

Development of Electronic-Based External Quality Assurance System (E-SPME) Model for Quality Improvement Senior High School

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ABSTRACT

The External Quality Assurance System (SPME) is an education quality assurance system in education units to achieve the National Education Standards (SNP). The purpose of this study was to determine the implementation of the External Quality Assurance System (SPME) in high school (SMA), to describe the development of an effective E-SPME model to improve the quality of education in high school, to analyze the results of the E-SPME which can provide an overview of the quality profile in high school. The research method used is Research and Development with samples taken through interviews (principals and teachers), questionnaires (Focus Group Discussion/FGD), and observation. The development of this E-SPME model consists of four main stages: preliminary study, product development, product effectiveness testing, and dissemination and implementation. The results of the study show that there is an increase in effectiveness and efficiency in ensuring the quality of high school education through the development of the E-SPME model, with a wider range of educational units even though the budget used is smaller. In addition, the performance-based approach provides a more complete picture of the quality of education that becomes a reference for all education stakeholders in determining the direction of education quality assurance policies from the regional to the central level. The application of electronic-based SPME is a strategic step in mapping and evaluating the quality of education, however, this effort requires collaboration between government sectors to present one-stop data through the accreditation dashboard. The map of quality assurance results in 2020 and 2021 has not shown a significant improvement. The number of schools that received A accreditation in 2020 was 205 out of 475 schools, and in 2021 267 out of 686 schools. There are criteria in accreditation that show an increase and some have decreased. The criteria that have increased are the quality of graduates and the learning process, while the criteria that have decreased are the quality of teachers and management of S/M.

Keywords: External Quality Assurance System, E-SPME Model, Accreditation, SMA

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I. INTRODUCTION

Background

Global problems in the education sector cannot be separated from three things, namely equity, access and quality. Education is currently experiencing quite rapid development along with social changes in society globally which encourage rapid changes in the world of education that require new initiatives, leaps of innovation and joint commitment in order to answer the three problems above. In countries with advanced education systems such as Japan and Finland, the discourse on the education system is already at the stage of developing the quality of education in accordance with the changing times, which has shifted from equity and access to quality improvement. This condition is reflected in the PISA (the program for International student assessment) score where Japan's Science ability scores 529 and Finland with a score of 522 above the overall average of 489. PISA becomes a reference and evaluation of the quality of a country's education which is carried out every three years. once under the auspices of the Organization of Economic Co-operation and Development (OECD) (PISA, 2018).

Referring to the World Bank (2018) data, it can be seen that developing countries have made significant progress in equity and access to education compared to 20 years ago. However, 60 percent of students in schools have low performance and have not been able to acquire the skills necessary to be successful and reduce extreme poverty. This statement is supported by the PISA scores of developing countries which are still below the average. Improvements in education are needed to sustain economic growth and provide several ways to improve student learning outcomes, as has been done in the Asia-Pacific region as an example of significant improvement in the education system. Educational discourse in these developing countries still revolves around the issue of equity and

access. In the context of Indonesia, significant progress has been made in the expansion of access to education. The World Bank (2018) states that since 2000 the student participation rate has increased significantly by 10 million or 25 percent. This shows that Indonesia has succeeded in reducing inequality with wider access, although the quality of education is still below developed countries.

In the 2020-2024 RPJMN, the issue of education quality is one of the main topics that need to be raised. The quality learning process has also not run optimally and evenly between regions in Indonesia. Various efforts to expand access and improve the quality of education have been carried out, but the learning outcomes obtained are not satisfactory (Joppe de Ree et al., 2017; Kurniawati et al., 2018). Student achievement surveys such as the Program for International Student Assessment (PISA) show that the quality of education in Indonesia has not improved. The results obtained by PISA from 2000 to 2018 show a fairly good performance in expanding access to education. This is evidenced by the participation of students attending school in the survey conducted by PISA, an increase in 2000 by 39% to 85% in 2018. However, this positive development does not follow academic performance, because the 2018 PISA score for reading skills is 371, mathematics at 379 and science at 376. This is well below the OECD average. Most of the students in these three fields did not acquire the minimum competence. This can be seen in as many as 70% of students do not achieve minimum competence in reading, 71% in mathematics, and 60% in science (Center for Educational Assessment, 2018).

The difference in the quality of education between regions is an important issue in the balance of quality. In Indonesia, there are 34 provinces and 514 regencies/cities with various socio-economic and

geographical conditions that are certainly different and institutional capacities affect the ability of regions to implement education policies. The transfer of responsibility through decentralization of education services from the central government to local governments has raised concerns about the politicized practice of education management. The Rosser study (2018) states that there is a disparity in the quality of education in Indonesia caused by insufficient funding, in addition, reduced cross-regional human resources, inappropriate incentive structures, and inadequate management. The main thing relates to economic and political issues. For example, the availability and management of resources and the recruitment and management of teachers relate to political practices and power at the local level (Rosser, 2018; OECD/ADB, 2015).

The quality assurance system for primary and junior secondary education refers to the standard in Government Regulation No.19 of 2005 concerning National Education Standards in Article 91, which states "Every education unit in the formal and non-formal channels is required to undertake education quality assurance. It aims to meet or exceed the National Education Standards (SNP). The quality assurance system for primary and secondary education is the SNP which is regulated by the central government through the National Education Standards Agency (BSNP).

