
Implementation Of Big Data In Quality Assurance Of Accounting Department At SMKN 1 Randudongkal

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Abstract

The importance of quality assurance in improving school performance. The Education Unit Accreditation Instrument is a reference in the assessment of quality assurance. background of the problem, research objectives, methods used, research results. Vocational high schools still do not use the indicators on the instrument as a reference for quality assurance. The purpose of this study is to explore the completeness and feasibility of quality assurance standards at SMKN 1 Randudongkal which will be used as a basis for consideration in preparing the accreditation assessment. This research uses a case study approach. The sample in this study was determined using the purposive sampling method. The results of this study are the quality of graduates, the learning process, teachers, and school management as a source of indicators for achieving school quality. To improve the quality, schools use big data in planning, evaluation and school follow-up plans. The role of Big Data in school quality assurance is to collect all data to facilitate school quality assurance parties in assessing school performance based on four points that must be achieved in quality assurance, namely Quality of Graduates, Learning Processes, Quality of Teachers, and School Management. However, the main things that need to be developed in the graduate quality assurance process based on IASP 2020 include the need for a correct understanding of the instrument, teamwork, and the need to carry out management functions supported by leadership abilities that match the characteristics of each school.

Keywords: Big Data, Quality Assurance, School Performance

INTRODUCTION

School accreditation is a comprehensive assessment process of the feasibility of an educational program by referring to the National Education Standards (Standar Nasional Pendidikan (SNP) which is carried out as a form of public accountability (Awaludin, 2017). The implementation of accreditation is expected to encourage or create a conducive atmosphere for educational growth and provide direction for continuous self-evaluation. This accreditation tool was formulated by the National Accreditation Board (Badan Akreditasi Nasional (BAN) (Hasanah et al., 2020). In early 2020, the National Accreditation Board for Madrasah Schools (Badan Akreditasi Nasional Sekolah Madrasah (BAN SM) has issued a new policy regarding the issuance of the 2020 Education Unit Accreditation Instrument (Instrumen Akreditasi Satuan Pendidikan (IASP 2020), which will be piloted in 2020 to schools whose accreditation period has expired. In this way, schools will indirectly be required to fulfill these two components, with the hope that the implementation of the SNP will become a cultural necessity (Hidayat, 2020). One of the demands of basic education institutions in realizing the quality of education is to create an educational unit that is able to become a public service in accordance with the standards of the National Accreditation Board (BAN). School/Madrasah Accreditation has undergone reform by implementing the Education Unit Accreditation Instrument (Instrumen Akreditasi Satuan Pendidikan (IASP 2020) which switches from Compliance Based to Performance Based or from Rule Based to Principle Based.

The development of student competencies assessed in the IASP 2020 is a 21st century skill that must be developed through various educational programs in schools, both through learning in the classroom and outside the classroom. Competencies developed in IASP 2020 include communication skills (Deardorff, 2006), collaboration skills (Dietrich et al., 2020), critical thinking skills (Padhi & Mishra, 2020), students' creativity and innovation development (Shrestha & Dangol, 2019), the ability to express oneself according to talent interests (Rurato & Gouveia, 2014), and there must also be an increase in academic achievement from time to time (Abudu & Gbadamosi, 2014).

Eligibility of educational units refers to national education standards. This is because national education standards are the minimum criteria for the education system in all jurisdictions of the Unitary State of the Republic of Indonesia. According to Government Regulation No. 19 of 2005 concerning National Education Standards article 2 paragraph (1) states that the scope includes: (1) content standards; (2) process standards; (3) graduate competency standards; (4) the standard of educators and education personnel; (5) standard of facilities and infrastructure; (6) management standards; (7) financing standards; and (8) educational assessment standards. Accreditation activities are expected to be a driving force, create a conducive atmosphere for the development of education, and provide direction in carrying out sustainable school quality assurance as expected.

Based on the results of a survey conducted by the research team, it is known that SMK 1 Randudongkal has the following problems: 1. Partners do not have complete knowledge about the paradigm of school quality assurance based on IASP 2020. This is because IASP-based quality assurance is a new thing. 2. Partners do not yet know the components that are the subject of assessment in the accreditation process according to IASP 2020. 3. Partners do not have the skills to prepare accreditation forms according to IASP 2020. 4. In planning quality assurance, partners have not prepared carefully so that the accreditation results obtained not optimal. This study aims to explore the completeness and feasibility of quality assurance standards at SMKN 1 Randudongkal which will be used as a basis for consideration in preparing the accreditation assessment. In addition, as a best practice that can be used by other schools to fulfill the same thing.

