

## Measuring the Effectiveness of Learning Based on Supporting Facilities and Teacher Motivation

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### Abstract

*The Minimum Completion Criteria (KKM) is a reflection of success in learning. A student who scores below KKM is said to have not been completed which must be improved in order to achieve minimal completion. The research method used is the census method with a quantitative descriptive approach. The research is carried out in XYZ Junior High Schools in West Java. As the object of research is all teaching teachers. The purpose of the study is to measure the effectiveness of learning based on school facilities and teacher motivation in work. The results showed that simultaneously learning facilities together with teacher motivation had a direct positive effect on learning effectiveness with the equation  $Y = 0.199 X_1 + 0.628 X_2 + 0.255$ . Partially school facilities had a direct effect on the effectiveness of learning and teacher motivation had a direct effect on the effectiveness of learning, because to meet KKM it was necessary to support facilities and teacher motivation. Suggestions need to improve the school atmosphere, a sense of loyalty to peers and the continuous development of teacher competencies.*

**Keywords:** KKM, School Facilities, Teacher Motivation and Learning Effectiveness

### INTRODUCTION

The implementation of learning consists of several interrelated systems, namely inputs, processes, output and outcome. Input consists of student learners, teachers, curriculum, pre-facilities, related policies, processes including interactive between teachers and students and environmental factors in schools. Output, namely the results achieved by students in the form of grades, report cards, diplomas while outcome is a follow-up from students including the ability to continue to a high level, the ability to get an appropriate job and the ability to obtain income independently. All of these systems are interrelated which can be measured from the output and outcome of student learners whose other impact is the assessment of the general public on the quality of the school concerned. Therefore the quality of the school must continue to be improved so as to increase community trust in learning.

Learning can involve two parties, namely students as learners and teachers as facilitators, and other parties who support the implementation of the teaching and learning process. Therefore, teachers as the main actors who control the learning process must have adequate quality, supported by school infrastructure. The learning process can be guaranteed quality, one of the indicators of learning quality is the achievement of the Minimum Completion Criteria (KKM) value for each subject.

The KKM of the education unit is determined by several parties, namely the principal, educators, and education staff, there are 3 aspects that need to be considered in determining the KKM of the education unit, namely the characteristics of students (student intake), the characteristics of the subject (the complexity of the material or competencies to be achieved) and the condition of the carrying capacity of the educational unit in the learning process in achieving competencies that have been determined by educational institutions. An educational institution is said to be effective and successful if it is able to carry out activities so that all students reach KKM or pass 100%.

Class 9 / XYZ Junior High School (SMP) in West Java, Indonesia, have determined the KKM of 75, based on the results of the education unit meeting at the beginning of the 2021/2022 academic year. The KKM value is

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obtained from the total number of each aspect divided by the total number of aspects, aspects of carrying capacity include educator competence, the number of students in one class, the feasibility of pre-facility school facilities has a score of 65, the complexity of the material getting a score of 80, and the student intake gets a score of 79 so that it is obtained KKM 75. For students whose completeness score is less than 75 then it is said that it has not been achieved, whose completion score is 75 means achieved and if the completion score is more than 75 it is said to be exceeded. The results of the 2021/2022 academic year exam show that 36% of students have not been achieved, 26% have been achieved and 38% exceeded their KKM. This is a problem for private educational institutions because the quality of schools is assessed from the number of students who pass the KKM. Therefore it is necessary to analyze several factors that support the achievement of the KKM score.

This study aims to measure the effectiveness of learning in terms of supporting factors, namely XYZ school facilities and teacher motivation in carrying out their duties. Influence analysis is reviewed simultaneously or partially to provide recommendations for improvements in the learning process so that all students can achieve KKM. According to the Theory of Self-Determination Theory (SDT), teacher motivation affects student motivation indirectly through teaching practices that can support the satisfaction of student needs, systems that are built using models and test complete models: teacher motivation (autonomous, controlled, and motivational) → practices that support perceived needs (support for autonomy, structure, and involvement) → satisfaction of student needs (autonomy, competence, and involvement) → satisfaction of student needs (autonomy, competence, and interrelationships) → student motivation (autonomy, controlled, and motivational) → student's academic achievement (Ahn et al., 2021), one of the proofs of students' academic achievement is passing KKM.

