

Analysis of the Quality of Physics Learning Services and Students' Satisfaction in Implementing Merdeka Curriculum at SMAN 10 Luwu



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ABSTRACT: This research is descriptive quantitative research which aims to measure and analyse students' satisfaction in regard of physics learning quality services in implementing Merdeka Curriculum a at SMAN 10 Luwu. The research indicators are *tangible, reliability, responsiveness, empathy* dan *assurance*. Research population involves all the students of 10th grade at SMAN 10 Luwu for 2023/2024 academic year, and the research samples are 161 students which are sampling randomly. The research data is collected by distributing questionnaire sheets of students' satisfaction in regard of physics learning quality services. The analysis data technique which is used by the researcher are descriptive analysis, CSI (*Customer Satisfaction Index*) to analyze the level of students' satisfaction in regard of physics learning quality services and IPA (*Importance Performance Analysis*) to analyze physics learning quality service in SMAN 10 Luwu, and also categorizes services' indicators into four categories which are quadrant 1 (top priority), quadrant 2 (maintain performance), quadrant 3 (low priority) and quadrant 4 (excessive). Based on data analysis, the researcher obtains that the physics learning quality service in SMAN 10 Luwu is assessed very good by the students and the level of students' satisfaction in regard of physis learning quality service is assessed vary satisfied by the students.

KEYWORDS: merdeka curriculum, student satisfaction, quality of physics learning services, Customer satisfaction index, Importance performance analysis

INTRODUCTION

Educators are the significant education element to support nation development which can be measured by the quality of education in Indonesia. One of the facts is from the survey of *United Nations Educational, Scientific, and Cultural Organization* (UNESCO) in 2022 stated that the education in Indonesia is qualified in low category because it is in the level of 10 out of 14 developing countries in Asia-Pacific. It is caused of low physical facilities, learning quality, teachers' quality, and the low of educational equality. Related to the facts above, one of governments' efforts to improve education quality in Indonesia is curriculum renewal. Curriculum renewal aims to justify competence of graduates with current development. Kemendikbud had introduced the curriculum officially in Feb 2023 which is Merdeka Curriculum. Merdeka Curriculum is implemented in early childhood education unit (PAUD), Elementary School (SD), Junior High School (SMP), until Senior High School (SMA). The implementation of Merdeka Curriculum in Senior High School specifically, the teaching and learning process is more flexible. Flexibility can be recognized in time allocation until learning materials which focuses on essential materials, character development, and students' competences. However, in Merdeka Curriculum, the teachers have more privileges to choose teaching tools so the learning process can be justified with learning requirements and students' interests until the goals of education can be reached. Merdeka Curriculum gives more privileges to educators to create qualified learning in accordance with students' needs and students' learning environment. The characteristics of Merdeka Curriculum are: (a) soft skills and characters development through project to strengthen the profile of Pancasila students, (b) Focus on essential materials, relevant, and deep learning. This characteristic can give enough spaces to develop students' creativity and innovation in reaching basic competences like literacy and numeracy, (c) flexible learning. The privileges for teachers to guide learning process which is accordance with students' achievement stage and apply the justification with context and local content (muatan lokal).

Merdeka Curriculum is implemented so that learning quality service can be reached and achieves the goals and education functions. One of the learning subjects that should be taken by the students is physics subject. Physics is science and technology which have an important role in education which discusses the nature of natural phenomena and all the interactions that occur therein. Physics is a subject that can develop students' thinking abilities to solve problems and apply them in everyday life.

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Physics learning aims to master physics concepts and is related to the use of scientific methods based on a scientific attitude. A scientific attitude used to solve problems in order to realize the greatness of God Almighty (Mundilarto, 2002). Physics learning is a scientific process or activity that requires students to actively find out about nature systematically. Physics learning places more emphasis on understanding theories, concepts and principles. Theories, concepts and principles must be constructed independently by students through the guidance of educators. Apart from that, Mundilarto (2002) said that students must form their own knowledge through interaction and adapting to the environment. After that, by studying physics, students have scientific attitudes such as being honest, responsible, curious, objective and rational.

