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Implementation of the Internal Quality Assurance System on the Quality of Learning Planning and Implementation in State Vocational High Schools

Adi Suandi Sihombing[1], Tubagus Pamungkas[2], Hermansah[3]

[1,2,3]Master's Program in Educational Management, Postgraduate Program, Universitas Riau Kepulauan, Indonesia

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Corresponding Author:
Author Name: Adi Suandi Sihombing
Email: sagittadi@gmail.com

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ABSTRACT

This study aims to analyze the implementation of the Internal Quality Assurance System (IQAS) and its relationship with the quality of learning planning and implementation in a state vocational high school in Batam. The study employed a concurrent mixed-methods approach in which quantitative and qualitative data were collected simultaneously. Quantitative data were obtained through questionnaires and analyzed using descriptive statistics and Pearson correlation, while qualitative data were gathered through interviews, observations, and documentation studies and analyzed thematically. The findings revealed that the implementation of IQAS was categorized as moderate to good. The quality of learning planning was considered fairly good, particularly in the alignment of learning instruments with the curriculum, while the quality of learning implementation was also moderate, especially in classroom management and teaching methods. Correlation analysis indicated a positive relationship between IQAS implementation and the quality of learning planning and implementation. Qualitative findings supported these results, although challenges remained in the evaluation and follow-up stages. The study confirms that IQAS plays a strategic role in improving the quality of learning in vocational schools.

Keywords: IQAS, learning planning, vocational school, learning quality

INTRODUCTION

Improving the quality of learning has become a strategic issue in education, particularly in vocational education, which is required to produce graduates who meet the demands of the modern workforce and industrial development. The quality of learning is not only determined by students' learning outcomes but is also influenced by the quality of lesson planning and instructional implementation conducted systematically, measurably, and continuously [1], [2], [3]. In practice, several problems are still found in vocational schools, such as inconsistencies between learning instruments and curriculum standards, low consistency in classroom instruction, and weak evaluation and follow-up processes in learning activities. These conditions are also identified at SMK Negeri 4 Batam, particularly in the consistency of implementing learning instruments and strengthening quality-based learning evaluation. This situation indicates that improving learning quality requires a quality control system capable of ensuring that all learning processes are implemented according to established standards.

One of the solutions developed by the government to ensure educational quality is the implementation of the Internal Quality Assurance System (IQAS). IQAS is a quality assurance system independently implemented by educational institutions through the continuous *Plan–Do–Check–Act* (PDCA) cycle, which includes planning, implementation, evaluation, control, and quality improvement stages [4], [5]. Through this mechanism, schools not only establish educational quality standards but also ensure that these standards are implemented and continuously improved. IQAS implementation is considered effective in fostering a quality culture in schools because it is integrated with educational governance and school management comprehensively [6], [7].

In the learning context, the quality of lesson planning serves as the primary foundation for creating effective learning processes. Good lesson planning reflects teachers' ability to translate the curriculum into contextual, systematic, and student-centered learning instruments [8], [9]. Lesson plans prepared independently and adaptively not only improve teacher professionalism but also positively influence learning effectiveness and students' academic achievement [10], [11]. Therefore, the quality of lesson planning is considered one of the important indicators in measuring educational quality in vocational schools.

In addition to planning, learning quality is also determined by the quality of instructional implementation in the classroom. Instructional implementation includes integrated educational z

RESEARCH METHOD

This study employed a concurrent mixed-methods design, in which quantitative and qualitative data were collected simultaneously to obtain a comprehensive understanding of the implementation of the Internal Quality Assurance System (IQAS) and its relationship with the quality of lesson planning and instructional implementation at SMK Negeri 4 Batam [12], [13], [14]. The mixed-methods approach was selected to integrate numerical findings with contextual explanations derived from field observations and participant experiences [15], [16], [17].