Accreditation Is an activity to assess the feasibility of an Education unit program based on the criteria that have been determined as stated in Law Number 20 of 2003 concerning the National Education System, Article 1 paragraph (22). Accreditation of educational units is a process of ensuring the quality of education based on predetermined quality standards (Hanasah et al., 2020). Accreditation has a function as a process of ensuring the quality of education in a country. Accreditation is the main pillar for the world of education and its quality assurance system (Hidayat S., 2020). Quality assurance and educational accreditation are the main quality management tools to help educational institutions, government, and society to monitor the feasibility of a quality education (Deardorff, D. K., 2006). School/madrasah accreditation is a comprehensive assessment process of the feasibility of an educational institution or program unit, the results of which are manifested in the form of a certificate of recognition and eligibility rating issued by the National Accreditation Board for Schools/Madrasah which is independent and professional (Haryati, 2014). Educational institutions that are expected to meet the middle-level workforce are Vocational High Schools (SMK). As a vocational education provider who must prioritize the development of students' abilities to carry out certain types of work.

National Education System Law No. 20 of 2003 Article 15 explains that "Vocational education is secondary education that prepares students to work. Vocational High School is a national subsystem with the main goal of developing students' professional attitudes. Given the

purpose of providing education at the Vocational High School (SMK) level, where the educational institution must be able to provide education guarantees in the form of school accreditation. Accreditation in SMK is carried out in a skill program that gives priority to activities, which are directly related to quality improvement.

Based on the Standard Operating Procedures (Prosedur Operasional Standa(POS) for the Implementation of School/Madrasah Accreditation in 2020, the school accreditation instrument currently known as IASP 2020 is an instrument of change marked by a paradigm shift in the assessment of school/madrasah accreditation from compliance to performance (rules to explanations). IASP is the result of refinement of the previous school or madrasa accreditation instrument, by prioritizing a change in the assessment paradigm from the compliance paradigm to the performance paradigm, which focuses more on assessing the four quality components, namely the quality of graduates, teacher quality, learning quality and management quality. In IASP 2020, the compliance component is matters related to reviewing administrative compliance through searching data in dapodik and/or other sources. While the performance component is matters related to the performance of the education unit (through direct observation to schools/madrasahs). Schools that do not meet the compliance aspect cannot continue with the performance assessment. The school that will be visited, is determined by the BANS/M eligibility based on the Accreditation Filling Data (Data Isian Akreditasi (DIA) that has been completed in the Sispena. This is an adequacy assessment activity carried out to ensure that the school/madrasah meets the minimum administrative requirements and the completeness of the documents required in IASP 2020.

Some previous studies also support these findings such as: (Martinelli et al., 2020) said that knowledge about school accreditation and the purpose rather than the implementation of school accreditation has not been so understood by the public because so far there has been less socialization about school accreditation. Through his research (Wewe et al., 2021) also revealed that from the results of interviews with principals that SDN Late has implemented eight National Education Standards but the regulations governing the change in the accreditation system by the National Accreditation Agency regarding changes in the accreditation system, (compliance) to be performance-based, which emphasized the 4 main components assessed were graduate quality, learning process, teacher quality, as well as school/madrasah management has not been fully understood by the principal and education personnel and education personnel at SDN Late.

Big Data is a term given to data sets that are very large and complex, making it impossible to process using conventional database management tools or other data processing applications. In the Gartner IT Glossary, Big Data is defined as follows [1]: Big Data is high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation. With reference to this definition, it can be concluded that the main characteristics of Big Data include three things – usually abbreviated as 3V – namely volume, velocity, and variety. Volume is related to the amount of data that must be managed at a super large size. Velocity relates to the speed of data processing which must keep pace with the rapid growth in the amount of data. While variety refers to the characteristics of very diverse data sources, both those from structured databases and also from unstructured data.

RESEARCH METHODS

This research is a case study research that seeks to explore phenomena that occur in a particular institution in depth based on information obtained from participants and also environmental observations (Forrest-Lawrence, 2019; Patton, 2012). The sample in this study was determined using the purposive sampling method with the aim that the data obtained were actually obtained from people who have direct knowledge and experience about the phenomenon being studied. The criteria for participants in this study are parties related to the four components and indicators of quality assurance, namely the quality of graduates, the learning process, teachers, and school management who have had direct experience in the graduate quality assurance process in accordance with IASP 2020. In accordance with research ethics social media, in this case all participant data was disguised, and code-named P1-P16. The data collection process was carried out directly at a meeting held in July 2022 and also through document analysis. All data collected was analyzed using qualitative data analysis methods (Cassell & Bishop, 2019; Kalpokaite & Radivojevic, 2019), which broadly consists of four main steps, namely the Inspection stage (a careful examination of all data), the Coding Cycle (coding is a the process of researchers looking for connections to data collected in the field), Categorization Cycle (collecting data codes that have the same meaning), and Modeling stage (process of compiling a model of the data presented), as well as providing interpretive explanations of all data as a whole.

