

Development of SERVQUAL Service Quality Measurement Instrumen in Primary School

Ratna F Hapsari¹, Yarsi Efendi^{1,2}, Dinda Nurul Inayati¹, Desi K Wulansari¹, Iyan Irdiyansyah¹
hapsari.hadikusumo@gmail.com, efendiyarsi@gmail.com, dindaasofyan@gmail.com, desikardiniwulansari@gmail.com,
iyan.irdiyansyah@unpak.ac.id

¹Sekolah Pasca Sarjana, Universitas Pakuan, Bogor, Indonesia

²Faculty of Teacher Training and Education, Universitas Riau Kepulauan, Batam, Indonesia

Article Info

Article history:

Submission Jan 20, 2025
First Revised Feb 15, 2025
Accepted Feb 28, 2025
Published Jul 15, 2025

Keywords:

educational service quality
elementary school
instrument development
servqual

ABSTRACT

This research aims to focus on developing a measurement tool for assessing service quality in primary schools utilising the ADDIE model. The development process consists of five key phases: analysis, design, development, implementation, and evaluation. By applying the ADDIE framework, the study successfully established an instrument to evaluate educational service quality at Public Elementary School in South Tangerang. The process followed a systematic approach through these five stages. In the Analysis phase, the study found that the SERVQUAL model is particularly suitable for assessing educational service quality in primary education. During the Design phase, the questionnaire was validated by experts without requiring any modifications, confirming its content validity. In the Development phase, 23 out of 26 statements were deemed valid, resulting in a reliability score of 0.812, indicating the instrument's consistency. The Implementation phase confirmed the validity and reliability of all statements on a larger scale, achieving a Cronbach's alpha of 0.924. Finally, the Evaluation phase gathered feedback that endorses the instrument's effectiveness while identifying areas for future enhancement. Overall, this research illustrates that the developed tool is both valid and reliable, offering essential insights into educational service quality from parents' perspectives.

© 2025 Authors.

This is an open-access article distributed under the terms of the *Creative Commons Attribution License (CC BY-SA)*



Corresponding Author:

Yarsi Efendi
Doctoral Program in Educational Management, Sekolah Pasca Sarjana
Universitas Pakuan
Jl. Pakuan, Tegallega. Kecamatan Bogor Tengah, Kota Bogor. Jawa Barat
Email: efendiyarsi@gmail.com

How to cite:

Hapsari, R. F., Efendi, Y., Inayati, D. N., Wulansari, D. K., & Irdiyansyah, I. (2025). Development of SERVQUAL service quality measurement instrument in primary school. *Pedagogia: Jurnal Ilmiah Pendidikan*, 17(1), 53–68. <https://doi.org/10.55215/pedagogia.v17i1.43>

Introduction

Education is a fundamental aspect of human and societal development. In this regard, Shavkidinova et al. (2023); Miller & Narzary (2024); & Edgerton et al. (2011) emphasize that education serves not only to enhance individual quality of life but also as a cornerstone

in the development of a nation. When discussing education, it is essential to recognise that high-quality education is the key to fostering competent and innovative human resources. A good education produces individuals who are not only skilled in their fields but also possess critical and creative thinking abilities, which are increasingly necessary to tackle current global challenges (Rotherham & Willingham, 2009; Fatmawati et al., 2019).

According to a report by UNESCO (2017), the education sector aims to provide educational services that produce quality human resources capable of driving national development, as well as generating a skilled workforce across various levels and expertise. Given the significance of education in human and societal development, the quality of educational services cannot be overlooked. High-quality services contribute not only to human resource development but also play a crucial role in determining stakeholder satisfaction (Brady & Cronin, 2001). Consequently, understanding the various aspects that shape the quality of educational services is vital for achieving better educational outcomes. High-quality services are essential for fostering satisfaction and loyalty among parents (Nguyen et al., 2024; Praharjo, 2020; Budiyanto et al., 2021). In the educational context, a high standard of service can enhance parental trust in schools, which in turn positively influences student motivation and achievement. Schools that provide high-quality services are likely to attract more students and build a strong reputation within the community. Therefore, evaluating and enhancing the quality of services in public primary schools is crucial for achieving better educational goals.

The Significance of Educational Service Quality

The quality of educational services is a key factor influencing the success of the teaching and learning process and the development of students (Twum & Peprah, 2020). Quality education not only contributes to students' academic achievements but also enhances their social, emotional, and character dimensions alongside their academic pursuits (Catalano et al., 2004; Singh et al., 2023) highlight that service quality contributes to customer satisfaction. Good service quality can increase satisfaction among customers in this case, students and parents thereby enhancing loyalty and trust in educational institutions.

Educational service quality also plays a significant role in creating a positive learning environment. A supportive and high-quality environment can boost students' motivation to learn and actively participate in school activities (Hattie, 2009). Research by (Rahayu et al., 2021) indicates a significant impact of service quality on student achievement. Students who are satisfied with the services provided by their schools tend to achieve better academic results. Furthermore, in an era of globalisation and increasing competition, educational institutions are required to continually enhance their service quality to meet societal expectations. High service quality can provide a competitive advantage for schools, attracting more students and improving the institution's reputation in the community (Parasuruma et al., 1991). Thus, it is essential for schools to actively measure and improve the quality of the services they provide to meet the expectations of parents and students and contribute to the advancement of education.