1. Population and Sampling Technique

The population of this study consisted of all teachers and educational personnel involved in the implementation of the Internal Quality Assurance System (IQAS) and learning processes at SMK Negeri 4 Batam. Since the study focused on the relationship between IQAS implementation and the quality of lesson planning and instructional implementation, teachers became the primary respondents in the quantitative phase, while school leaders and quality assurance personnel served as qualitative informants.

The quantitative sample was selected using purposive sampling to ensure that respondents had direct involvement in learning planning, instructional implementation, and school quality assurance activities. Meanwhile, qualitative informants were determined through purposive sampling based on their authority, experience, and active participation in IQAS implementation.

Table 1. Population and Sampling of the Study

Research Participants	Population	Sampling Technique	Number of Samples	Research Purpose
Teachers	85 teachers	Purposive Sampling	60 teachers	Quantitative data collection through questionnaires related to IQAS implementation, lesson planning, and instructional implementation
Principal	1 principal	Purposive Sampling	1 person	Qualitative interview regarding school quality assurance policies
Vice Principals	4 vice principals	Purposive Sampling	2 persons	Qualitative interview regarding implementation and supervision of learning quality
IQAS/Quality Assurance Team	8 staff members	Purposive Sampling	4 persons	Qualitative interview regarding IQAS implementation and evaluation
Productive Subject Teachers	40 teachers	Purposive Sampling	6 teachers	Classroom observation and in-depth interviews regarding instructional implementation
Administrative Documents	School archives and reports	Documentation Study	Selected documents	Supporting data regarding IQAS and learning quality implementation

Table 1 presents the population and sampling techniques used in this study. The teacher population consisted of 85 teachers at SMK Negeri 4 Batam, with 60 teachers selected as quantitative respondents through purposive sampling based on their involvement in lesson planning and instructional implementation.

Qualitative informants included the principal, vice principals, quality assurance team members, and productive subject teachers who were selected purposively due to their direct roles and experiences in implementing the Internal Quality Assurance System (IQAS). In addition, school documents related to quality assurance and instructional activities were utilized as supporting data sources to strengthen the findings of the study.

2. Sources of Data

This study used both primary and secondary data sources. Primary data were obtained directly from respondents and informants through questionnaires, interviews, and classroom observations. Secondary data were collected from school documents, including lesson plans, quality assurance reports, curriculum documents, meeting records, and other supporting administrative documents related to IQAS implementation [18], [19], [20].

3. Data Collection Techniques

Data collection was conducted using several techniques. First, questionnaires were distributed to teachers to measure perceptions regarding IQAS implementation, lesson planning quality, and instructional implementation quality. The questionnaire used a Likert scale to assess respondents' responses systematically [21], [22], [23].

Second, semi-structured interviews were conducted with school leaders, quality assurance personnel, and teachers to gain deeper information regarding the implementation process, challenges, and impacts of IQAS on learning quality. Third, classroom observations were carried out to identify the actual implementation of learning processes, including classroom management, teaching strategies, and learning interactions. Fourth, documentation studies were conducted by reviewing school documents related to quality assurance and instructional planning.

4. Data Analysis Techniques

Quantitative data were analyzed using descriptive statistics to identify the level of IQAS implementation, lesson planning quality, and instructional implementation quality. Pearson correlation analysis was employed to examine the relationship between IQAS implementation and the quality of lesson planning and instructional implementation. Qualitative data were analyzed using thematic analysis techniques, including data reduction, data categorization, data presentation, and conclusion drawing [15], [16], [17]. The qualitative analysis aimed to strengthen and explain the quantitative findings through contextual interpretation of field data [14].

5. Data Validity Techniques

To ensure the validity and trustworthiness of the data, this study applied several validation techniques. Quantitative instrument validity was tested using construct validity and reliability testing through Cronbach's Alpha coefficient [24], [25], [26]. In qualitative data, credibility was ensured through source triangulation, technique triangulation, and member checking. Triangulation was conducted by comparing data obtained from interviews, observations, questionnaires, and documentation [27], [28]. Member checking was carried out by reconfirming interview findings with participants to ensure the accuracy and consistency of the interpreted data [29].