RESULTS AND DISCUSSION

Based on the results of document analysis and FGDs, it is known that the accreditation-based graduate quality assurance process using IASP 2020 carried out by SMKN 1 Randudongkal consists of five main steps, namely 1) Planning Phase; 2) Implementation of school self-evaluation; 3) Gap analysis; 4) Performance improvements; 5) Follow-up evaluation. The process is described as follows:

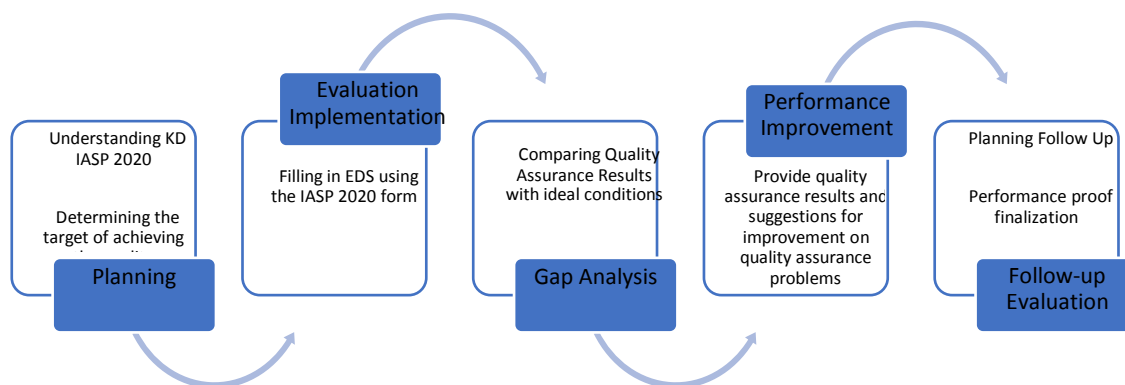


Figure 1. IASP 2020-based graduate quality assurance process

Figure 1 shows the graduate quality assurance process carried out at SMKN 1 Randudongkal using the IASP 2020 basis. The entire process can be explained as follows;

Planning

At the planning stage, several things that must be prepared for SMKN 1 Randudongkal are as follows:

- a. Understand the basic concepts of IASP 2020 components of graduate quality. The management studied the basic concepts of IASP 2020, especially regarding the quality of graduates. In this case, school management invites experts who have an understanding of the basic concepts of IASP 2020, especially regarding the quality of SMK graduates. To have a proper understanding of the assessment standards on the quality component of graduates, the School held a Forum Discussion Group (FGD) with the theme of school quality assurance training based on the 2020 Education Unit Accreditation Instrument. The objectives of the FGD were to convey the essential changes that occurred in the 2020 IASP, namely 1) changing the assessment paradigm from the compliance paradigm to the performance paradigm; 2) the assessment standards in the IASP no longer contain 8 national education standards (Standar Nasional Pendidikan (SNP) partially, but have been comprehensively mixed into 4 main components, namely an assessment of the components of graduate quality, learning quality, teacher quality and school management quality. Teachers and school principals consider that in order to be able to prepare appropriate performance documents in order to meet graduate quality standards, it is necessary to have a correct understanding of each item in the 2020 IASP;
- b. Develop targets for achieving the quality performance of graduates. The next quality assurance process is to set performance targets for the quality components of graduates. The target setting is used as the basis for the team's reference to develop the next steps. In the process of setting performance targets, the team carried out democratically and collaboratively. Each member has the same opportunity to propose various things related to targets that might be achieved by the school taking into account the various potentials and challenges that the school has. The value of accreditation in the previous period became one of the basis for determining the target achievement value. In addition, team members present data on the availability of potential, resources and performance that has been carried out by schools over several periods to provide an overview of the quality of graduates that have been achieved by the school.

School Self Evaluation

The next step taken by the team is to conduct a self-evaluation to see the position of the achievement of school quality performance that has been achieved in running time. The self-evaluation process is carried out by filling out the IASP 2020 boring based on school performance on aspects of graduate quality in the current year. Self-evaluation is carried out objectively, that is, truly assessing each performance achievement in accordance with IASP standards. To ensure that the EDS assessment has shown the actual conditions, the team asked for expert assistance to assess the results of their work.

Doing a Gap Analysis

At this stage, the team compares the EDS results with the performance achievement targets. For certain items that are considered to have met the standard, they are marked to find which ones have not reached the target. The gap analysis stage is considered a very important stage by team members because from the results of the gap analysis it can be seen which components have met the target and have not. In this way, the team can identify areas that still need to be improved. According to several participants, the general problems faced by schools in terms of quality assurance of graduates, are only in reporting, but for the essence of both character and competency development, they have been implemented and have met the achievement targets. So, in the results of the gap analysis, small notes are given about what needs to be followed up and who will follow up on each gap that has been found

Making Performance Improvements

Based on the results of interviews and analysis of performance improvement documents, it is known that in general, the shortage in preparing evidence of quality assurance performance for graduates at SMK Muhamadiyah Gamping is only at the reporting stage. All aspects have been carried out and there are results, but the administration has not been well organized. So the performance improvement step they took was to carry out improved reporting of performance results. In addition, even though in essence it has met the target, the team leader continues to improve performance by developing programs to strengthen the character and competence of students in the current year so that during the visitation the score becomes more optimal.

