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Quantitative Descriptive Analysis of the Potential for Implementing Open and Distance Learning in Senior and Vocational High Schools

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Abstract

Senior high school education in South Kalimantan still faces access and quality gaps despite a Gross Enrollment Rate (GER) of 98.10%. Geographic barriers, economic constraints, and unequal teacher distribution underscore the need for alternative delivery models. This study assessed the potential implementation of Open Schooling and Distance Learning for senior and vocational high schools in South Kalimantan. Using a quantitative descriptive design, data were collected from principal and teacher questionnaires, facility observations at 30 Learning Activity Centers, and document review of GER, Net Enrollment Rate (NER), and the national Education Data System (Dapodik). Descriptive statistics (mean, percentage, and frequency) showed that major barriers were limited digital infrastructure, substandard teacher–student ratios, and weak local regulations. Nevertheless, 77% of teachers supported the open/PJJ model, and most schools demonstrated adequate information and communication technology (ICT) readiness, indicating high feasibility. The novelty of this study lies in combining stakeholder perceptions, school ICT readiness, and learning activity centers conditions to map provincial-level implementation feasibility. The findings provide evidence for provincial policymaking, particularly in developing regulations, strengthening ICT infrastructure, and expanding learning activity centers in remote areas to improve equity, reduce dropout rates, and support high-quality 12-year compulsory education.

Keywords: Analysis, Open distance school, Access to Education

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INTRODUCTION

The government of Indonesia is obliged to ensure the quality of Human Resources (HR) of its citizens through the expansion and improvement of the quality of educational services. One of its forms is the 12-year compulsory education policy which has been continuously updated since the enactment of Law No. 20 of 2003 on the National Education System. At first, compulsory education covered only 9 years (elementary–junior high school), but in practice it was extended to the level of Senior and Vocational High Schools (SMA/SMK). Although legally the cost of basic education up to the age of 15 is free, the challenge of continuing to high school/vocational school requires budget commitments and affirmative policies (Anggraini & Wiryanto, 2022; Sarie, 2022).

Data from the Ministry of Education and culture and Technology shows that the number of students dropping out of school is still volatile: SD decreased from 44,516 (2020/21) to 38,716 (2021/22) but rose to 40,623 (2022/23); SMA from 11,378 rose to 15,042 and then dropped to 13,716; SMK was similar. This indicates that there are still many obstacles that have not been overcome. Although the education budget has increased by Rp 612.2 trillion (2023) to Rp 660.8 trillion, or 20% of the total state budget, conventional approaches (adding infrastructure, teacher salaries) have not been enough to significantly reduce school dropout rates or ensure equitable quality in remote areas (Puslapdik Kemdikbud, 2024).

The digital age demands breakthrough learning models that are innovative, flexible, and cost-effective (Saphira et al., 2023; Wijaya et al., 2021). Integrated open and distance learning (PJJ) utilizing ICT, digital modules, A–C packages, Open Junior/Senior High Schools, and open *source internet technology source*offers solutions for those who are constrained by time, location, and cost (Fazariah & Yafizham, 2024; Rahmani & Hikmawan, 2025; Syaifullah et al., 2024; dan Yustina et al., 2020).

The open SMA/SMK Program is proposed as a strategic alternative for SMP/MTs graduates who face socio-economic and geographical barriers (Mandasari et al., 2022; Sari et al., 2022; Syahruddin et al., 2021)). The curriculum is equivalent to regular SMA/SMK, but the implementation is independent, structured, and utilizes ICT for interactive modules and online tutorials (Mulyani et al., 2021; Garcia-Cabot et al., 2020).

Since regional autonomy was enacted (Law No. 22/1999, No. 25/1999, No. 23/2014), provincial and district/city governments have full authority in the management of Education. This opens up opportunities for local governments, such as the province of South Kalimantan to adopt and manage open SMA/SMK/PJJ programs according to local needs. In South Kalimantan, geographical constraints, including the island's many swamps and mountains, hinder access to formal education. SMA / SMK open / PJJ in various place of learning activities can reduce the dropout rate, increase NER, and foster independent learning in the midst of regional challenges. SMA / SMK open/PJJ can be one of the future school solutions. There are many issues that must be considered in designing the school of the future, for example: the extent to which technology is used optimally; the need to foster creativity and mental resilience, not just academic achievement; the importance of strengthening character and character, not only intellectual intelligence; and the more active role of parents in the learning process (Maziyah et al., 2022; Irhandayaningsih, 2020; Dennis, 2021; Khusaini & Muvera, 2020;).

In addition, learning should be able to be done anywhere with access to open learning resources, prioritize cooperation over individual competition, and instill the spirit of exploring local cultures for equal distribution of experiences (Gawer, 2021; Matete et al., 2023; Adebayo et al., 2022; Suyadi, Nuryana et al., 2022; Mariyana et al., 2023). Skills such *as public speaking*, writing works, and model design are considered more meaningful than just academic tests. While social interaction space, sports, and practical skills need to be propagated (Ginting et al., 2021; Babullah, 2022; Aryati et al., 2024; Ochieng, V. O., & Gyasi, R. M., 2021). From a variety of issues that arise key questions: What kind of PJJ-based future schools that we will build? Are schools inclusive and safe, high-tech, collaborative,

experience-based, nurturing students ' creative potential, or eco-friendly and energy-efficient?