RESULTS AND DISCUSSION

1. Implementation of the Internal Quality Assurance System (IQAS) at SMK Negeri 4 Batam

The quantitative findings revealed that the implementation of the Internal Quality Assurance System (IQAS) at SMK Negeri 4 Batam was generally categorized as good. The measurement was based on four dimensions of the *Plan–Do–Check–Act* (PDCA) cycle, namely planning, implementation, evaluation, and follow-up.

Table 2. Quantitative Results of IQAS Implementation

Dimension of IQAS	Mean Score	Percentage (%)	Category
Planning (Plan)	4.02	80.4	Good
Implementation (Do)	3.91	78.2	Good
Evaluation (Check)	3.81	76.2	Good
Follow-up (Act)	3.54	70.8	Moderate
Overall Average	3.87	77.4	Good

Table 2 shows that the implementation of IQAS at SMK Negeri 4 Batam obtained an overall mean score of 3.87 or 77.4%, which falls into the good category. The planning (*Plan*) dimension achieved the highest score, with a mean of 4.02 (80.4%), indicating that the school had effectively established educational quality standards and planning procedures. The implementation (*Do*) dimension reached a mean score of 3.91 (78.2%), demonstrating that quality assurance programs had generally been implemented systematically. Meanwhile, the evaluation (*Check*) dimension obtained a mean score of 3.81 (76.2%), indicating that monitoring and evaluation activities were conducted relatively consistently. However, the follow-up (*Act*) dimension showed the lowest score, with a mean of 3.54 (70.8%), indicating that corrective actions and continuous improvement processes had not yet been implemented optimally.

The interview findings supported these quantitative results. School leaders and members of the quality assurance team explained that IQAS implementation had become integrated into school management through periodic supervision, internal evaluation meetings, and curriculum monitoring activities. However, several teachers stated that the follow-up process after evaluation was often constrained by administrative workload, limited time allocation, and differences in teacher commitment toward quality improvement activities [30], [31].

These findings indicate that IQAS at SMK Negeri 4 Batam has functioned adequately as a managerial framework for educational quality assurance. Nevertheless, the relatively lower score in the follow-up dimension suggests that the sustainability of quality improvement mechanisms still requires strengthening. This finding implies that quality assurance systems in vocational schools should not only emphasize administrative compliance but also prioritize continuous improvement and reflective educational practices.

The findings are consistent with Kibrom and Teklay [32], who found that educational quality programs frequently encounter challenges related to coordination, evaluation, and institutional support. Similarly, Susetyo and Lie [33] emphasized that school quality improvement depends on leadership effectiveness and integrated quality management systems. The present study confirms that leadership involvement and organizational commitment significantly influence the effectiveness of IQAS implementation in vocational schools.

The novelty of this finding lies in demonstrating that IQAS implementation in vocational education tends to focus more strongly on planning and implementation stages, while the evaluation follow-up process remains relatively weak. This finding provides an important contribution to the development of quality assurance practices in vocational schools, particularly in strengthening sustainable quality improvement mechanisms.

2. Quality of Lesson Planning at SMK Negeri 4 Batam

The quantitative analysis showed that the quality of lesson planning at SMK Negeri 4 Batam

was categorized as good. Teachers generally demonstrated adequate competence in preparing instructional documents aligned with curriculum standards and students' vocational competencies.