The External Quality Assurance System (SPME) as an education quality assurance system in education units covers all aspects of education by using various resources to achieve the National Education Standards (SNP). The education unit applies the whole cycle in a comprehensive, independent and sustainable quality assurance system, so that a quality culture is obtained in the education unit. This culture will encourage education units to continue to improve the quality of

education so that the quality of education gradually increases and is stable from time to time until it meets or even exceeds the standards set. This quality assurance system continues to be evaluated and developed by the education unit to be determined and set forth in its management guidelines and disseminated to stakeholders of the education unit.

In fact, the conventional SPME process through accreditation has been going on for more than 20 years. However, it has not made an effective contribution and has a significant impact on the process of quality assurance and education quality improvement. Although the development of the accreditation status of educational units has increased rapidly from year to year, its correlation with the development of the quality of national education is still very weak. Accreditation in the conventional way also leaves a lot of arrears (backlog) for schools that have never been accredited and/or schools that need to be re-accredited because the validity period has expired. In addition, other problems were found in the management and evaluation of SPME where all processes were still carried out conventionally, which was carried out through direct monitoring and using paper-based reports which took time, effort and cost. Conventional monitoring is considered less effective because it still has several weaknesses. To overcome this, it is necessary to develop an electronic monitoring system (Jeske & Axtell, 2014).

Unresolved accreditation arrears (backlog) of schools that have never been accredited and/or schools must be re-accredited because their validity period has expired. Based on BAN PAUD and PNF data, there are 139,284 (55.57%) education units (PAUD and PKBM) that have never been accredited. This number excludes educational units whose accreditation period expires in 2022, which amount to more than 31,000. Then based on BAN S/M data there are 55,303 schools

and madrasahs that need to be accredited by 2022, this number is mostly the need for re-accreditation (re-accreditation). Then there are more than 5,000 schools/madrasahs that need direct division because they do not yet have accreditation status or because they are indicated to have decreased quality.

For high school accreditation achievement data in 2018 from 2,590 SMA, 877 SMA was accredited A, 988 SMA was accredited B, 687 SMA was accredited C, and 38 SMA was not accredited. In 2019, out of 3,208 SMA, 1,394 SMA was accredited A, 1,181 SMA was accredited B, 542 SMA was accredited C, and 91 SMA was not accredited. In 2020, from 373 SMA, 173 SMA was accredited A, 144 SMA was accredited B, 47 SMA was accredited C, and 9 SMA was not accredited.

The results of the accreditation show that the provincial/district/city level tends not to use it, especially for quality improvement by referring to the status of the accreditation results according to the components of the national education standard. The budget allocation is more focused on the implementation of socialization about the need for accreditation and increasing the quota for the implementation of accreditation for educational units that have not been accredited. This is because the results and accreditation reports have not detailed operational aspects in the form of a systematic analysis of the recommendations of each component analyzed according to the instrument used. In addition, it does not yet have clear recommendations to be followed up by stakeholders at the education unit level so that they can improve in the future to increase their accreditation status or ranking (Hendarman, 2013; Bahar R, Silvianti P, and Susetyo B, 2021; Fiqri MN, Susetyo B, Sadik K, Wibowo S, 2021).

Therefore, accreditation reform is important as a reflection of the implementation of the current accreditation system in Indonesia to contribute

effectively to the quality assurance process of education units. The National Accreditation Board made fundamental changes in the accreditation process. In the flow of the school/madrasah accreditation process that shows a decrease in performance indicators, a visit will be carried out without any proposal from the school/madrasah. Furthermore, madrasah schools that show fixed performance indicators will have their accreditation status automatically extended according to their accreditation status. Verified community reports and warnings from the system regarding indications of a decline in school performance are the basis for implementing education unit visits. This step is a form of reform in the accreditation process that has been running for more than 20 years in Indonesia.

Based on the background of the problem above, the researcher will conduct a study with the title "Development of an Electronic-Based External Quality Assurance System (E-SPME) Model in High School Quality Improvement and Equity". Through the electronic-based external quality assurance system that was developed, it is hoped that it can be a concrete solution in an effort to improve and maximize quality distribution in Indonesia. Through this study, researchers will create a model of an external quality assurance system which is then made an application called E-SPME which will be useful for mapping the quality of education that is effective and efficient.

Formulation of the problem

The formulation of the problem in this study is as follows:

1. How to develop an effective E-SPME model to improve quality in SMA?
2. What are the results of the E-SPME that can provide an overview of the quality profile of education in SMA?

Objectives of study

The objectives of this research are as follows:

1. Describe the development of an effective E-SPME model to improve quality in SMA.
2. Analyzing the results of E-SPME which can provide an overview of the quality profile of education in SMA

Benefit

Theoretically, the benefits of this research are useful for increasing the knowledge and knowledge of stakeholders and readers. Policies related to education quality assurance can use this research as the basis for implementing education quality assurance policies so that educational equity can be realized. Education quality assurance policies that are adaptive to rapidly developing technological changes are a necessity that needs to be done to realize better quality education, especially at the high school level.