## **LITERATURE REVIEW**

Learning is an activity that involves a person in an effort to acquire knowledge, skills, and positive values by utilizing various resources for learning. Teacher competencies related to subjects serve as motivation in teaching which has an impact on increased learning engagement, increased student creativity, and increased task performance (Pachler et al., 2019). The teacher's self-competence and the teacher's interest are two main aspects of teacher motivation that are essential for quality teaching impacting high-achieving students (Lazarides & Schiefele, 2021).

Several indicators can influence learning effectiveness. There are three main indicators for effective learning, namely school operational management (building planning and school budget, determining school schedules, determining certain professional and teaching tasks, establishing school curricula, hiring new professionals, determining the content of practical subjects), alumni experience (determining student codes of behavior, disciplining students, establishing policies for students in the classroom with abilities) and teaching control in the classroom (choosing textbooks and other teaching materials, choosing the content, topics and skills to be taught, choosing teaching strategies (Sukirno, 2020).

As long as the teacher teaches in the classroom, the teacher must build a positive learning environment, take advantage of productive time, motivate students, and build an effective communication environment (Gülbahar, 2015). Every teacher has differences in work motivation, self-confidence, material delivery, and learning outcomes. In addition to the ability to foster relationships with peers, the application of learning experiences can support success (Bowling et al., 2022). This is necessary in an effort to achieve optimal learning effectiveness.

Optimal learning effectiveness due to feedback between teachers and students, good interaction in face-to-face activities in the classroom, supported by good audio and video that helps the learning process. Teachers often encourage students to submit questions that they do not yet understand (peer or self-assessment) as a means for students to assess feedback and develop reflective skills (Killingback et al., 2020). Dengan demikian, Guru dituntut untuk memiliki kemampuan yang baik dalam mengelola kelas.

Classroom management is influenced by differences in nationality, culture and religion among students. There are some disliked student behaviors experienced in the classroom here. The teacher overcomes the problem of unwelcome behavior through methods that can be associated with the reaction of the classroom management model (Gülbahar, 2015).

## RESEARCH METHODOLOGY

This research was conducted at the Class 9, XYZ Junior High School in West Java. The research method used was the census method, with a quantitative descriptive approach. The object of the study is all teachers in the school. The instrument used was a closed questionnaire containing statements covering indicators relating to school facility variables and teacher motivation variables using the Likert scale 1-5 consisting of statements of disagreement to strongly agree. The data obtained were analyzed simultaneously as well as partially using linear regression tests to determine the significance and relationship between variables .

## RESULT AND DISCUSSION

The results of the overall study are as follows :