Limitations of Service Quality Measurement Instruments in Primary Schools

Despite the development of various instruments to measure service quality across different sectors, there are specific limitations within the context of primary education. Firstly, many existing instruments are not specifically designed for the primary education environment, which may result in the omission of unique aspects relevant to the experiences of parents and students at this level. For instance, instruments developed for other service sectors, such as hospitality or retail, may not be directly applicable in educational contexts (Parasuraman et al., 1988). Secondly, existing instruments often do not deeply consider the

perspectives of parents. Numerous prior studies focused the analysis of exam questions on (Nazarudina et al., 2023) or the perceptions of students and teachers, frequently neglecting the voices of parents. Much previous research has focused more on the perceptions of students (Irdiyansyah et al., 2020; Firda & Nurhadi, 2023) or teachers (Sadtyadi & Kartowagiran, 2014), while parental voices are frequently overlooked. However, parents play a crucial role in assessing the quality of services their children receive, and their insights can provide valuable information (Epstein, 2018). This limitation underscores the need for the development of more inclusive and representative instruments. Thirdly, the validity and reliability of existing instruments are often not thoroughly tested within the primary school context. Some instruments may have been validated at higher educational levels, but there is no guarantee that the results will be the same when applied in primary schools. Therefore, it is important to conduct trials and validate instruments in this specific context (Cresswell, 2007). Fourthly, many instruments measuring service quality focus solely on certain dimensions, such as physical facilities or reliability, without considering other important dimensions like empathy and responsiveness. This can result in an incomplete picture of the quality of services perceived by parents (Gupta & Zeithaml, 2006).

Thus, there is an urgent need to develop more comprehensive and relevant service quality measurement instruments for primary schools that can encompass parental perspectives and consider the unique characteristics of this educational environment.

The Role of Parents in Assessing School Service Quality

Parents play a crucial role in evaluating the quality of educational services provided by schools. They are not merely observers but also partners in their children's educational processes. Several key aspects of parents' roles in assessing service quality include; Parents possess unique insights into their children's experiences at school. They can provide in-depth information regarding various service aspects, such as interactions with teachers, quality of instruction, and the social environment at school. Research indicates that parents involved in their children's education tend to have a better understanding of the quality of services received (Epstein, 2018). Parents' perceptions of service quality are significantly influenced by their expectations. When parents' expectations are met or exceeded, they are likely to feel satisfied with the services provided. Conversely, if expectations are not met, parents may feel disappointed and perceive the service quality as low (Gupta & Zeithaml, 2006). Therefore, understanding parents' expectations in the educational context is essential. Parents with a good understanding of service quality can act as advocates for improvements within schools. They can provide feedback to school authorities regarding aspects that need enhancement and participate in decision-making processes related to educational policies and practices. Parental involvement in this process can help create a better learning environment for students (Henderson & Mapp, 2002). Parental involvement in assessing service quality also contributes to establishing strong relationships between schools and families. When parents feel that their voices are heard and valued, they are more likely to engage in school activities and support educational initiatives. This can create a mutually beneficial partnership between schools and parents (DiCicco & Faulkner, 2024; Lemmer, 2013). Research shows that parental involvement in their children's education is positively correlated with students' academic performance. When parents actively assess and engage with the quality of services provided by schools, their children are likely to demonstrate better learning outcomes (Zulparis et al., 2021).

Research Objectives

The primary aim of this research is to develop an instrument that can be used to measure service quality in primary schools from the perspective of parents. This instrument

is expected to encompass various relevant dimensions of service quality, thereby providing a comprehensive overview of parents' perceptions of the services offered by schools. With a valid and reliable instrument, schools can more easily identify areas needing improvement and enhance the quality of services they provide (Parasuraman et al., 1988).

This study aims to identify the most relevant dimensions of service quality within the context of primary education, employing an approach that has been underexplored. While the SERVQUAL model is widely used across various sectors, its specific application in primary education remains limited. This research will not only consider conventional dimensions such as tangibles, reliability, responsiveness, assurance, and empathy, but will also investigate additional factors like school community, parental involvement, and innovation in managerial decision-making. By integrating new perspectives pertinent to the local context, the study seeks to develop a more tailored and effective service quality assessment tool for primary schools. Furthermore, it will involve direct participation from parents and teachers to gain deeper insights. Consequently, the findings are expected to contribute not only theoretically but also provide practical recommendations for schools to enhance stakeholder satisfaction. By understanding these dimensions, schools can focus their efforts on enhancing service quality in line with the expectations and needs of parents (Parasurama et al., 1991).

The SERVQUAL model holds significant relevance in the education sector, particularly in primary schools, for several reasons. Firstly, it enhances service quality by enabling primary schools to assess and evaluate the services they provide to parents. Key dimensions such as reliability, responsiveness, and empathy assist school administrators in identifying areas for improvement to meet stakeholder expectations. This model underscores the importance of user experience and perception in this case, that of parents by highlighting the gaps between expectations and reality. By addressing these gaps, schools can develop strategies to boost both parent and student satisfaction, ultimately fostering greater trust and loyalty towards the institution.

Moreover, the implementation of SERVQUAL lays a solid foundation for creating more tailored and relevant assessment tools within the educational context. Equipped with appropriate instruments, schools can effectively measure the success of existing programmes and services, benchmark against other institutions, and support accreditation and quality assurance efforts. The application of SERVQUAL in primary schools also bolsters accreditation initiatives by providing evidence of the school's commitment to continuous improvement in service quality. This is particularly vital in a competitive educational landscape where societal demands for high-quality education are ever-increasing.

In summary, the adoption of the SERVQUAL model in primary education not only offers a framework for evaluating service quality but also promotes ongoing enhancement that can yield positive outcomes for the entire educational community.