Table 3. Quantitative Results of Lesson Planning Quality

Indicators of Lesson Planning	Mean Score	Percentage (%)	Category
Curriculum Alignment	4.10	82.0	Good
Learning Objectives Formulation	3.98	79.6	Good
Learning Method Selection	3.89	77.8	Good
Assessment Preparation	3.82	76.4	Moderate
Overall Average	3.95	79.0	Good

Table 3 indicates that the quality of lesson planning achieved an overall mean score of 3.95 or 79.0%, which is categorized as good. The highest score was found in curriculum alignment, with a mean score of 4.10 (82.0%), indicating that teachers were able to align lesson plans with curriculum standards and vocational competencies effectively. The formulation of learning objectives also showed a relatively high score of 3.98 (79.6%), reflecting teachers' ability to design measurable learning targets. Meanwhile, the selection of learning methods obtained a mean score of 3.89 (77.8%), suggesting that teachers applied relatively appropriate instructional approaches. However, assessment preparation showed the lowest score at 3.82 (76.4%), indicating that several teachers still experienced difficulties in developing comprehensive assessment instruments.

The interview findings revealed that curriculum workshops, teacher discussions, and academic supervision programs positively contributed to improving teachers' competence in preparing lesson plans. Teachers acknowledged that school supervision activities encouraged them to improve the quality of instructional documents continuously. However, some teachers admitted that lesson planning was occasionally prepared mainly to fulfill administrative requirements rather than to function as a reflective pedagogical guide for classroom teaching.

These findings demonstrate that lesson planning quality is strongly influenced by teacher competence, curriculum understanding, supervision practices, and institutional support. The results support Garira [7], who argued that educational quality improvement begins with effective and contextual instructional planning. Likewise, Ali and Juanda [5] emphasized that adaptive lesson planning positively affects teacher professionalism and student learning achievement. Compared with previous studies, this study contributes a more specific explanation regarding the relationship between IQAS implementation and lesson planning quality within vocational school contexts. The findings indicate that quality assurance systems contribute significantly to strengthening teachers' instructional planning competence.

3. Quality of Instructional Implementation at SMK Negeri 4 Batam

The findings showed that the quality of instructional implementation at SMK Negeri 4 Batam was categorized as moderate to good. Teachers generally implemented classroom instruction systematically, although several aspects still required improvement.

Table 4. Quantitative Results of Instructional Implementation Quality

Indicators of Instructional Implementation	Mean Score	Percentage (%)	Category
Classroom Management	3.88	77.6	Good
Teaching Strategy Application	3.79	75.8	Moderate
Student Engagement	3.65	73.0	Moderate
Learning Media Utilization	3.72	74.4	Moderate
Evaluation and Reflection	3.77	75.4	Moderate
Overall Average	3.76	75.2	Moderate

Table 4 shows that the quality of instructional implementation obtained an overall mean score of 3.76 or 75.2%, categorized as moderate. Classroom management achieved the highest score, with a mean of 3.88 (77.6%), indicating that teachers were relatively capable of managing classroom activities effectively. The application of teaching strategies obtained a score of 3.79 (75.8%), while evaluation and reflection activities reached 3.77 (75.4%). Meanwhile, student engagement showed the lowest score at 3.65 (73.0%), indicating that teachers still faced challenges in encouraging active student participation during classroom learning.

Classroom observations indicated that most teachers implemented learning activities through systematic introductory, core, and closing sessions. However, several challenges were identified, particularly regarding classroom interaction, the integration of industry-based learning approaches, and the use of innovative learning media. Interview findings further revealed that teachers often experienced difficulties balancing curriculum demands, practical learning activities, and administrative responsibilities. Limited learning facilities and time allocation also influenced the effectiveness of vocational learning implementation.

These findings indicate that instructional implementation quality in vocational schools is influenced not only by teacher competence but also by institutional readiness, learning resources, and sustainable supervision systems. The findings support Goodwin [34], who emphasized that

instructional quality depends on continuous reflection and improvement in teaching practices. Similarly, Ernawati [35] argued that vocational learning quality is strongly influenced by the alignment between instructional implementation and industrial competency standards.

The study found that IQAS contributes positively to instructional implementation through supervision and monitoring activities. However, the impact becomes less optimal when evaluation results are not consistently followed by concrete improvement programs. This finding confirms that sustainable follow-up mechanisms are essential for strengthening educational quality assurance systems.