In the effort to improve the quality of physics learning in implementing the independent curriculum, all subject teacher components provide quality services to students. Service quality is a form of condition or assessment felt by students. The quality of physics learning services can be seen in the level of students' satisfaction in implementing Merdeka Curriculum. Satisfaction is a person's feeling of happiness or disappointment that is obtained after comparing the results obtained with the expected results. Students' satisfaction in learning physics is an interaction between expectations and experiences after receiving services or services from the learning activity process. In providing educational services, schools must refer to national education standards as a benchmark for the implementation of educational services in the school environment. The scope of national education standards is contained in the Peraturan Pemerintah Republik Indonesia Nomor 19 Tahun 2005 concerning National Education Standards which is written Thahir 2019 that there are four competencies that a professional teacher must have, namely pedagogical competence, personality competence, social competence and professional competence. By mastering these four potentials well, it can be said that teachers are professional academically and non-academically.

From the initial observation showed that one of the Senior High School in Luwu Regency that have been implemented Merdeka Curriculum is SMAN 10 Luwu which locates in Jalan Poros Palopo-Belopa. In this case, the headmaster, the educators, and school environment in SMAN 10 Luwu always try to improve learning quality services which consist of professional and competent teachers, facilities and infrastructure as well as a good school environment for students. Specifically, physics teachers have been tried to implement Merdeka Curriculum as good as possible maximally. It can be seen from the school's ability to adapt the curriculum to student needs and potential, focus on developing student character, use technology in the learning process, and SMAN 10 Luwu also provides opportunities for students to develop themselves academically, creatively and with other skills. So that the quality of physics learning services in implementing Merdeka Curriculum can provide satisfaction for students. Based on the introduction above, the research questions are: (1) How is the quality services of physics learning in implementing Merdeka Curriculum in SMAN 10 Luwu? and (2) What is the level of students' satisfaction regarding physics learning quality services in SMAN 10 Luwu?

METHODS

The researcher used descriptive quantitative research type. Quantitative data is obtained from IPA (Importance Performance Analysis) analysis data to analyse physics learning quality services in SMAN 10 Luwu and CSI (Customer Satisfaction Index) to analyse the level of students' satisfaction regarding physics learning quality services in SMAN 10 Luwu. This research utilized one research instrument contained with students' satisfaction which is obtained from the comparison of perceived reality with student expectations as measured through five aspects of indicators of student satisfaction with the quality of physics learning services, which are yaitu *tangible*, *reliability*, *responsiveness*, *assurance*, dan *empathy*. As well as categorizing service indicators into four quadrant categories, namely Quadrant I (top priority), Quadrant II (maintain performance), Quadrant III (low priority) and Quadrant IV (excessive). The IPA quadrant in Martilla and James is depicted in the form of a Cartesian diagram, as in Figure 1

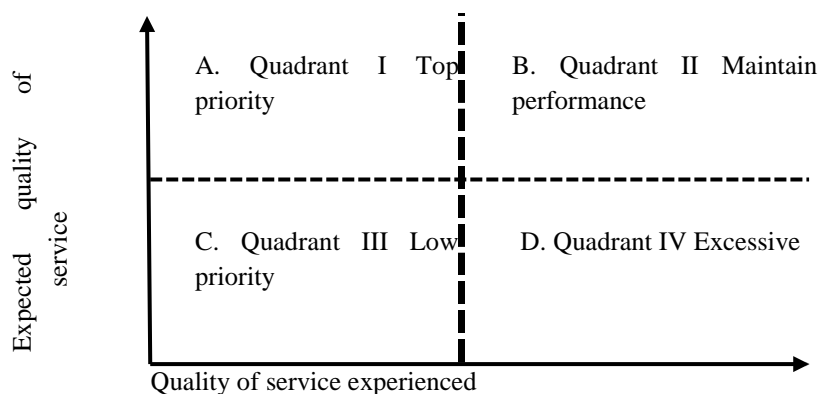


Figure 1. IPA Cartesian diagram

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The criteria used for drawing conclusions are as follows.

- Quadrant A; items whose handling is prioritized.
- Quadrant B; points that need to be maintained
- Quadrant C, items that are considered less important.
- Quadrant D; items that are considered excessive in their implementation.