Method

The development of an instrument to measure service quality using the SERVQUAL model in this study adopts the ADDIE development model (Analyze, Design, Develop, Implement, and Evaluate). This model consists of five stages (Branch, 2009), as illustrated in Figure 1.

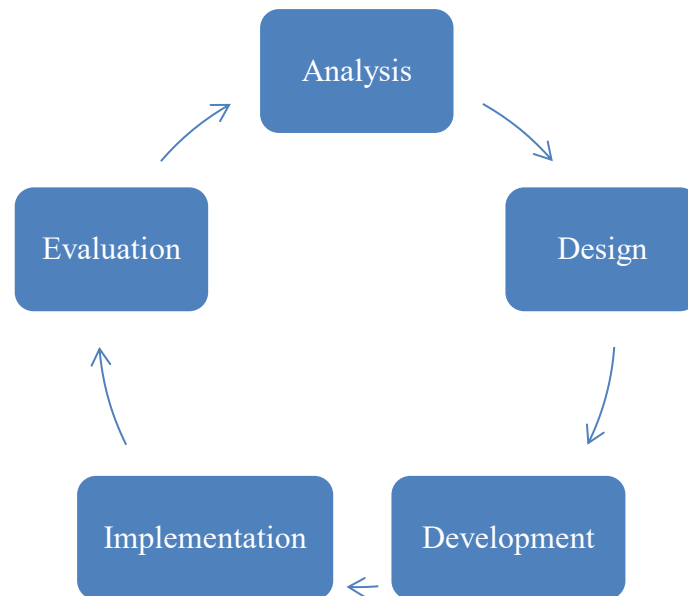


Figure 1. ADDIE Development Model

This stage commences with a literature review to grasp relevant theories, including the SERVQUAL model and prior research on educational service quality. This understanding aids in formulating a framework for the instrument's development. Based on the literature review findings and preliminary data gathered from exploratory surveys, the measurement instrument will be designed. It will encompass items reflecting the identified dimensions of service quality, with a focus on identifying parental needs in assessing the quality of educational services in primary schools. Methods employed include interviews, focus group discussions, and exploratory surveys. The outcomes of this phase will enhance understanding of parents' expectations as users of educational services.

The questionnaire is crafted based on the SERVQUAL dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Each dimension is tailored to capture the perspectives of parents. Questions are structured to ensure clarity for parents and relevance to their experiences at school. At this stage, the initial questionnaire is developed based on the previous analysis. This marks the formation of the instrument's foundational framework, where the questions are designed to elicit pertinent input from respondents, specifically the parents. Following the drafting of the questionnaire, a validation process was conducted by experts to ensure that the questions were relevant, clear, and measurable in accordance with the research objectives. (Irdiyansyah et al., 2024) noted that during the expert review, they provided feedback on several items that required refinement, particularly concerning the grammar that lacked specificity regarding the intended measurements. Furthermore, the experts examined and commented on the appropriateness of the indicators and items within the instrument. They offered insights on the suitability of the grammar, clarity, and comprehensiveness of the dimensions intended for assessment.

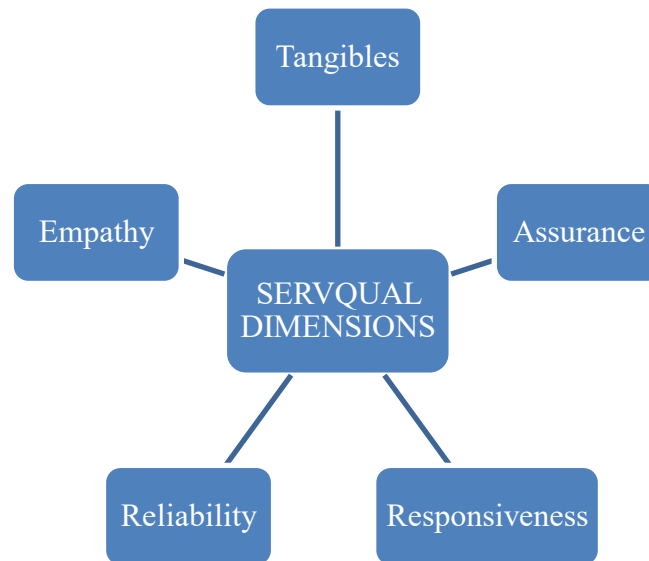


Figure 2. SERVQUAL Dimension

Each dimension is tailored to capture the perspectives of parents (Figure 2). Questions are structured to ensure clarity for parents and relevance to their experiences at school. At this stage, the initial questionnaire is developed based on the previous analysis. This marks the formation of the instrument's foundational framework, where the questions are designed to elicit pertinent input from respondents, specifically the parents. Following the drafting of the questionnaire, a validation process was conducted by experts to ensure that the questions were relevant, clear, and measurable in accordance with the research objectives. (Irdiyansyah et al., 2024) noted that during the expert review, they provided feedback on several items that required refinement, particularly concerning the grammar that lacked specificity regarding the intended measurements. Furthermore, the experts examined and commented on the appropriateness of the indicators and items within the instrument. They offered insights on the suitability of the grammar, clarity, and comprehensiveness of the dimensions intended for assessment.

The questionnaire development process includes drafting the initial version, followed by pilot testing among a small group of parents to evaluate readability, clarity, and understanding of the formulated items. Once the instrument has been developed, it is crucial to assess its validity and reliability. Validity pertains to how effectively the instrument measures what it is intended to measure, while reliability is concerned with the consistency of the results obtained. This research will conduct a factor analysis to evaluate construct validity and employ Cronbach's Alpha to assess the internal consistency of the instrument. By ensuring that the developed instrument is both valid and reliable, the measurement outcomes can be trusted and utilised for more informed decision-making aimed at enhancing the quality of educational services in primary schools (Cresswell, 2007).