4. Relationship between IQAS Implementation and Learning Quality

The Pearson correlation analysis demonstrated a positive and statistically significant relationship between IQAS implementation and the quality of lesson planning and instructional implementation.

Table 5. Correlation Analysis Results

Variables	Correlation Coefficient (r)	Significance (p)	Interpretation
IQAS and Lesson Planning Quality	0.682	0.000	Strong Positive Correlation
IQAS and Instructional Implementation Quality	0.617	0.001	Moderate Positive Correlation

Table 5 shows that the correlation coefficient between IQAS implementation and lesson planning quality was 0.682 with a significance value of 0.000, indicating a strong positive and statistically significant relationship. This means that better IQAS implementation tends to be associated with higher quality lesson planning. Meanwhile, the correlation coefficient between IQAS implementation and instructional implementation quality was 0.617 with a significance value of 0.001, indicating a moderate positive relationship. These findings demonstrate that the effectiveness of IQAS implementation contributes positively to improving both instructional planning and classroom learning practices.

The qualitative findings reinforced these quantitative results. Teachers and school leaders explained that systematic supervision, evaluation, and monitoring activities encouraged teachers to prepare instructional documents more carefully and implement classroom learning more consistently. Schools that conducted regular quality assurance activities also demonstrated stronger teacher accountability and more organized learning processes [36], [37].

These findings are consistent with Narkhede, Pasi, and Ambhore [38], who emphasized that sustainable quality monitoring systems significantly influence educational quality improvement. Likewise, Sykes et al. [39] highlighted the importance of collaborative evaluation systems in maintaining institutional quality development. The present study confirms that IQAS functions not only as an administrative mechanism but also as a strategic instrument for improving learning quality in vocational education. The novelty of this study lies in demonstrating empirically that IQAS implementation directly contributes to strengthening two essential dimensions of learning quality in vocational schools, namely lesson planning and instructional implementation. This study also provides practical implications for policymakers and school administrators in developing sustainable quality cultures within vocational education institutions.

CONCLUSION

This study concludes that the implementation of the Internal Quality Assurance System (IQAS) at SMK Negeri 4 Batam was generally categorized as good, particularly in the planning, implementation, and evaluation dimensions of the *Plan–Do–Check–Act* (PDCA) cycle. However, the follow-up dimension still showed relatively lower performance, indicating that continuous improvement mechanisms had not yet been implemented optimally. These findings demonstrate that IQAS has functioned as an important managerial framework for maintaining and improving educational quality in vocational schools, although stronger institutional commitment is still required in the sustainability of quality improvement programs.

The findings also revealed that the quality of lesson planning was categorized as good, while the quality of instructional implementation was categorized as moderate to good. Teachers generally demonstrated the ability to prepare instructional documents aligned with curriculum standards and vocational competencies. Nevertheless, several challenges remained in classroom implementation, particularly regarding student engagement, innovative learning strategies, and the integration of industry-based learning approaches [40], [41]. These conditions indicate that learning quality in vocational schools is influenced not only by teacher competence but also by institutional readiness, learning facilities, and sustainable supervision systems [42], [43].

Furthermore, the Pearson correlation analysis confirmed that there was a positive and statistically significant relationship between IQAS implementation and the quality of lesson planning and instructional implementation. This finding implies that stronger and more systematic IQAS implementation contributes positively to improving instructional quality in vocational education [44], [45]. The qualitative findings further reinforced that supervision, evaluation, and continuous monitoring activities encourage better

teacher accountability and more organized learning practices [46], [47].

The novelty of this study lies in its integration of IQAS implementation with two essential dimensions of learning quality, namely lesson planning and instructional implementation, through a concurrent mixed-methods approach. This study contributes empirically to the development of quality assurance practices in vocational education, particularly in strengthening sustainable quality cultures within schools. However, this study was limited to a single vocational school context; therefore, future studies are recommended to involve broader institutional settings and comparative analyses to obtain more comprehensive findings regarding IQAS implementation in vocational education institutions.

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