Data collection is carried out to obtain research data needed to achieve research objectives. Before conducting the research, firstly the researcher printed a student satisfaction questionnaire sheet regarding the quality of physics learning services which had been tested by experts and was ready to be distributed to students. According to Sugiyono (2011), a questionnaire is a data collection technique that is carried out by giving respondents a set of questions or written statements to answer. In this study, a closed questionnaire was used, that is, the answers were provided by the researcher so that students just had to choose.

The researcher carried out documentation to obtain data in the form of pictures regarding students, learning activities, infrastructures, student learning resources and 10th grade practicum activities at SMAN 10 Luwu. The researcher also conducted interviews to obtain additional information about the quality of physics learning services provided by the school. In this study, the researcher conducted unstructured interviews. Unstructured interview based on Sugiyono (2011) is free interviews, where researcher does not use interview guides that are structured systematically and completely for data collection.

FINDINGS AND DISCUSSIONS

Data from descriptive statistical analysis of the level of expectations and the level of reality of student satisfaction regarding the quality of physics learning services in the implementation of the independent curriculum in 10th grade at SMAN 10 Luwu which was carried out using a questionnaire sheet. Many things can cause student dissatisfaction, including: a mismatch between student expectations and reality experienced, the educational services received by students were not satisfactory, unpleasant behavior of school personnel, atmosphere and conditions physical buildings and school environment that do not support learning, and uninteresting school extracurricular activities, as well as achievements low students (Sopiatin, 2010).

In the descriptive statistical analysis, the researcher analysed the description of the score for the level of students' expectations and level of satisfaction with the quality of physics learning services in general, a description of the level of expectations and the actual level of student satisfaction with the quality of physics learning services for each indicator: 1) tangible, namely the school's ability to demonstrate its existence to external parties, including school facilities and infrastructure, cleanliness of the school environment and the appearance of the physics teacher; 2) reliability, namely the school's ability to provide services as promised accurately and reliably, including the discipline of physics teachers and mastery of physics learning materials; 3) responsiveness, namely the willingness of physics teachers to provide fast and accurate services to students, including the readiness of physics teachers at any time if needed, speed and consistency in the process of administering grades as well as the school's ability to respond to criticism/complaints/suggestions; 4) assurance, namely the physics teacher's knowledge, competence, politeness and concern for students and can be trusted so that they are free from danger and doubt; 5) empathy, namely providing sincere and individual or personal attention given to students by trying to understand their wishes. The following is a percentage table categorizing scores for the expected level of student satisfaction regarding the quality of 10th physics learning services at SMAN 10 Luwu as follows:

Table 1. Percentage of Score Categorization Expectation Level of Student Satisfaction with the Quality of Physics Learning Services for 10th SMAN 10 Luwu

No.	Indicators	Categories (%)		
		Low	Medium	High
1	<i>Tangible</i>	14,3	59	26,7
2	<i>Reliability</i>	13,7	62,1	24,2
3	<i>Responsiveness</i>	13,7	67,1	19,3
4	<i>Assurance</i>	16,1	63,4	20,5
5	<i>Empathy</i>	13,7	59	27,5

The score percentage for the level of students' satisfaction expectations regarding the quality of physics learning services is in Table 1. From those five indicators, the distribution of score data for the level of student satisfaction expectations for the quality of physics learning services are in the low, medium and high categories. Thus, it can be concluded that the level of students' satisfaction expectations regarding the quality of 10th grade physics learning services at SMAN 10 Luwu is in the medium category. So in this medium category, there is the highest indicator which is Responsiveness, namely the willingness of physics

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teachers to help and provide fast and accurate services to students, including the readiness of physics teachers at any time when needed, speed and consistency in the process of administering grades and the ability of the parties schools in responding to criticism/complaints/suggestions. The lowest category is Tangible, namely the school's ability to demonstrate its existence to external parties, including the completeness of school facilities and infrastructure, the cleanliness of the school environment and the appearance of physics teachers and the Empathy Indicator, namely providing sincere and individual or personal attention given to students by trying to understand their wishes. Next, the score percentage for the actual level of student satisfaction with the quality of 10th grade physics learning services at SMAN 10 Luwu for the five indicators is as follows:

Table 2. Percentage of Categorization of Reality Level Scores of Student Satisfaction with the Quality of 10th grade Physics Learning Services at SMAN 10 Luwu

No.	Indicators	Categories (%)		
		Low	Medium	High
1	<i>Tangible</i>	10,6	75,2	14,3
2	<i>Reliability</i>	10,6	70,2	19,3
3	<i>Responsiveness</i>	11,2	65,2	23,6
4	<i>Assurance</i>	14,9	67,7	17,4
5	<i>Empathy</i>	11,8	61,5	26,7

Score percentage of the actual level of students' satisfaction with the quality of physics learning services is in Table 2. From these five indicators, the distribution of score data on the reality level of students' satisfaction with the quality of physics learning services is in the low, medium and high categories. Thus, it can be concluded that the actual level of student satisfaction with the quality of Class X physics learning services at SMAN 10 Luwu is in the medium category. So, in this medium category, there is the highest indicator, which is Tangible, namely the school's ability to demonstrate its existence to external parties, including the completeness of school facilities and infrastructure, the cleanliness of the school environment and the appearance of the physics teacher. Meanwhile, the lowest category is the Empathy Indicator, namely providing sincere and individual or personal attention given to students by trying to understand their wishes.

Next, the second analysis, namely the IPA (Importance Performance Analysis) analysis, aims to map the level of interest (expectations) of students and the level of satisfaction (perception) of students regarding the physics learning service indicators for 10th grade SMAN 10 Luwu into quadrants. For quadrant I category, service indicators are the main priority for improvement; quadrant II for service indicators whose achievements must be maintained; quadrant III for indicators that have low priority; and quadrant IV for service indicators that are considered too high in quality.

This quadrant was obtained from bringing together the average value between the level of student expectations (interest) and the level of satisfaction (perception) of students regarding the quality of 10th grade physics learning services at SMAN 10 Luwu, into a vertical and horizontal line. The vertical line represents whether an indicator is important or not in the eyes of students and the horizontal line shows the level of satisfaction (perception) of students regarding the performance of indicators at SMAN 10 Luwu. The further up it is, the more important it is, while the further to the right it is, the more satisfying it is. First of all, measure the average level of importance and level of satisfaction.

For the first analysis, the mapping was carried out as to which service indicators fell into the four quadrant categories, for this the average value of each service indicator was first determined from the level of expectations and the level of reality for the 161 respondents. Table 4.21 is a table of the average level of students' expectations and level of reality regarding service indicators for 10th grade of SMAN 10 Luwu, along with the gaps that occur.

The following is a quadrant mapping on a Cartesian diagram of physics learning service indicators as follows:

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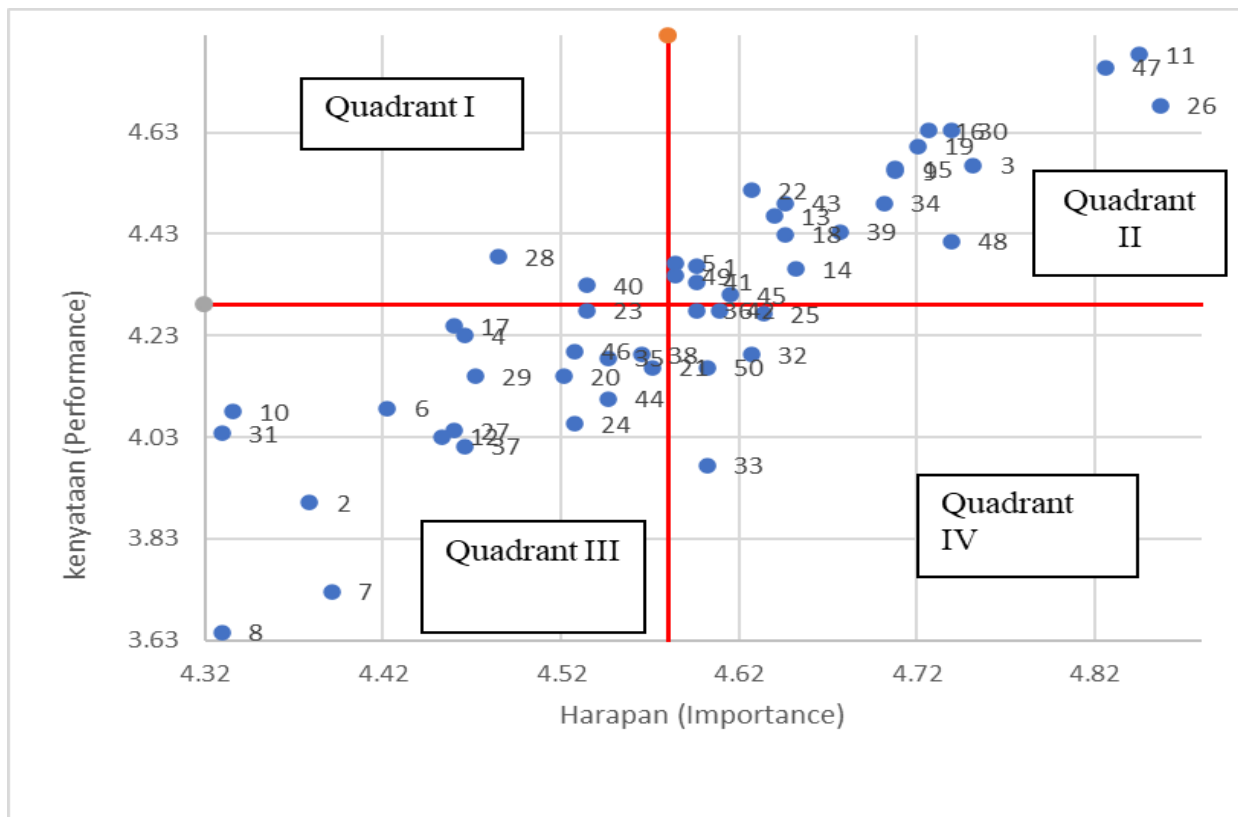


Figure 2. Cartesian Diagram of Physics Learning Service Indicators

In an effort to divide the two lines into four quadrants, firstly you must determine the c-line, namely the center line for level of interest (vertical), as well as the center line for satisfaction (horizontal). Meanwhile, the average gap that occurs is -0.29. After the data is processed, Figure 4.1 is the result of IPA analysis using Microsoft Excel.

From the results of the IPA analysis data processing above, it can then be mapped which service indicators fall into quadrants I, II, III and IV. The following is a table of mapping results from the diagram above as follows:

Table 3. Mapping Service Indicators to Quadrants

Quadrant	Categories	Numbers of Service Indicators	Quantity
I	Top Priority	28, 40	2
II	Maintain Performance	1, 3, 5, 9, 11, 13, 14, 15, 16, 18, 19, 22, 26, 30, 34, 39, 41, 43, 45, 47, 48, 49	22
III	Low Priority	2, 4, 6, 7, 8, 10, 12, 17, 20, 21, 23, 24, 27, 29, 31, 35, 37, 38, 44, 46	20
IV	Excessive	25, 32, 33, 36, 42, 50	6
Total Questions Items			50

From the table 3 above, it can be recognized that there are 2 service statements that are included in the top priority category, meaning that this quadrant is considered an important factor and is expected by students but has not satisfied the student. These statements are: 1) the teacher provides feedback on the physics learning assignments that have been given to students; and 2) physics teachers provide freedom in assessing the extent of physics material that students need and are interested in.

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A total of 22 statements are included in the maintained category, meaning that the factors located in this quadrant are considered important and are expected to be supporting factors for student satisfaction so that the school ensures that it continues to maintain the achievements that have been achieved. The statement is; 1) the teacher always starts physics learning in class on time; 2) the teacher provides sincere guidance in teaching in class; 3) teachers vary in teaching such as using experimental simulations, learning videos and others to develop understanding of physics; 4) physics teachers have adequate competence; 5) the teacher explains physics material well and systematically; 6) the teacher uses systematic, polite and courteous words to students when studying physics in class; 7) the school or teacher provides information related to the curriculum, assessment and school policies; 8). teachers encourage students to study hard so that physics learning outcomes improve; 9) the teacher always looks neat according to the rules; 10) teachers always apply physics learning in accordance with students' challenging and meaningful learning experiences; 11) physics teachers always guide physics material for students who have difficulty learning physics; 12) provide opportunities for students to develop social skills through group projects or collaborative activities; 13) complete school facilities, such as a canteen, place of worship and library; 14) physics teachers do not differentiate between students in teaching and learning activities and giving grades; 15) Competent physics teachers guide students in completing the P5 project (Development of student character to live and behave in accordance with Pancasila values) according to a predetermined theme; 16) school principals and teachers give appreciation to outstanding students; 17) physics teachers use WhatsApp groups, Google Classroom or so on so that students can access physics material, assignments and physics learning resources online; 18) physics teachers provide assessments to students according to student abilities; 19) students are given the opportunity to form class rules; 20) physics teachers are able to explain the physics material taught well; 21) teachers are polite in communicating with students including the use of language; and 22) physics teachers use technology-based physics learning media.