Collected data will be analysed to test the validity and reliability of the instrument. The validity test aims to measure the extent to which the instrument (questionnaire) can gauge service quality dimensions based on the SERVQUAL model. This validity test employs the product-moment Pearson correlation technique, correlating individual item scores with the total score derived from respondents' answers to the questionnaire. The decision-making basis for the Product Moment validity test involves comparing the calculated r value with the r table value. If the calculated r value is greater than the r table value, the item is deemed valid; conversely, if it is less, the item is considered invalid. This validity test is conducted using SPSS. Feedback from this pilot test will be used to revise

and refine the questionnaire, making it more effective and comprehensible before finalising it for use in further research at SDN Serua Indah 02, Tangerang Selatan.

The refined questionnaire is then distributed to the parents of students at the primary school designated as the research population and sample, specifically the parents of SDN Serua Indah 02, South Tangerang. Data collection methods are conducted both online and offline to reach a broader participant base. Respondents are expected to provide their evaluations of various aspects of the educational services received by their children. The gathered data will be analysed to assess the validity and reliability of the instrument. This analysis will encompass statistical evaluations to assess the dimensions of the questionnaire and identify areas requiring further attention or improvement, based on the responses from parents.

Results and Discussion

This study aims to develop an instrument for measuring the quality of educational services using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The following outlines the results from each stage of the instrument development process:

Analysis Stage

During the analysis phase, the selection of the SERVQUAL concept as a framework for measuring educational service quality was deemed appropriate. Five dimensions of SERVQUAL service quality were formulated: Tangibles, Reliability, Responsiveness, Assurance, and Empathy.

Table 1. Formulation of SERVQUAL Dimension

Dimension	Description	Example
Tangibles	Physical evidence of the service, including facilities, equipment, appearance, and materials.	Comfortable room design, professional appearance, attractive brochures.
Reliability	The ability to deliver services accurately and consistently as promised.	Services completed on time without errors.
Responsiveness	The willingness and ability to respond to customer needs and complaints	Prompt response to customer complaints.
Assurance	Employee competence and attitude that instil confidence in customers.	Clear and trustworthy explanations from teachers and staff
Empathy	Personal attention and understanding of customer needs.	Providing tailored solutions for individual customer needs.

Design Stage

In the design stage, the initially drafted questionnaire received input from validation experts. Expert recommendations for the design phase include ensuring consistent mention of each dimension and elaborating statements for clarity, so respondents grasp the intended context. For instance, the statement "The school delivers announcements or schedules through a digital information system" should be clarified with specific examples of the system in question. Conduct preliminary testing of the questionnaire with a small group of parents to gather feedback on the clarity of the statements and their coverage of key SERVQUAL service quality aspects. Additionally, provide a brief explanation of the Likert scale at the beginning of the questionnaire to aid respondents in understanding how to rate the statements. Clarifying the meaning of each score and its intended use, along with varying the statements to mitigate response bias, including those with a negative tone, can help reduce excessive positive responses.

The instrument for measuring SERVQUAL service quality in primary schools was presented in a grid format consisting of 26 statements representing the five SERVQUAL dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. A Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) was used, with the following categories: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

Table 2. SERVQUAL Questionnaire Framework

Dimension	Statement
Tangibles	• The school facilities are suitable for use. • The school provides complete learning equipment. • The school environment is clean and well-maintained. • The cleaning staff are responsive in maintaining the cleanliness of the school. • The school delivers announcements or schedules through a digital information system.
Assurance	• The decisions made by the school provide satisfaction for parents. • Teachers possess excellent knowledge and skills in teaching. • The school provides clear and easy-to-understand explanations about its programs and policies. • Teachers explain lesson materials clearly and in an easily understandable manner. • The school has clear procedures for handling emergency situations. • The school's administrative staff provides fast and accurate services. • The school's communication reflects professionalism and integrity.
Responsiveness	• School staff are responsive in answering parents' questions. • The school ensures optimal communication for parents. • Parents feel valued and cared for when providing feedback or raising concerns. • The school responds appropriately and appreciates every concern raised by parents. • The school is proactive in delivering the latest information to parents. • Parents are enthusiastic about participating in various activities organized by the school.
Reliability	• Parents feel fully supported by the school in fostering their children's social development. • The school consistently fulfills the promises made to parents. • The schedule of school activities, such as parent meetings, is carried out on time. • The school is reliable in providing accurate information. • Teachers are ready to assist students in addressing academic challenges. • The school implements the established curriculum with full commitment. • Parents feel appreciated for the feedback they provide to the school.
Empathy	• Teachers give full attention to the individual needs of students. • School staff understand and respond to parents' concerns about their children's education. • The school actively builds good relationships with parents. • Teachers provide the emotional support that students need. • The school actively organizes activities that involve both parents and students.

Development Stage

This instrument is expected to measure parents' perceptions of the quality of service provided by the school. Before being used in further research, the instrument needs to be validated to ensure that the items are relevant, clear, and align with the measurement objectives. Therefore, expert validation was conducted to assess the quality and feasibility of the instrument.