### Respondents' Assessment Of School Facilities

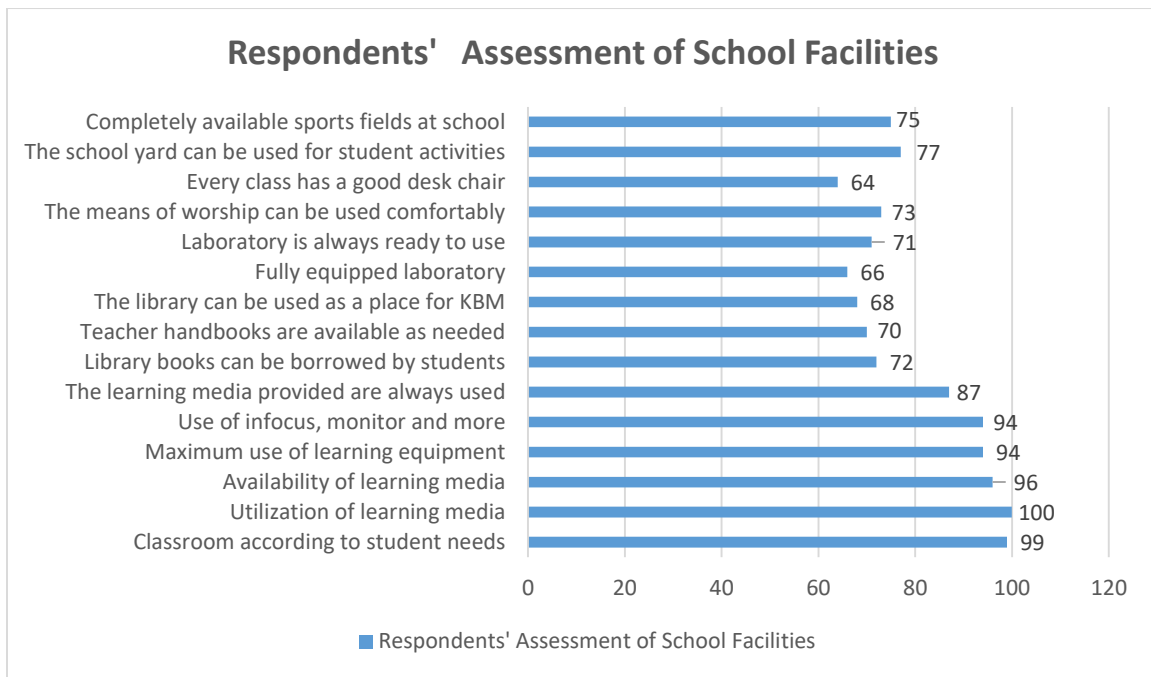
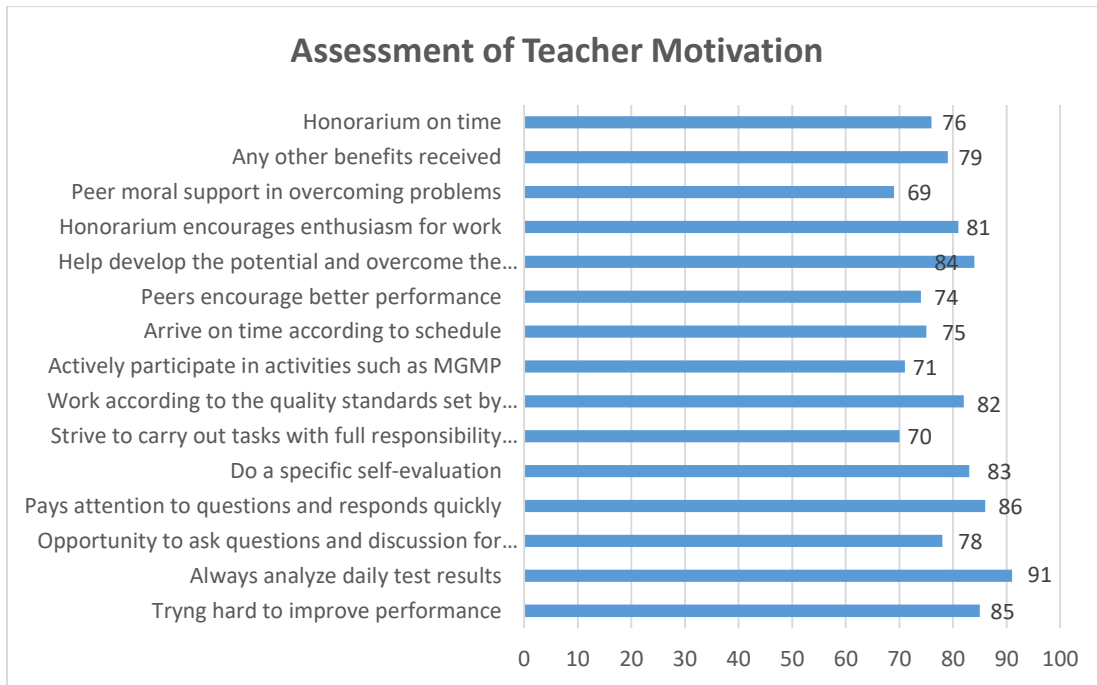


Figure 1. Respondents' Assesment of School Facilities

**Note:** The expectation score is 130, the average score is 80.40 with the category of Good Enough

The availability of facilities ranging from classrooms to sports fields shows that the school has met the needs of pre-learning facilities well, which can be used by teachers and students in learning activities. The highest value is the use of learning media (100) while the lowest is the completeness of the laboratory with a value of 68, the lack of completeness of laboratory equipment is an obstacle in the implementation of practicum, up to date equipment, digital, the price is expensive and the risk of damage and repair is very high, therefore the school can gradually provide the completeness of the laboratory, to support the learning process.