Practically the results of this research can be directly used by the Ministry of Education and Culture (Directorate of High School Development), regional government (Provincial Education Office), and schools, among others: The above stakeholders can implement directly in implementing education quality assurance in Indonesia. The development of the E-SPME model is a new breakthrough in implementing the implementation of quality assurance in high school so that stakeholders obtain factual data and information for follow-up on solving problems faced by education units.

II. METHODS AND MATERIAL

Data source

In this study, the data source used was secondary data. Secondary data consists of screening (PPA) and

accreditation (accreditation and institutional self-evaluation) and BPS survey (assessment of student development achievements), Dapodik and EMIS, PKB Sim (GTK) and sympathetic as well as teacher and KS platforms (regional education profiles and report cards). regional education). Suryabrata (1998) and Hasan (2002) state that secondary data is data obtained or collected from existing sources. For example, from institutions that publish data, research supporting institutions or organizations that have data. This data is used to support primary information that has been obtained, namely from library materials, literature, previous research, books, and so on.

Research procedure

Research and development of the E-SPME model uses the simplified Borg & Gall procedure by Budiyo (2017) which consists of four (4) main stages, namely: (1) the preliminary study stage consists of initial research, needs analysis, and literature study, (2) the product development stage consists of planning, initial development (prototyping) and product testing and revision, (3) the product effectiveness testing phase is carried out by product testing by comparing new products with existing products according to research rules, and (4) Stage dissemination and implementation, namely publishing the results of development in scientific forums and or through publications in scientific journals (Budiyo, 2017:172).

III. RESULTS AND DISCUSSION

The development of E-SPME is part of the implementation of education quality policies, namely Law Number 20 of 2003 concerning the National Education System and Regulation of the Minister of Education and Culture Number 28 of 2016 concerning Education Quality Assurance. E-SPME begins by studying various references, discussing with experts and analyzing data on accreditation results in 2018.

The results obtained are that the accreditation pattern needs to shift from compliance based to performance based, according to other references switching from rules based to principles based. With this change, the accreditation instrument will undergo a fundamental change, not only by perfecting the points and analysis, but also by changing the paradigm.

In the performance based principle, what is measured is not only to meet inputs but the performance of the

school/madrasah in fulfilling its mission, namely the achievement of the educational process to produce quality graduates. Therefore, the main variables assessed in accreditation are the quality of graduates, the educational process, teacher performance, and school/madrasah management in finding input sources. Its management is to support the educational process effectively and efficiently. The following illustrates the performance-based principle schematically the accreditation pattern

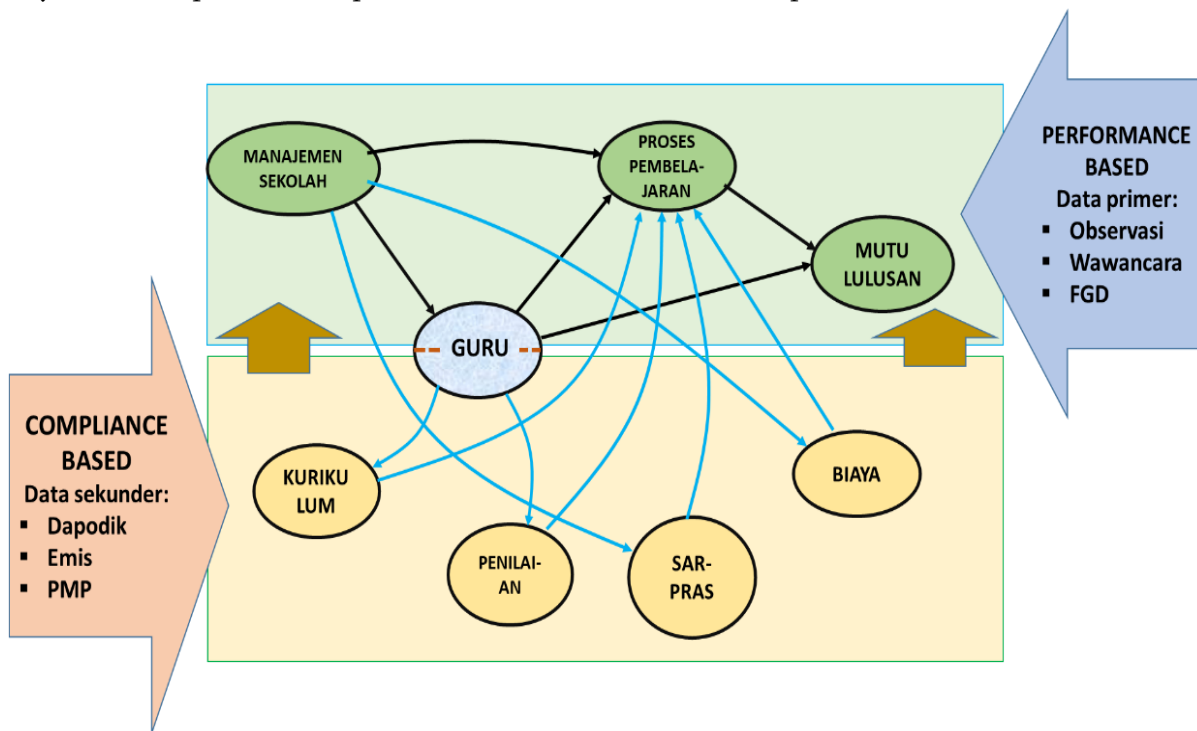


Figure 1 The new paradigm of school/madrasah accreditation

Data on the quality of graduates should ideally be taken from post-graduate data, such as their performance after continuing to higher education or work (out comes), but the evidence shows that tracer studies in schools/madrasahs are very weak. Thus, the tracer data can also be adapted to the abilities and personality of students when they graduate (output) or even before graduation (still in school). Based on the TQM concept, graduate user satisfaction (higher school/madrasah where graduates continue or

graduates' workplaces) is one indicator to assess the quality of graduates.