The instrument validation was carried out by experts in the field of educational research and evaluation. The experts were asked to assess the relevance, clarity, and appropriateness of the items in the SERVQUAL instrument, which had been adapted to the context of elementary schools. The validation process involved rating the items using a

Likert scale of 1-5, where 1 indicates a very large discrepancy and 5 indicates a very high degree of suitability. Additionally, the experts provided feedback regarding the formulation of the indicators for each SERVQUAL dimension used.

From the evaluation conducted by the experts, 90% of the items in the SERVQUAL instrument were deemed relevant and aligned with the objectives of measuring service quality in elementary schools. However, some experts suggested improvements to the terminology used in several items to make them more easily understood by parents. One of the recommendations was to replace the term "*kehandalan*" (reliability) with "*keterandalan*" (dependability) to make it more understandable for respondents. Some items that were considered unclear by the experts, such as those in the "physical evidence" dimension, were recommended to be revised to better reflect the condition of the physical facilities in elementary schools, such as classrooms, playgrounds, and the cleanliness of the school environment.

The validation results indicated that most items in the SERVQUAL instrument were highly relevant and suitable for the elementary school context. The suggested improvements, particularly those related to language that is easier for the respondents (parents) to understand, will enhance the clarity of the instrument. Additionally, the changes in terminology and the revisions to several items in the "physical evidence" dimension will help the instrument become more accurate in measuring the quality of service provided by the school to parents.

The SERVQUAL-based service quality measurement instrument developed for primary schools has undergone a validation process involving experts in the field of educational research and evaluation. Based on the validation results, the instrument is considered sufficiently valid for use in further research after some minor revisions. Thus, this instrument is ready to be used to measure parents' perceptions of service quality in elementary schools and can serve as a reference for the development of educational quality in the future.

In this development stage, improvements were made based on the feedback from experts. Four statements were deemed unsuitable (numbers 4, 6, 12, and 19) and were subsequently removed. The remaining 26 statements underwent a small-scale pilot test involving 81 parent respondents from several primary schools in South Tangerang. The parents' responses from this small-scale test were then analysed for validity. Out of the 26 statements proposed, 23 were found to be valid, while 3 were deemed invalid (dropped). A reliability test was performed on the 23 valid statements, yielding a Cronbach's Alpha value of 0.812, indicating that this instrument has a good level of reliability.

The instrument demonstrated a high level of reliability, as evidenced by a Cronbach's alpha value of 0.812. This exceeds the commonly accepted threshold of 0.60, indicating that the instrument is both reliable and consistent in measuring the intended variables (Tavakol & Dennick, 2011). In other words, this instrument can be relied upon to yield consistent results when used for the same measurement at different times. This outcome assures that the developed instrument is not only valid but also reliable, thus enabling accurate measurement of service quality and parental satisfaction. With this tested instrument, it is expected to provide better insights into parents' perceptions of the educational service quality received by their children. Furthermore, a sample adequacy analysis was conducted. The adequacy of the sample was assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. This test aims to determine whether the collected data is sufficiently adequate (Field et al., 2012). The results of the sample adequacy test with 23 item statements can be seen in the SPSS output in Table 3.

Table 3. Sample Adequacy Analysis Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.885
Bartlett's Test of Sphericity	Approx. Chi-Square	2594.571
	df	231
	Sig.	.000

From the SPSS output, the KMO value obtained is 0.885. A KMO value above 0.80 indicates that the data has very good sample adequacy. This suggests that the variables in the questionnaire have a sufficiently strong correlation and can be relied upon for further analysis. The SPSS output in Table 3 also shows the results of Bartlett's Test of Sphericity, which indicates an Approx. Chi-Square value of 2594.571 with 231 degrees of freedom (df) and a significance value (Sig.) of 0.000. A significance value below 0.05 indicates that the correlation matrix is not an identity matrix, which means there is a significant relationship between the tested variables. Based on the KMO and Bartlett's Test results, it can be concluded that the collected data is adequate and suitable for further use. The high KMO value and significant Bartlett's Test results indicate that the instrument used has a suitable structure for further analysis, thus providing deeper insights into the quality service dimensions from parents' perspectives. The results at this stage indicate that 23 statements are valid, while 3 statements are invalid (dropped). The reliability test conducted on the questionnaire yielded a value of 0.812, indicating good internal consistency. This means that the questionnaire can be relied upon to measure the quality of educational services. Furthermore, the sample adequacy test shows that the sample size used adequately represents the population, making the analysis conducted at this stage valid.

Implementation Stage

In the implementation stage, the 23 validated and reliable statements from the small-scale test were retested on a larger sample of 178 parent respondents. The demographics of the total respondents in this large-scale test are as follows: 82.7% female and 17.3% male. This indicates that the majority of respondents are mothers involved in their children's education. Respondents have varied educational backgrounds, as follows: Primary School: 3.7%, Junior High School: 17.3%, Senior High School: 56.8%, Diploma (D1-D3): 4.9%, Bachelor's Degree: 16%, Master's Degree: 1.2%. Most respondents have their highest education at the Senior High School (56.8%) and Bachelor's Degree (16%), indicating that the parents have a relatively good level of education. The occupations of respondents also vary, with several categories identified are Homemakers, Private Employees, Civil Servants (PNS), Online Drivers, etc.

