and fast internet access. Adequate technology will help students access broader information and support more interactive teaching methods.

To maintain the quality of learning facilities, regular maintenance should be conducted. The school can create a schedule for facility inspections and maintenance to ensure that all resources and infrastructures remain in good condition. This will prevent damage that could disrupt the teaching and learning process.

Supporting facilities, such as libraries, laboratories, and collaborative learning spaces, need to be improved in terms of both quantity and quality. The library should be updated with the latest books and learning materials, while laboratories should be equipped with tools that are in line with the curriculum being taught.

Suggestions for Teachers of SMA International Islamic Boarding School Malang teachers should recognize the individual needs of each student and adjust their teaching approaches and use of learning facilities based on students' characteristics and learning styles. Integrating technology into teaching can increase student engagement and facilitate more interactive learning. Teachers should ensure they have adequate knowledge in using the available technology.

Teachers should also engage in self-reflection about the use of learning facilities and their impact on student learning achievements. Always strive to improve teaching practices based on experience and feedback from students.

Suggestions for Future Researchers the findings of this study provide valuable insights for the development of theories and practices related to learning facilities and can serve as a reference for future research. The results could also be used as a reference for future studies that might involve other factors not discussed by the author.

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