Competence, of course, is not only in the cognitive domain but must also include the psychomotor and affective domains, as in the 4-C concept or the like in the reference to 21st century skills. The affective domain needs special attention, because recent research shows that this aspect is one of the main keys to the success of graduates when entering/mingling in

society. Furthermore, this is in line with Indonesia's policy of prioritizing character education.

The education process in schools/madrasahs basically consists of two parts, namely the learning process is carried out in the classroom/lab/workshop/studio/field and school/madrasah culture, where students learn various things and develop aspects of life attitudes (affective or character realm). The educational process must be understood as a process that occurs and not only the availability of inputs, for example rules, facilities and infrastructure and others. The shifting paradigm from teaching to learning needs to be taken into account when preparing accreditation instruments for aspects of the educational process. One measure that can be done is by knowing student satisfaction with the learning process, so that students can be motivated.

The educational process as described above is basically a teacher's performance in using available or accessible educational inputs. In line with this thought, the results of the study show that the quality of learning is determined by teacher innovation in classroom management which deserves attention. Likewise with school culture/school climate, which must be seen as what happens in the school/madrasah environment and simply how schools/madrasahs develop policies, rules and provide facilities and infrastructure.

School/madrasah management (school management) is considered the dominant variable, because it can affect the provision of all educational inputs and

control the educational process through teacher management. Therefore, the ability of school/madrasah leaders in managing human resources, facilities and infrastructure, funding sources and making breakthroughs as well as building a network of teachers to support the education process in schools/madrasahs is a determining factor. Teacher and staff satisfaction is an indicator of the quality of school/madrasah management, because this satisfaction will increase their work motivation. Are input variables such as curriculum, assessment system, facilities and infrastructure and budget excluded from accreditation? Still counts, but is a prerequisite for accreditation. This means that only schools/madrasahs that "have" the minimum input will be accredited. Minimum inputs must be understood as minimal inputs for the ongoing education process and no formal inputs are required as basic requirements in the education/learning process. Rigid standardization of input forms, such as classroom size, electric power, etc., should be avoided, because according to the principle of technological pedagogical content knowledge (TPACK), this action is not important, because teachers can improvise in managing learning.

School accreditation is carried out under a comprehensive set of quality assurance systems, and therefore following recommendations based on the accreditation process is the primary goal, not accreditation status. Based on this principle, the accreditation system in the future will be managed by a business process as shown in the following figure.

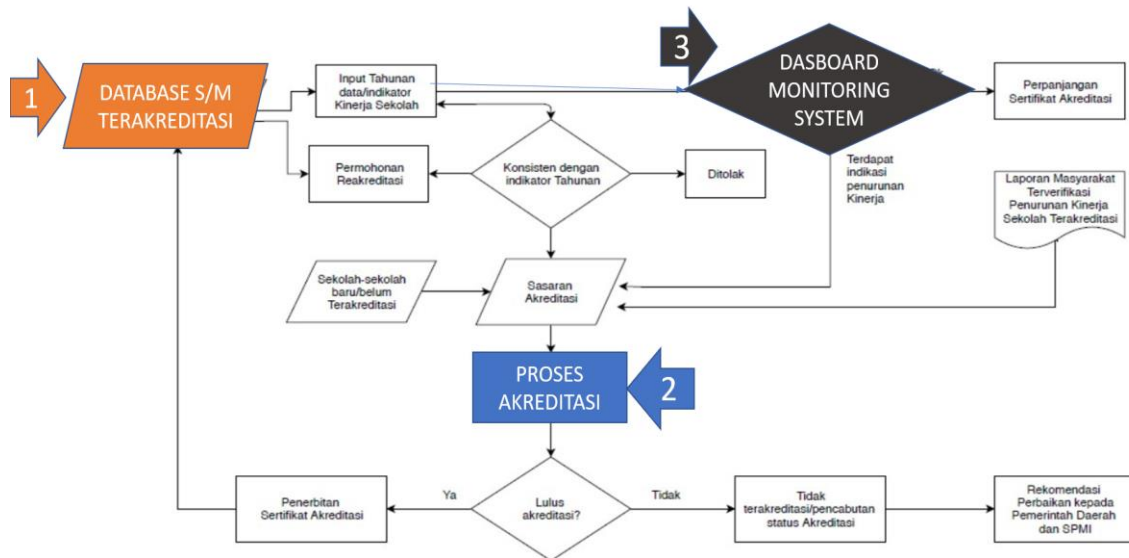


Figure 2 Accreditation process flow

Here is an explanation of the image above:

- a. After being accredited, schools/madrasahs are required to report performance indicators (score cards) annually into the Accredited School Monitoring System. The Accredited School Monitoring System detects developments/changes in school conditions continuously.
- b. The monitoring process (dashboard) is carried out with an automatic mechanism (machine generated), and does not involve assessors to prevent conflicts of interest. The dashboard will automatically display schools/madrasahs with an indication of improvement, decline or persistence in quality based on performance indicators (score cards) that are reported annually.
- c. The accreditation status is valid for five years and if the annual report by the school/madrasah shows that its performance is consistent, the accreditation status will be automatically extended.