Evaluation Stage

The evaluation stage in the development of this instrument aims not only to assess the effectiveness and reliability of the developed SERVQUAL service quality measurement instrument but also to facilitate continuous improvement in monitoring and enhancing the quality of educational services at primary schools. Evaluation at this stage is conducted through detailed statistical tests, valuable feedback, and recommendations for necessary follow-up actions to ensure the relevance and effectiveness of the instrument in measuring service quality in the future. Evaluation is performed by collecting feedback from respondents (parents) who have completed the questionnaire. Additionally, data analysis obtained from the questionnaire is conducted to assess the validity and reliability of the instrument, and factor analysis is performed to ensure that the instrument can measure the desired service quality dimensions. The validity of the evaluation results indicates that all statements in the questionnaire are valid, meaning the instrument can measure what it is supposed to measure, namely the quality of services in primary schools. Furthermore, the

reliability value obtained (0.924) indicates that the instrument has very good consistency in measurement (Tavakol & Dennick, 2011). This means that if this instrument is reused under the same conditions, the results will be consistent.

To assess the strengths and weaknesses of the instrument, a Strengths and Weaknesses Analysis was conducted. This instrument features a well-defined structure and encompasses essential dimensions of service quality, including reliability, responsiveness, assurance, empathy, and tangible elements. This comprehensive approach enables effective measurement of service quality. The results from the factor analysis, employing Principal Component Analysis (PCA), provide profound insights into the interrelationships among the service quality dimensions evaluated in this study. The resulting correlation matrix illustrates the relationships between the tested variables: Tangible, Assurance, Responsiveness, Reliability, and Empathy. The correlation matrix indicates that all dimensions are significantly related to one another, with varying correlation values. Assurance exhibits the highest correlation with Responsiveness ($r = 0.780$) and Tangible ($r = 0.741$). This finding suggests that parents' perceptions of the assurances offered by the school are closely linked to the responsiveness of the services received. The analysis results are presented in Table 4 of the SPSS output, including the correlation matrix.

Table 4. Correlation Matrix

		Tangible	Assurance	Responsiveness	Reliability	Empathy
Correlation	Tangible	1	0.741	0.633	0.573	0.526
	Assurance	0.741	1	0.78	0.637	0.637
	Responsiveness	0.633	0.78	1	0.516	0.516
	Reliability	0.573	0.732	0.735	1	0.648
	Empathy	0.526	0.637	0.648	0.648	1
Sig. (1-tailed)	Tangible		0	0	0	0
	Assurance	0		0	0	0
	Responsiveness	0	0		0	0
	Reliability	0	0	0		0
	Empathy	0	0	0	0	

The Reliability dimension shows a strong correlation with Assurance ($r = 0.732$) and Responsiveness ($r = 0.735$), indicating that the reliability of the services provided by the school affects parents' trust in those services. Higher correlation values (above 0.7) between dimensions indicates a strong relationship. For instance, the relationship between Assurance and Responsiveness, as well as between Assurance and Tangible, suggests that improvements in one dimension can contribute to enhancements in the others. Conversely, the Empathy dimension has the lowest correlation with other dimensions, although it remains significant. This lowest correlation ($r = 0.516$ with Responsiveness) indicates that, while empathy is essential, other factors may play a more dominant role in influencing parents' perceptions of service quality. All significance values (Sig.) for the correlations shown are 0.000, indicating that all relationships between dimensions are statistically significant. This demonstrates a strong and reliable relationship among the measured service quality dimensions.

These findings have significant implications for managing service quality at SDN Serua Indah 02. By understanding the relationships between dimensions, the school can focus more on areas that significantly impact positive parental perceptions. For instance, enhancing the Assurance and Responsiveness dimensions may contribute to improving parents' perceptions of Reliability and Tangible aspects. Additionally, although Empathy shows the lowest correlation, it remains crucial not to overlook this dimension, as empathy can contribute to positive experiences for both parents and children at school.

Next, a loading factor analysis is conducted using the component matrix, with the results displayed in Table 6. The Component Matrix output from the factor analysis provides information regarding the loading factors for each variable measured. Loading factors indicate the extent to which each variable contributes to the extracted factor. The following discussion pertains to the results of the Component Matrix obtained from the factor analysis using the Principal Component Analysis (PCA) method, as illustrated in Table 5 of the SPSS output

Table 5. Component Matrix Loading Factor

Variable	Component matrix
Tangible	0.816
Assurance	0.92
Responsiveness	0.868
Reliability	0.87
Empathy	0.773

The Component Matrix shows the loading factor values for each variable on the extracted component. Higher loading values indicate that the variable has a greater contribution to the resulting factor. From Table 6, it is evident that Assurance has the highest loading factor (0.920), indicating that this dimension has the most significant contribution to the extracted factor. This suggests that parents' perceptions of the assurances provided by the school are strong and influential in shaping the quality of services they experience. Reliability (0.870) and Responsiveness (0.868) also exhibit high loading factors, indicating that these two dimensions are vital in shaping parents' perceptions of service quality. This indicates that the reliability and responsiveness of the services provided by the school significantly influence parents' perceptions. Tangible (0.816) and Empathy (0.773) also have significant loading factors, albeit slightly lower than the other dimensions. This suggests that the physical aspects of the service and the empathy demonstrated by school staff also contribute to the perception of service quality, although not as strongly as the other dimensions. These results provide valuable insights for the school in efforts to improve service quality. By identifying which dimensions have the most significant impact, the school can focus on enhancing Assurance, Reliability, and Responsiveness to improve parental satisfaction. Furthermore, while Tangible and Empathy have lower loading factors, it is essential not to neglect these dimensions, as they still contribute to the overall experience of parents and can be areas for improvement.

Overall, the Component Matrix results indicate that all measured dimensions contribute to the extracted factor, with Assurance being the most dominant dimension. These findings provide a strong foundation for formulating strategies to improve service quality in primary schools, focusing on dimensions that most influence parents' perceptions. Based on the evaluation results, it is recommended to revise several statements deemed unclear. Simplifying language and using more common terms can help enhance respondents' understanding. Additionally, it is advised to conduct periodic evaluations of this instrument to ensure it remains relevant and reliable as educational contexts and user needs evolve.