### Respondents' Assessment of Teacher Motivation



**Figure 2.** Assesment of Teachers' Motivation

**Description:** Expectation score of 130, average score of 78.93 criteria Good enough

The motivation of the teaching teacher is assessed from working to improve performance to receiving honors on time, this element of motivation needs to be prioritized so that the teacher can carry out their duties as well as possible. The average score of teacher motivation is 78.93 with fairly good criteria , the highest score is to evaluate the daily test results with a score of 91and the lowest score is the moral support of peers in overcoming problems with a score of 69. Seeing this gap in grades, it can be said that familiarity in the workplace, mutual help between colleagues has not been well established, therefore there is still a need for internal management of management and academic atmosphere in schools (Jam et al., 2010). We developed a scale that measures the motivation of the teacher to assess professional development in the classroom , one of the motivations of the teacher may be mainly driven by the context of professional development itself (Osman & Warner, 2020).

Furthermore, to improve teachers in managing learning classes, teachers need to be given professional development training and non-financial benefits. The results of the research show that the impact of professional teacher training is significant on classroom quality which includes classroom management, learning materials delivered, teaching methods, application of ICT and teachers becoming more professional, (Lamichhane et al., 2024).

### Respondents' Assessment of Learning Effectiveness

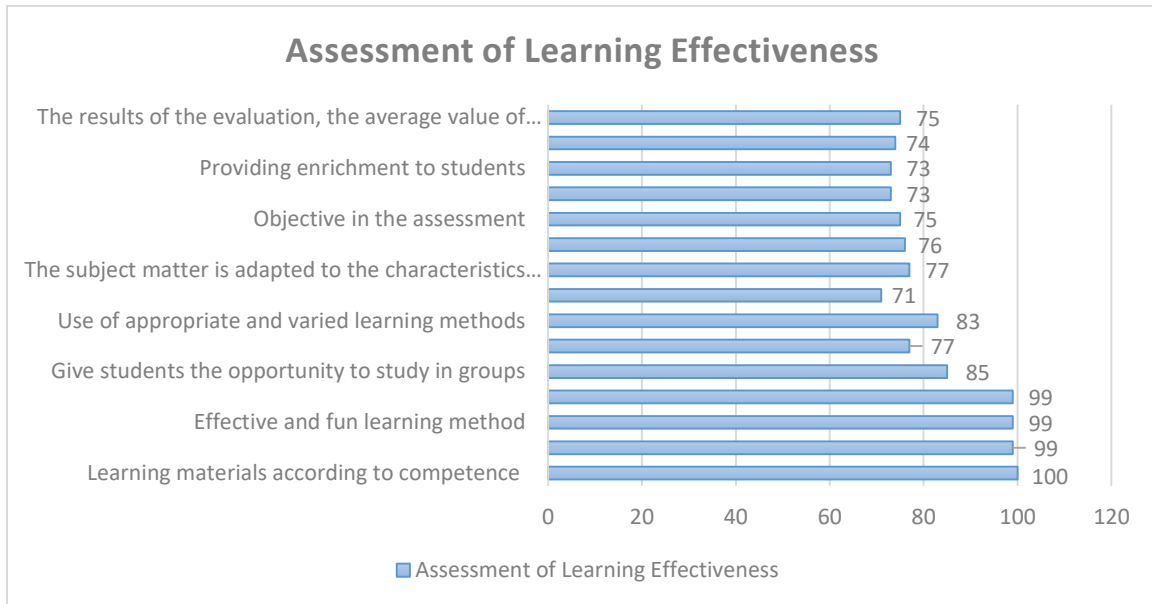


Figure 3. Assessment of Learning Effectiveness

**Description:** Expectation score of 130, average score of 82.40 criteria Good enough

The assessment of learning effectiveness is carried out starting from the suitability of the material with the competencies that must be achieved by students until the results of scores above KKM. With the highest score being the subject matter according to competence with a score of 100 and the lowest score is that the subject matter can be delivered well to students with a score of 71. This happens because each student has the ability to capture different lessons as well as each teacher has the ability to convey different subject matter. Therefore it is necessary to equalize perceptions, abilities, competencies that continue to be developed following the development of science and technology, in order to be able to continue learning materials that are very easy for students to catch learners.