Schools that have been accredited can be re-accredited on the basis of three reasons: (1) the request of the school concerned; (2) verified community reports of a decline in school performance;

and (3) warning from the monitoring system (dashboard) that there has been a decline in school performance. Schools that believe their school is improving and want higher accreditation status can apply for re-accreditation at least 2 (two) years after the last accreditation and the reported performance data consistently shows improved performance.

Broadly speaking, the target of education quality assurance related to accreditation is divided into two assessments, namely performance assessment and data compliance assessment. The performance assessment will be carried out automatically through the education unit that fills it into the system that has been developed. While the assessment of compliance data through secondary data originating from dapodik, emis, sympathetic, AN or others. Then the assessment is combined into the E-SPME application dashboard. The dashboards are all controlled by the system so that they can produce an assessment from the education unit. By being controlled by the system, it will reduce the intervention of subjectivity. From the dashboard, a map of the quality of education units is made, which then with certain criteria, the quality map will automatically produce a map of the quality

of education and several educational units with certain criteria will be visited to validate or verify.

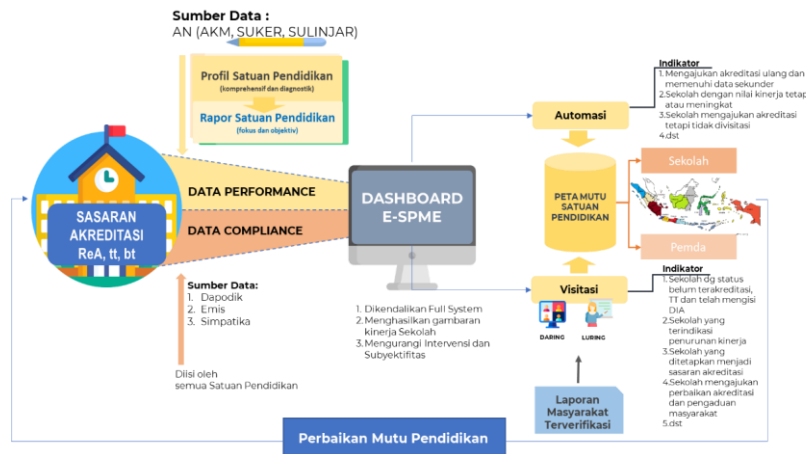


Figure 3 E-SPME Model

High School Quality Assurance Data Results

The sample is part of the research population that is used to estimate the results of a study, while the sampling technique is part of the statistical methodology related to ways of taking samples. The samples used were national report cards and regional report cards in 111 districts/cities of PSP. As for the sampling technique, the researcher chose a random sampling technique or random sampling/probability sampling added to the POP unit. Where the technique and the sample that the researcher uses are random, regardless of the sample on the basis of strata or social status in any way.

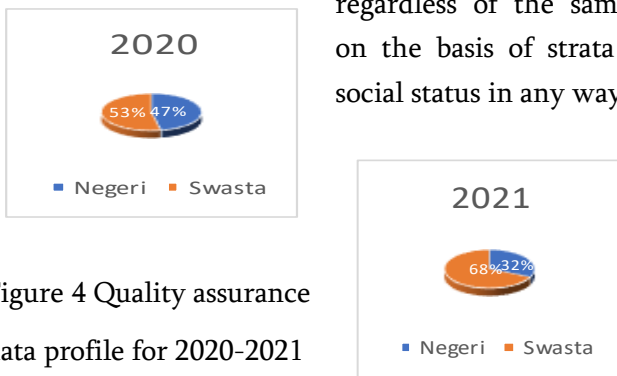


Figure 4 Quality assurance data profile for 2020-2021

The high school data profiles that are sampled in this study represent high schools with public status and private status. In 2020, the number of SMA that was

sampled was 475 SMA. Data for SMA with state status are 224 SMA or 47%. While SMA with private status amounted to 251 SMA or 53%. In 2021, the number of SMA that was sampled was 686 SMA. Data for SMA with state status amounted to 221 SMA or 32%. While SMA with private status amounted to 465 SMA or 68%. The sampled SMA with private status is higher than the state status. This is comparable to the number of senior high schools in Indonesia, where there are more senior high schools with state status than state status.

The sampled high schools will collect data related to quality assurance, especially for the accreditation of their respective schools. The data collected is based on information submitted by schools and officers who visit schools as well as supporting documents. Information is collected through instruments that have been prepared and validated previously.

Accreditation rankings for schools/madrasahs are as follows:

1. Accreditation A (Excellent)

If the school/madrasah has a final accreditation score between 91 and 100 ($91 < NA < 100$).