The evaluation stage in this research demonstrates that the developed service quality measurement instrument using the ADDIE model is both valid and reliable. The evaluation results provide a robust basis for the use of this instrument in further research and practice in primary schools. By making improvements based on the feedback received, this instrument can continue to be enhanced to achieve better measurement objectives.

The evaluation of the SERVQUAL instrument indicates that 90% of the items utilised are deemed relevant and aligned with the objectives of measuring service quality in primary schools. This validation suggests that the instrument, once refined and adjusted according to expert guidelines, can accurately reflect parents' perceptions of the quality of services

received at the school. Recommendations for improvement, such as substituting the term "reliability" with "dependability," highlight the significance of employing easily comprehensible language to enhance respondent engagement. This underscores the notion that appropriate language choices can be a critical factor in obtaining valid and trustworthy data, thereby enabling parents to provide more candid feedback regarding their experiences. This aligns with findings from the research conducted by (Parasuraman et al., 1994), which emphasises that clarity in communication and the terminology used in questionnaires is essential for collecting accurate data on service quality.

The revision of the "physical evidence" dimension to more accurately reflect the conditions of school facilities represents a significant advancement. By clarifying statements related to the school environment, including classrooms, playgrounds, and cleanliness, the resulting instrument can more precisely capture parental opinions. The assessment conducted yielded satisfactory results, with 23 out of 26 statements deemed valid and a reliability score of 0.812. This indicates that the instrument is both consistent and dependable for future research, thereby providing deeper insights into the quality of services offered by primary schools. This aligns with the validity principles outlined by (Field, 2005), which assert that instruments must be adapted to ensure that all relevant aspects of the construct are measured accurately, further supported by factor analysis demonstrating a strong relationship among the measured items.

During the implementation phase, this study engaged 178 parents as respondents, resulting in a diverse demographic representation. The analysis results demonstrated that the developed instrument is not only valid and reliable but also capable of accurately reflecting parents' perspectives. Factor analysis and weighting revealed that the "Assurance" dimension had the most significant impact on overall service quality perceptions, followed by "Reliability" and "Responsiveness." These findings highlight the necessity of focusing on enhancing the quality-of-service assurance and school responsiveness to foster trust among parents. Although the "Empathy" dimension exhibited the least influence, it remains essential to consider in school policies and practices to improve the overall experiences of both parents and children within the educational environment. Thus, the application of this instrument is anticipated to be beneficial not only for further research but also for the continuous improvement of educational services in primary schools.

These findings align with previous research conducted by Zeithaml et al. (1996), which emphasizes the importance of service dimensions such as Assurance and Responsiveness in shaping customers' perceptions of overall service quality. Zeithaml et al (1996) argue that enhancing these dimensions can effectively foster customer trust and satisfaction, which can lead to better long-term relationships between service providers and their clients. Furthermore, the need to consider the Empathy dimension in educational contexts is supported by a study by Yoon & Uysal (2005), which states that while some dimensions may have a stronger influence, all elements contribute to the overall satisfaction and experiences of the stakeholders involved, including parents and students.

The results of this research provide a significant tool for educational managers to evaluate and enhance service quality at the primary school level. By utilising the developed instrument, schools can identify aspects requiring improvement based on parents' input. This instrument supports more informed and data-driven decision-making, particularly in planning and developing programs aimed at improving educational service quality. With the data obtained, schools can allocate resources more efficiently. This perspective complements the findings of (Grönroos, 2001), who notes that service quality evaluation tools enable organizations to identify strengths and weaknesses in service delivery, leading to more targeted improvements. By emphasizing the importance of stakeholder input, this research

mirrors Gronroos' view that understanding service quality from the customer's perspective is crucial in crafting responsive and effective educational programs. Thus, this research not only contributes to the development of a valid and reliable instrument for assessing educational service quality but also provides a solid foundation for decision-making and sustainable improvements in educational services in the future.

Conclusion

This research successfully designed a measurement tool to assess the quality of educational services at SDN Serua Indah 02, South Tangerang, by applying the ADDIE model. This process was conducted through five systematic steps: Analysis, Design, Development, Implementation, and Evaluation. The resulting measurement tool has undergone rigorous validity and reliability testing. In the Analysis stage, it was found that the SERVQUAL concept is highly suitable for assessing educational service quality in primary school settings. In the Design stage, the resulting questionnaire was approved by validation experts without the need for revisions, indicating that the instrument meets content validity criteria. In the Development stage, 23 out of 26 statements were identified as valid, with a reliability value of 0.812, demonstrating the instrument's consistency in measuring service quality. The Implementation stage yielded all valid and reliable statements on a larger scale, with a Cronbach's Alpha value reaching 0.924. In the Evaluation stage, the feedback obtained supports the instrument's effectiveness and opens opportunities for future improvements. Overall, this research indicates that the developed instrument is not only valid and reliable but also capable of providing valuable insights regarding the quality of educational services from the perspective of parents.