The initial knowledge and experience of the student, the knowledge and experience of the previous teacher, affect the level of knowledge sharing. The implication of this research is that teachers need to socialize to students the importance of sharing knowledge and understanding the subject of the lesson and creating a positive learning environment to encourage knowledge sharing *berbagi pengetahuan* (Sriratanaviriyakul & El-Den, 2017). Increasing effective learning can also be done by forming study groups using problem solving or case study learning methods, the teacher gives group assignments in the form of case studies and students work together with their groups (Al-massarweh et al., 2024). Furthermore, there was no difference in increasing assimilation of information between small groups and large groups when working on group assignments. The results showed that gender differences had no effect on the assimilation of information resulting from group assignments (Aitjanov et al., 2024).

### Instrument Analysis

Test the validity of the instrument using Pearson moment correlation with the help of SPSS 25, if the correlation coefficient  $\geq 0.3$  then the instrument item is declared valid. and if Cronbach's alpha value  $\geq 0.6$  then it is declared reliable.

The overall results are as follows :

- a) the validity test of the school facility instrument against 15 statements is valid with a statistical reliability value of Cronbach's Alpha of 0.937 with the lowest correlation coefficient of item statements 5 and 10 which is 0.392.

b) the validity test of the teacher's motivational instrument against 15 statements is valid with crombach's Alpha statistical reliability value of 0.935 with the lowest correlation coefficient of item 11 statement item 0.386.

c) the validity test of the learning effectiveness instrument against 15 statements is valid with crombach's Alpha statistical reliability value of 0.937 with the lowest correlation coefficient of item 5 and 10 statement items which is 0.390, thus it can be said that the instrument used for data retrieval is valid and reliable and the results can be accounted for.

1. Simultaneous analysis of the influence of school facilities and teacher motivation on the effectiveness of learning.

The results of analalysis using the Anova test the influence of school facilities and teacher motivation on learning effectiveness are :

**Tabel 1. Anova**

Model		Sum of Squares	df	Mean Squares	F	Sig.
1	Regression	380,508	2	190,254	33,621	.000 <sup>a</sup>
	Residual	130,153	23	5,659		
	Total	510,661	25			

**Tabel 2. Model Summary**

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	,863 <sup>b</sup>	,745	,723	2,378825

<sup>a</sup>.Predictor: (Constant), Teacher Motivation, School Facilities

<sup>b</sup>.Dependent Variables: Learning Effectiveness

**Tabel 3. Coefficients**

Model		Unstandarized	Coeffisients		Coef.	
		B	Std.Error	Beta	t	Sig.
1	(Constant)	-3,608	6,028		-,598	,555
	School Facilities	,415	,128	,346	3,253	,004
	Teacher Motivation	,713	,102	,746	7,023	,000

The results of the analysis showed that the R value of 0.863 showed the influence of X1 (School facilities) and X2 (teacher motivation) on Y (Learning effectiveness) was positive because it was close to the value of 1, while the coefficient of determination (R square was 0.745 which means that the magnitude of the contribution of X1 and X2 in influencing Y was 74.5% while the remaining 25.5% was influenced by other factors (€) that were not studied in this study.

The results of the linear regression analysis produce the equation :

$$Y = 0,199 X1 + 0,628 X2 + 0,255$$

Which means that there is a very real significant influence between school facilities and teacher motivation on the learning effectiveness of each unit of school facilities, it will increase the effectiveness of learning by 0.199 and every increase in the unit of teacher motivation increases the effectiveness of learning by 0.628. The error value of 0.255 is the influence of other factors that are not studied, there are several other factors that affect

the effectiveness of learning, including the school atmosphere, the resources of students who are learners and the rules or norms that exist in schools.