Evaluation and Follow-up

The final step in the graduate quality assurance process is to evaluate and follow up. Once a month, the team always carries out an evaluation and follow-up program on the team's performance achievements in preparing the quality components of graduates in accordance with IASP 2020. The evaluation and follow-up process is carried out on an ongoing basis, under the direct supervision of the principal and assistance from an accreditation expert.

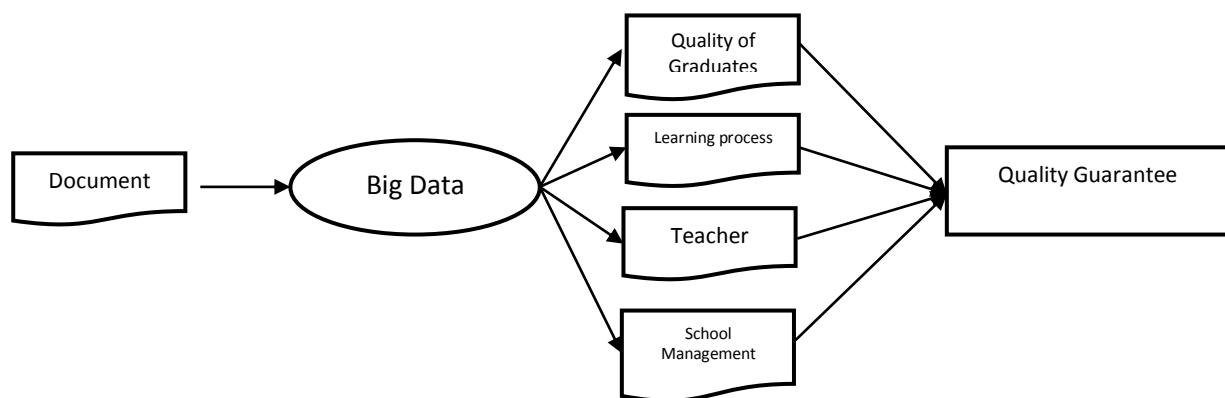


Figure 2. Big data-based quality assurance process

SMKN 1 Randudongkal has used a Big Data system with the name "archive" which aims to accommodate all the documents needed to carry out quality assurance. In this quality assurance there are 4 components that must be met in order to create quality assurance. However, often in the implementation of quality assurance there are various obstacles contained in the 4 components of quality assurance, namely the quality of graduates, the learning process, the quality of teachers, and school management. At SMKN 1 Randudongkal there are two components that become obstacles in the realization of good school quality assurance, namely the components of the learning process and school management. At SMKN 1 Randudongkal the learning process is still conventional and the use of learning media used to support the learning process is still inadequate, of course this can affect the learning process. At SMKN 1 Randudongkal in terms of budgeting, school management still needs to be improved. The low school management is caused by the inaccuracy of school management in managing the budget, such as ineffective data allocation. The teacher quality component has improved the quality of teachers through the PPG (Teacher Profession Training) program and the driving teacher program which is currently being intensively disseminated by the government to improve the quality of the education system, where prior to the implementation of the PPG program and teacher educators, learning was still based on memorization. And remember. The high quality of teachers can determine the learning process as well as the quality of qualified

graduates, especially education in Indonesia in order to create a quality education model that can ultimately prepare students to compete in the labor market by adjusting the development of education itself. Finally, related to the quality component of graduates, the school has established good relationships with industries that have collaborated with schools, both the business world and the industrial world (DU/DI). DU/DI in collaboration with SMKN 1 Randudongkal aims to accommodate all competencies possessed by all students, so that graduates of the school can easily find jobs.

CONCLUSION

Quality assurance based on IASP 2020 is a guide to quality assurance instruments in schools that has been suggested by the Ministry of Education and Culture. Based on the results of the research and discussion, it can be concluded that the graduate quality assurance process in IASP 2020-based vocational high schools needs to be followed up in overcoming obstacles in four components, namely: graduate quality, learning process, teacher quality, and school management. In addition, the use of big data in the collection of documents used for quality assurance is more effective and more efficient in terms of cost, time, and effort. However, the main things that need to be developed in the graduate quality assurance process based on IASP 2020 include the need for a correct understanding of the instrument; need teamwork; and need to carry out management functions that are supported by leadership abilities that match the characteristics of each school. In addition, every step of the quality assurance process needs to be followed up properly and correctly so that the results become more optimal.

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