A total of 20 statements are in the low priority category, meaning that the factors located in this quadrant have a level of expectation that does not really satisfy students, and are also considered not very important and/or highly expected by students. The statements are; 1) the school is responsive in solving student problems; 2) teachers provide a sense of security to students when interacting at school; 3) school principals and teachers always accept criticism and suggestions; 4) the classroom is neatly arranged; 5) the school environment is peaceful, peaceful and comfortable; 6) the school makes the administrative service process easier; 7) the teacher behaves in a greeting outside the learning process; 8) teachers always spend time discussing with students; 9) teachers provide the same service to students in the learning process; 10) school principals, teachers and administrative staff provide the same services to students; 11) school principals, teachers and school staff have competence in their respective fields; 12) physics learning resources such as modules, books or e-books are available at school; 13) counseling services are available for the development of student interests and talents; 14) physics teachers always answer students' questions outside class hours; 15) physics teachers provide services for students' questions outside class hours; 16) physics teachers provide support for students' self-development outside the classroom, such as participation in extracurricular activities or scientific competitions; 17) the administrative process does not make things difficult for students; 18) the principal, teachers and administrative staff arrive on time at the school; 19) the physics teacher knows each individual student both by name and character; 20) physics teachers adapt physics learning materials according to students' learning styles and interests.

Furthermore, 6 statements are categorized as excessive. This means that the factors located in this quadrant are factors whose level of service has exceeded students' expectations. The statements are; 1) the practical equipment is complete and can be used properly in the laboratory; 2) school principals and teachers give awards to students who excel; 3) school facilities meet safety and health standards; 4) physics teachers provide training and guidance on the use of technology in the classroom; 5) students are given a choice regarding the most appropriate and effective physics learning method; and 6) schools and teachers are willing to listen and provide support/solutions to personal problems or student needs outside the scope of physics learning.

The next analysis is the students' satisfaction index according to Umam, R. K., & Hariastuti, N. P (2018) using the customer satisfaction index measurement, intended to determine the level of students' satisfaction with the services provided at SMAN 10 Luwu in this research. This analysis is very useful for determining targets regarding what services need to be improved to increase student satisfaction. For this research, the CSI analysis was carried out first, namely the indicator student satisfaction index, after that the ranking of the five research indicators were determined. The following is Table 4 CSI for all indicators and their rankings as follows:

Table 4. CSI of All Indicators

Indicators	\sum Average of Expectation	\sum Average of Reality	%CSI	Satisfaction Categories	Service Quality Satisfaction	Ranking
<i>Tangible</i>	46.01	42.75	85.74	Very satisfied	Very good	3

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<i>Reliability</i>	45.89	43.47	87.03	Very satisfied	Very good	1
<i>Responsiveness</i>	45.25	42.19	84.46	Very satisfied	Very good	5
<i>Assurance</i>	45.76	42.76	85.58	Very satisfied	Very good	4
<i>Empathy</i>	46.26	43.36	86.79	Very satisfied	Very good	2
Average of five indicators			85.92	Very Satisfied	Very good	