References

- Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34-49.
- Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer.
- Budiyanto, B., Wibowo, T. S., Badawi, B., Humaira, M. A., Kisno, K., Umam, A. K., Gunawan, A., Mufid, A., Bashori, I. A., & Purwanto, A. (2021). The effect of service quality on satisfaction and loyalty of PAUD student parents. *Psychology and Education*, 58(1), 2294-2304.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Science*, 591(1), 98-124.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). SAGE Publications.
- DiCicco, M., & Faulkner, S. A. (2024). Mutually beneficial? Middle school educators' perceptions about the benefits and challenges of a school-university partnership. *School-University Partnerships*, 17(3), 244-258.
- Edgerton, J. D., Roberts, L. W., & von Below, S. (2011). Education and quality of life. *Handbook of social indicators and quality of life research*, 265-296.
- Epstein, J. L. (2018). School, family, and community partnerships in teachers' professional work. *Journal of Education for Teaching*, 44(3), 397-406.

- Fägerlind, I., & Saha, L. J. (2016). *Education and national development: A comparative perspective*. Elsevier.
- Fatmawati, A., Zubaidah, S., & Mahanal, S. (2019). Critical thinking, creative thinking, and learning achievement: How they are related. In *Journal of Physics: Conference Series*. 1417(1), 012070.
- Field, A. P. (2005). *Discovering statistics using SPSS: (and sex, drugs and rock 'n' roll)* (2nd ed.). SAGE Publications.
- Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using r* (1st ed.). SAGE.
- Firda, H., & Nurhadi, D. (2023). Penerapan model ADDIE dalam pengembangan instrumen penilaian diri sendiri peserta didik SMA Negeri Kabupaten Mojokerto. *Jurnal Hikari*, 7(1), 14–26.
- Grönroos, C. (2001). The perceived service quality concept – A mistake? *Managing Service Quality: An International Journal*, 11(3), 150–152.
- Gupta, S., & Zeithaml, V. A. (2006). Customer metrics and their impact on financial performance. *Marketing Science*, 25(6), 718–739.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning* (illustrated ed.). Routledge.
- Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement (Annual synthesis 2002)*. Southwest Educational Development Laborator.
- Irdiyansyah, I., Karmila, N., Agustina, C., & Aisy, K. R. (2024). Development of transformational leadership instrument to measure principal's leadership. *Journal of Innovation in Educational and Cultural Research*, 5(4), 624–633.
- Irdiyansyah, I., Tola, B., & Tjalla, A. (2020). A constructing attitude measurement toward environmental literacy: Validity testing. *IJER – Indonesian Journal of Educational Review*, 7(1), 59–64.
- Lemmer, E. M. (2013). The parent-teacher relationship as partnership: a conceptual analysis. *Journal for Christian Scholarship= Tydskrif vir Christelike Wetenskap*, 49(1_2), 25-54.
- Miller, L., & Narzary, M. (2024). Education: Society's cornerstone institution for improving the quality of life. *The Role of Pedagogy in Shaping the Socio-Political Reality of Society*.
- Nazarudina, M. N., Irdiyansyah, I., & Gani, R. A. (2023). Analisis butir soal pilihan ganda berorientasi HOTS pada tema 6 cita-citaku subtema 1 aku dan cita-citaku pembelajaran ke 1. *Didaktik: Jurnal Ilmiah PGSD STKIP Subang*, 9(4), 2481–2489.
- Nguyen, H. V., Vu, T. D., Saleem, M., & Yaseen, A. (2024). The influence of service quality on student satisfaction and student loyalty in Vietnam: The moderating role of the university image. *Journal of Trade Science*, 12(1), 37–59.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Understanding customer expectations of service. *Sloan Management Review*, 32(3), 39–48.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64, 12–40.

- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. *Journal of Retailing*, 70(3), 201–230.
- Praharjo, A. (2020). The effect of service quality on satisfaction and loyalty visitors at Sengkaling Recreational Park. *Manajemen Bisnis*, 10(1), 33–40.
- Rahayu, N., Mustiningsih, M., & Sumarsono, R. B. (2021). Pengaruh kualitas layanan akademik terhadap kepuasan dan prestasi peserta didik. *Jurnal Pembelajaran, Bimbingan, dan Pengelolaan Pendidikan*, 1(10), 825–837.
- Rotherham, A., & Willingham, D. (2009). 21st century skills: The challenges ahead. *Educational Leadership*, 67(1), 16–21.
- Sadtyadi, H., & Kartowagiran, B. (2014). Pengembangan instrumen penilaian kinerja guru sekolah dasar berbasis tugas pokok dan fungsi. *Jurnal Penelitian dan Evaluasi Pendidikan*, 18(2), 290–304.
- Shavkidinova, D., Suyunova, F., & Kholdarova, J. (2023). Education is an important factor in human and country development. *Current Research Journal of Pedagogics*, 4(1), 27–34.
- Singh, V., Sharma, M., Jayapriya, D., Bonda, K., Raj, M., Chander, N., & Kumar, B. R. (2023). Service quality, customer satisfaction and customer loyalty: A comprehensive literature review. *Journal of Survey in Fisheries Sciences*, 10(4S), 3457–3464.
- Tavakol, M., & Dennick, R. (2011). Making sense of cronbach's alpha. *International Journal of Medical Education*, 2, 53–55.
- Twum, F. O., & Peprah, W. K. (2020). The impact of service quality on students' satisfaction. *International Journal of Academic Research in Business and Social Sciences*, 10(10), 169–181.
- UNESCO. (2017). *Education for Sustainable Development Goals: learning objectives*. UNESCO Publishing.
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, 26(1), 45–56.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31–46.
- Zulparis, Z., Mubarak, M., & Iskandar, B. A. (2021). Keterlibatan orang tua dalam meningkatkan prestasi belajar siswa sekolah dasar. *Mimbar PGSD Undiksha*, 9(1), 188–194.