2. Accreditation B (Good)

If the school/madrasah has a final accreditation score between 81 and 90 ($81 < NA < 90$).

3. Accreditation C (Enough)

If the school/madrasah has a final accreditation score between 71 and 80 ($71 < NA < 80$).

4. Not Accredited (TT)S

If the school/madrasah has a final accreditation score of less than 71.

which is respectively 205 SMA and 267 SMA. However, in 2020, the SMA that received C accreditation was relatively small, namely 77 SMA. This is inversely proportional to that in 2021, SMAs that received C accreditation were relatively large, namely 212 SMA. Improving the quality of education needs to be done to increase accreditation in each high school, especially for senior high schools that get accreditation C.

If accreditation is described in each province, then the province that has the most many have received A accreditation, namely West Java Province which is also comparable to the highest high school data in Indonesia

Indonesia. Meanwhile, the province that received the most C accreditation was East Nusa Tenggara Province. The strategy of equalizing the quality of education needs to be carried out, especially in high schools outside Java and Bali. The following is high school accreditation data by province in Indonesia.

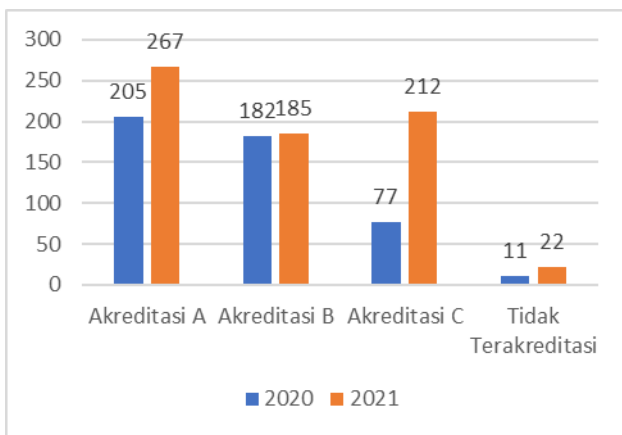


Figure 5 Quality assurance in 2020-2021

Based on the figure above, it shows that in 2020 and 2021, the highest accreditation is accreditation A,

Table 1 High school accreditation data by province in Indonesia.

Province	A		B		C		TT		Total	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
ACEH	4		10	5	3	9		2	17	16
BALI	3	12	1	2		1	1	1	5	16
BANTEN	3	9	7	11	2	8			12	28
BENGKULU	2	2		2	1	3			3	7
DI YOGYAKARTA	3		5			2			8	2
DKI JAKARTA	2	18	1	1	1	1			4	20
GORONTALO	6		6		2	2			14	2
JAMBI	11		3	2	2	3		1	16	6
JAWA BARAT	21	60	16	20	4	6	1	1	42	87
JAWA TENGAH	18	13	7	8	2		1		28	21
JAWA TIMUR	15	1	27	3	10	1		1	52	6

Province	A		B		C		TT		Total	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
KALIMANTAN BARAT	1	1	4	7	1	17			6	25
KALIMANTAN SELATAN	4		5	1		3			9	4
KALIMANTAN TENGAH	4	2	1	3		7	1		5	13
KALIMANTAN TIMUR	16	13	3	3	1	6	1		20	23
KALIMANTAN UTARA	6	1	5	1	1	1	1		12	4
KEPULAUAN BANGKA BELITUNG		1	1		3	4	1		5	5
KEPULAUAN RIAU	3		1	4	1	4		2	5	10
LAMPUNG	16	14	8	13	3	8			27	35
MALUKU	1	1	3	8		6	2	1	6	16
MALUKU UTARA	9		2	7		9			11	16
NUSA TENGGARA BARAT	2	8	4	3	5	8	1		12	19
NUSA TENGGARA TIMUR	1	3	2	5	3	25		2	6	35
PAPUA	6	24	7	19	1	9			14	52
PAPUA BARAT	5	1		2	1	3			6	6
RIAU	4	18	6	6	4	4		2	14	30
SULAWESI BARAT			4	2	2	8		1	6	11
SULAWESI SELATAN	6	1	6	2	2	7			14	10
SULAWESI TENGAH	1	4	2	1		4			3	9
SULAWESI TENGGARA	5	3	4	13	6	14	1		16	30
SULAWESI UTARA	1		4	2	5	7		3	10	12
SUMATERA BARAT	7	6	8	2	1	3			16	11
SUMATERA SELATAN	9	19	7	14	9	17	2	2	27	52
SUMATERA UTARA	10	32	12	13	1	2	1		24	47
Total	205	267	182	185	77	212	11	22	475	686

The SLB/MLB accreditation instrument is divided into 4 (four) components which include 35 (thirty five) core items and 5 (five) specifics with each consisting of 4 (four) answer choices. Each item has the same weight. The number of items and the weight of the components of the SLB/MLB accreditation instrument are shown in Table 2 below.

Table 2 Number of Items and Weight of SLB/MLB Accreditation Instrument Components

No	Component	Core Item Number	Item Special Number	Number of Items	Component Weight
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1	Graduate quality	1 – 11	36	12	35
2	Learning process	12 – 18	37	8	29
3	Teacher Quality	19 – 22	-	4	18
4	Managem ent S/M	23 - 35	38 - 40	16	18

All statement items contained in the instrument are closed statements. Then, each of the four answer choices was scored with a score of 4, 3, 2, and 1 (minimum score of 1 and maximum of 4).