Based on Table 4, the research results obtained for each of the five indicators of student satisfaction were in the very satisfied category and the quality of physics learning services was in the very good category, obtained at 85.92%. Next, the first rank is Reliability, namely the school's ability to provide services as promised accurately and reliably, including the discipline of physics teachers and mastery of physics learning materials. The second rank is Empathy, namely providing sincere and individual or personal attention given to students by trying to understand their desires. The third rank is Tangible, namely the school's ability to demonstrate its existence to external parties, including the completeness of school facilities and infrastructure, the cleanliness of the school environment and the appearance of physics teachers. The fourth rank is Assurance, namely the physics teacher's knowledge, competence, politeness and concern for students and can be trusted so that they are free from danger and doubt. And finally, the fifth rank is Responsiveness, namely the willingness of physics teachers to help and provide fast and accurate services to students, including the readiness of physics teachers at any time when needed, speed and consistency in the process of administering grades and the ability of the school to respond to criticism/complaints/ suggestion.

CONCLUSIONS

1. The quality of 10th grade physics learning services at SMAN 10 Luwu is considered very good by the students. Statements of service quality that fall into the very good category are as follows:
 - a. Indicator 1 is tangible, the statement is considered very good by students, namely: 1). The teacher always starts physics learning in class on time; 2). Teachers always look neat according to the rules; 3). Complete school facilities, such as a canteen, place of worship, and library; 4). Physics teachers use Whatsapp groups, Google Classroom or so on so that students can access physics material, assignments and physics learning resources online; 5). Physics teachers are able to explain the physics material taught well; 6) Practical equipment is complete and can be used properly in the laboratory; and 7). Physics teachers provide training and guidance on the use of technology in the classroom.
 - b. Indicator 2 is reliability, the statement is considered very good by students, namely: 1). Teachers vary in teaching such as the use of experimental simulations, learning videos and others to develop understanding of physics; 2). The teacher explains physics material well and systematically; 3). Teachers always apply physics learning in accordance with students' challenging and meaningful learning experiences; 4). Competent physics teachers guide students in completing the P5 project (Development of student character to live and behave in accordance with Pancasila values) according to a predetermined theme; and 5). Physics teachers give assessments to students according to the students' abilities
 - c. The third indicator is responsiveness. The statement was rated very well by students, namely; 1). Physics teachers have adequate competence; 2). Schools or teachers provide information related to curriculum, assessment and school policies; 3). Physics teachers use technology-based physics learning media; and 4). Students are given a choice regarding the most appropriate and effective physics learning method
 - d. The fourth indicator is assurance. The statements that were considered very good by students were; 1). Teachers use systematic, polite and courteous words to students when studying physics in class; 2). Physics teachers do not differentiate between students in teaching and learning activities and giving grades; 3). Students are given the opportunity to establish class rules; 4). Teachers are polite in communicating with students including the use of language; and 5). Physics teachers provide support for students' self-development outside the classroom, such as participation in extracurricular activities or scientific competitions.
 - e. The fifth indicator is empathy. The statements that were considered very good by the students were; 1). Teachers provide sincere guidance in teaching in class; 2). Teachers encourage students to study hard so that physics learning outcomes improve; 3). Physics teachers always guide physics material for students who have difficulty learning physics; 4). Provide opportunities for students to develop social skills through group projects or collaborative activities; 5). The

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Principal and Teachers give appreciation to outstanding students; 6). The Principal and Teachers give awards to students who excel; and 7). Schools and teachers are willing to listen and provide support/solutions to students' personal problems or needs outside the scope of physics learning.

- 2). The level of student satisfaction with the quality of physics learning services in class 1). Tangible is the school's ability to demonstrate its existence to external parties, including the completeness of school facilities and infrastructure, the cleanliness of the school environment and the appearance of physics teachers; 2). Reliability, namely the school's ability to provide services as promised accurately and reliably, including the discipline of physics teachers and mastery of physics learning materials; 3). Responsiveness, namely the willingness of physics teachers to help and provide fast and accurate services to students, including the readiness of physics teachers at any time if needed, speed and accuracy in the process of administering grades and the ability of the school to respond to criticism/complaints/suggestions; 4). Assurance, namely the physics teacher's knowledge, competence, politeness and concern for students and can be trusted so that they are free from danger and doubt; and 5). Empathy is providing sincere and individual or personal attention given to students by trying to understand their wishes. So, it can be concluded that students are very satisfied with the quality of physics learning services at SMAN 10 Luwu.

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