Important factors based on the highest weight in learning are relevance, teaching & assessment aspects, active change of conception and clarity, whereas what is not important as indicated by both approaches is timeliness, learning outcomes, ways of delivery and individual learners (Owusu-Agyeman et al., 2017). Multilevel path analysis showed that motivation was not significantly related to the quality of teaching that students assessed, findings revealed that the relationship between teacher motivation and teaching quality was less good than expected (Thommen et al., 2021).

A teacher's self-competence in teaching is positively related to the cognitive activation of the teacher, class management, and emotional support in mathematics classes. Teacher education shows a positive relationship with the emotional support that students and teachers feel (Lazarides & Schiefele, 2021). Career development and competencies possessed, emotional support, breadth of experience, and motivation of teachers jointly interact to determine teaching ability and the future of teacher self-competence (Wolf et al., 2021).

## 2. Partial analysis of the effect of school facilities on learning effectiveness

The results of the correlation test obtained  $r = 0.446$  show that the degrees of contact X1 and Y are sufficient / moderate according to Guilford's concept with the equation  $Y = 0.446 + 0.199 X1$ , the results of this equation show that the learning facility has a direct effect on the effectiveness of learning, each increase in one unit of the facility increases the effectiveness by 0.119 units. The relationship of the influence of learning facilities on learning effectiveness is 44.6% is strong therefore school facilities must continue to be provided according to needs and learning schedules. Factors that can influence the motivation of lecturers in using online learning tools are knowledge, perceptions and skill (Mohamad et al., 2015), as an example of motivation towards learning biology using resource-based instruction such as animation and small laboratory groups according to students' interests (Mukagihana et al., 2022). Efektif pembelajaran dapat ditingkatkan dengan pemberian tugas latihan, dan tugas latihan yang rumit memberi dampak pembelajaran jangka panjang sehingga seorang guru harus menyediakan banyak soal tugas latihan, mengoreksi hasil latihan dan menyampaikan ke siswa hasil koreksi tugas latihan tersebut/ Effective learning can be increased by providing practice assignments, and complex practice assignments have a long-term learning impact so a teacher must provide lots of practice assignment questions, measure the results of the practice and convey to students the results of the correction of the practice assignments.

(Biver et al., 2020)

## 3. Partial analysis of the effect of teacher motivation on learning effectiveness

The results of the correlation test obtained  $r = 0.792$  showed that the degree of relationship of X2 to Y is strong according to Guilford's concept with the equation  $Y = 0.792 + 0.628 X2$ . The results of this analysis show that each increase in one teacher motivation unit increases the effectiveness of learning by 0.628, while the strength of the positive influence of motivation on learning effectiveness is 0.792, stronger than the positive influence of school facilities. This happens because the focus of students in learning is the teacher starting from appearance, attitude, delivery methods, communication skills, body movements and clarity of the material, which if it is able to be understood, can be done by practice itself.

Teachers have a role in conducting research to students to increase their insights (Baumann, 2022). The results showed that teachers who have high autonomy motivation are shown the most optimal learning patterns, while teachers who have motivation outside of themselves show the opposite pattern. (Franco et al., 2021). The results of the study show: 1) a positive relationship between the independent motivation of the teacher and the student, and, 2) its mediation by the student perceived needs that support the practice and autonomy of the student (Ahn et al., 2021). Teacher motivation is related to, i) self-perception in teaching children/adolescents in society, ii) threatened by negative social perceptions, and iii) influenced by characteristics such as gender (Alexander et al., 2020).

## CONCLUSION

The effect of learning is simultaneously influenced directly by school facilities and teacher motivation

The teacher motivation positively affects the effectiveness of learning school facilities positively affect the effectiveness of learning

Teacher motivation positively affects the effectiveness of learning

## RECOMMENDATION

The academic atmosphere in schools needs to be created so that synergy with the existence of school facilities and the spirit of teaching teachers

Internal management continues to be built to increase teacher motivation so that there is no change of teacher which results in changes in the academic atmosphere in the classroom

The development of information technology can be used in increasing the effectiveness of learning so that students are more creative and innovative in learning

The development of information technology can be used in increasing the effectiveness of learning so that students are more creative and innovative in learning

Teachers must up-grade their competencies in order to keep up with the development of science and technology, broaden their horizons and convey them to students.

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