The maximum score for each component of accreditation can be obtained by the formula:

$$CMaks = Jumlah\ Skor\ Komponen\ Maksimum = 4 \times Jumlah\ Butir\ Komponen$$

The maximum score for each SLB/MLB accreditation component is shown as follows.

Table 3 Maximum Score of Each Component

No	Component	Maxi- mum Item Score	Item score	Total score maximum
1	Graduate quality	4	12	48
2	Learning process	4	8	32
3	Teacher Quality	4	4	16
4	Management S/M	4	16	64

The method for calculating the final score for accreditation is as follows:

1. Perform the calculation of the score obtained from the visitation for each component with the formula:

$$Ci = \sum_{j=1}^k Skor\ butir\ ke - j\ komponen\ ke - i$$

Notes:

Ci = Total score of component i

k = number of items in each component

2. Calculate the score of the accreditation component with the formula:

$$Skor\ Komponen\ ke - i = \frac{Ci}{Cmaks} \times Bobot\ Komponen\ ke - i$$

3. Calculate the total component score by adding up all the accreditation component scores from the

components of graduate quality, learning process, teacher quality, and school/madrasah management.

Skor Total Komponen

$$= \sum_{i=1}^4 Skor\ Komponen\ Ke - i$$

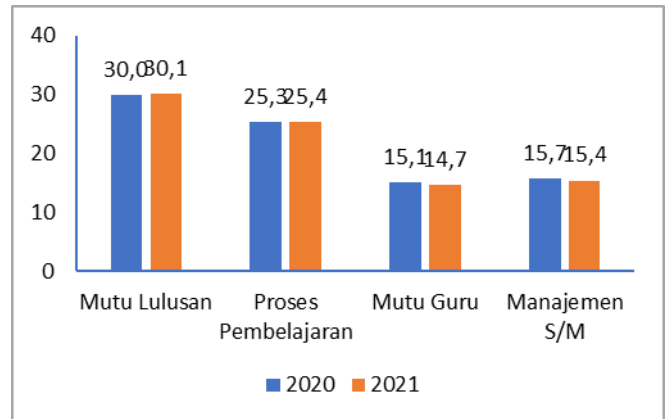


Figure 6 quality assurance year 2020-2021

Based on the picture above, it shows that several criteria have increased and decreased from 2020 to 2021. The criteria that have increased are the quality of graduates and the learning process. In 2020 the quality value of graduates is 29.96 to 30.15 in 2021. Then on the criteria for the learning process which in 2020 is 25.32 to 25.37 in 2021. The criteria that have decreased are the quality of teachers and S/M management. In 2020 the teacher quality score is 15.06 to 14.68 in 2021. Then the S/M management criteria which in 2020 are 15.74 to 15.38 in 2021. The pandemic condition and the online learning process have an impact on the decline of these two criteria.

If you look at the final score for each province, the province that gets the highest score in the accreditation assessment is DKI Jakarta with a final score of 92.20. Meanwhile, the province that got the lowest score was Jambi Province with a score of 71.00.

The strategy to increase the value of quality, especially attention, especially for the island of Kalimantan and in the assessment of accreditation, needs special the eastern part of Indonesia.

Table 4 quality assurance for each province in 2020-2021

Province	graduate quality		Learning process		Teacher Quality		Management S/M		Final score	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
ACEH	29,41	26,60	24,82	22,40	14,88	13,15	15,29	13,46	84,18	75,13
BALI	29,60	32,17	26,40	26,60	14,60	15,19	16,20	16,51	86,80	89,25
BANTEN	29,58	30,51	25,08	25,41	15,25	14,95	15,33	15,74	86,33	84,36
BENGKULU	31,00	29,09	25,67	25,60	14,33	14,47	15,67	15,87	85,33	82,71
DI YOGYAKARTA	32,25	27,05	26,63	23,83	15,88	10,69	16,75	12,29	91,38	74,00
DKI JAKARTA	29,75	33,05	24,75	27,65	15,00	16,60	15,25	16,76	86,00	92,20
GORONTALO	31,14	28,24	25,57	20,20	15,07	10,69	15,57	14,88	87,14	73,50
JAMBI	30,50	24,53	25,75	21,23	15,88	12,94	16,13	13,27	89,00	71,00
JAWA BARAT	31,10	32,25	25,93	27,06	15,52	15,69	16,52	16,51	88,90	89,47
JAWA TENGAH	29,96	32,50	25,61	27,32	15,04	15,86	15,93	16,48	87,43	90,81
JAWA TIMUR	29,54	28,37	24,37	23,65	14,48	14,07	15,31	14,60	83,65	78,50
KALIMANTAN BARAT	29,50	28,03	25,00	23,24	15,17	13,64	14,50	14,28	84,67	77,56
KALIMANTAN SELATAN	28,89	27,44	25,67	24,08	15,33	11,82	15,89	13,24	87,00	75,75
KALIMANTAN TENGAH	31,20	28,58	26,60	24,38	15,60	13,76	16,20	13,82	90,00	78,23
KALIMANTAN TIMUR	31,35	31,30	26,55	25,94	16,20	15,31	16,20	15,19	89,65	85,78
KALIMANTAN UTARA	31,92	29,03	26,67	23,56	16,25	14,91	16,83	14,19	89,42	79,25
KEP. BANGKA BELITUNG	27,20	28,48	22,80	23,62	12,00	12,60	13,60	13,43	75,80	76,00
KEPULAUAN RIAU	30,80	27,37	25,80	22,68	16,40	11,93	16,40	13,57	89,20	74,50
LAMPUNG	30,67	30,45	25,85	26,22	15,56	15,11	16,41	15,90	88,48	85,74
MALUKU	25,50	29,48	21,83	24,92	13,17	14,28	14,50	14,19	75,00	78,50
MALUKU UTARA	32,55	28,44	27,18	24,34	16,18	13,99	17,00	14,49	92,91	78,38
NTB	27,50	30,31	23,08	25,24	13,33	14,69	15,08	15,41	79,25	83,95
NTT	28,67	26,98	25,00	23,29	14,50	12,54	15,00	13,92	81,83	75,14
PAPUA	30,93	31,25	25,79	26,17	15,93	15,45	15,86	15,85	86,57	86,62
PAPUA BARAT	32,50	28,51	26,83	25,38	15,50	14,63	16,00	15,23	91,00	80,33
RIAU	29,14	31,47	26,14	26,44	15,64	15,12	15,86	15,96	84,57	86,60
SULAWESI BARAT	27,67	25,96	24,17	23,45	13,67	13,20	13,50	13,75	80,00	74,64
SULAWESI SELATAN	29,79	28,16	25,50	24,44	15,29	13,39	15,64	14,61	86,36	78,00
SULAWESI TENGAH	32,00	31,29	27,00	25,09	15,33	14,25	17,00	15,42	89,00	83,56
SULAWESI TENGGARA	27,88	29,17	23,44	23,96	13,44	13,54	14,63	14,86	80,44	80,37
SULAWESI UTARA	29,10	26,43	25,10	21,80	14,10	13,07	14,70	13,00	82,50	71,42
SUMATERA BARAT	30,69	30,44	26,63	25,99	15,44	15,24	16,06	15,92	88,31	86,82
SUMATERA SELATAN	28,70	29,40	24,41	24,86	14,59	14,67	15,37	15,32	82,11	82,52
SUMATERA UTARA	29,21	32,19	24,71	26,97	14,88	16,11	15,75	16,70	85,42	90,40
Rata – Rata	29,96	30,15	25,32	25,37	15,06	14,68	15,74	15,38	85,96	83,69

IV. CONCLUSION

Conclusions

The conclusions in this study are as follows:

1. The implementation of high school education quality assurance (SMA) in 2021 through E-SMPE shows an increase in the range of the number of schools measured through accreditation by 211 schools which produces a map of the quality of education that is used as material for analysis and evaluation of improving the quality of national education. The shift in the education quality assurance model from compliance-based to performance-based increasingly provides a complete picture of the quality of educational units that focuses on overall school performance so that it is more objective and measurable. The development of the E-SMPE Model provides hope for the issue of quality assurance of national education which has not been fully reflected through the accreditation process, which has been constrained by outreach, budget, and resources. With the presence of the E-SMPE model, it provides more objectivity and effectiveness of education quality data, so that the follow-up process in the form of accreditation and the formulation of policies to improve the quality of education becomes more focused.
2. The E-SMPE dashboard becomes an integrated monitoring center for compliance based data from the Dapodik, EMIS, and Simpatika platforms which are filled in by the education unit, while the performance based is sourced from data from the National Assessment (AN) which is managed in a full system and centralized by the Ministry of Education and Culture. The results are in the form of an assessment of the educational unit that is the reference for accreditation automation if the results are the same or visitation for those who have not been accredited and educational

units whose results have decreased. The output of E-SMPE is in the form of school profiles and education report cards which aim to enable education units and local governments to identify and reflect on improvements in data-based education. In the Education Report, there are indicators that reflect the eight National Education Standards and cover areas related to learning inputs, processes, and outputs. For example, such as graduate competency standards, content standards, process standards, assessment standards, management standards, GTK standards (teachers and education personnel), financing standards, and also infrastructure and infrastructure standards. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions. Authors are strongly encouraged not to call out multiple figures or tables in the conclusion—these should be referenced in the body of the paper.

Suggestions

The focus of this research is the analysis of the implementation of education quality assurance through the development model of an electronic-based external quality assurance system (E-SMPE) and the results of its implementation. Because its implementation has only begun in 2022, a complete and comprehensive picture of the implementation of this model cannot be obtained optimally. Furthermore, it is hoped that there will be more academic studies of electronic-based education quality assurance with broader research indicators and a longer time span of the object of research.

The development of E-SPME in the future must utilize information technology and be controlled in a full system, which means that the implementation of

monitoring and evaluation as well as an assessment of accreditation is carried out and processed by the system, so that subjective factors and human intervention can be minimized. Thus, the education quality map generated from this system will provide a more objective picture of school quality or school performance to become the basis for policies for education units, local governments and the central government.

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