This article aims to explore the potential of the implementation of the open vocational school Program in South Kalimantan by examining regulatory readiness, infrastructure, educators, and community support, as well as formulating policy recommendations to realize an even and quality 12-year compulsory education.

METHODS

This study uses a descriptive quantitative approach, which is to describe the real conditions of the implementation of SMA/SMK education in South Kalimantan province and the potential of open vocational Program / PJJ without examining the causal relationship between variables. Data is collected through surveys, documentation, and field observations, and then processed with descriptive statistics to display averages, percentages, frequency distributions, medians, and modes.

The study population was all students aged 16-18 years enrolled in public and private high schools sein South Kalimantan province. The sample was taken purposively: 30 schools (SMA/SMK) represented various geographical zones (urban, coastal, mountainous) to ensure the diversity of conditions.

The main variables described include: (1) regulatory readiness, (2) availability of infrastructure, (3) competence and distribution of educators, and (4) community support. Each is measured through operational indicators-e.g. number of classrooms, teacher-student ratio, teacher certification status, and percentage of parent or industry partner engagement.

Primary Data were obtained through closed questionnaires to school principals and teachers, as well as TKB facility observation sheets. Secondary Data were taken from the documentation Dapodikof provincial Dapodik documents, GER/NER Reports of Statistics agencies, and regional autonomy policy archives. Field surveys complete the picture of readiness of each indicator.

The survey results and documentation are encoded in tables and graphs, and then analyzed descriptively: calculate the average (mean), proportion (percentage), frequency distribution, median, and mode for each indicator. Findings were compared with national standards and 12-year compulsory education policy to identify gaps and potential development of SMA/SMK Terbuka/PJJ. With this methodological framework, the study was able to systematically map the factors that support or hinder the feasibility of open SMA/SMK/PJJ programs in South Kalimantan, as well as formulate comprehensive quantitative data-based policy recommendations.

RESULTS & DISCUSSION

Referring to the South Kalimantan Statistics Agency, the South Kalimantan government continues to strive to implement policies that lead to the alleviation of

school dropout rates. One of them is the dropout rate at the upper secondary level or equivalent high school.

South Kalimantan provincial statistics and Statistics report the grossparticipation rate of high school (SMA)in the 2022/2023 school year asel follows:

Table 1. Gross and Net Enrollment Rates (GER and NER) for Upper Secondary Education (or Equivalent), Academic Year 2022/2023

No.	Kabupaten / Kota	Residents aged 16-18 years	SM students / equivalent	students aged 16-18 years	GER (%)	NER (%)
1	Kab. Banjar	25.232	25.232	16.603	100,00	65,80
2	Kab. Tanah Laut	15.078	14.420	10.012	95,64	66,40
3	Kab. Barito Kuala	14.452	12.597	8.552	87,16	59,18
4	Kab. Tapin	8.101	8.421	5.287	103,95	65,26
5	Kab. Hulu Sungai Selatan	10.538	11.436	7.436	108,52	70,56
6	Kab. Hulu Sungai Tengah	14.976	13.770	8.938	91,95	59,68
7	Kab. Hulu Sungai Utara	15.332	12.347	8.008	80,53	52,23
8	Kab. Tabalong	11.644	12.443	8.764	106,86	75,27
9	Kab. Kotabaru	15.256	13.207	9.515	86.56	62.36
10	Kab. Balangan	6.843	7.220	3.848	105,51	56,23
11	Kab. Tanah Bumbu	16,213	16,373	11,412	100.99	70.39
12	Kota Banjarmasin	30,946	32,598	24,058	105.34	77.74
13	Kota Banjarbaru	14,779	15,546	11,210	105.19	75.85
South Kalimantan		**199,390**	**195,610**	**133,643**	**98.10**	**67.03**

Based on this, it explained that the South Kalimantan province achieved GER and NER for SM/equivalent for the 2022/2023 school year were 98.10% and 67.03%, respectively. There are 7 regencies / cities with GER achievement equal to 100% or more. While the achievement of GER and NER for the national level is 97.38% and 68.87%, respectively (Ministry of Education, Research Culture and Technology, 2023). This Data shows that for the 2022/2023 school year, the achievement of the South Kalimantan provincial GER has been a national achievement. Meanwhile, NER's reach is still below national.

In the map of human development in South Kalimantan, as mandated by the National Education Law SisdiknasNumber 20 of 2003 and the regional autonomy road map, education plays an important role that is irreplaceable. Education is the determinant of human direction and competitiveness in the future. Important indicators that reflect the quality and equitable access to education in South Kalimantan province from year to year have improved as the data mentioned above. Gross participation rate (GER) and pure participation rate (NER) in South Kalimantan province in the last three years reflect encouraging results. However, there are challenges that need to be addressed immediately, both structurally and non-structurally.

From the statistical data released by the Government of South Kalimantan province shows that the achievement of access to secondary education is expanding. In the 2022/2023 school year, for example, the South Kalimantan GER achievement was 98.10 %. Exceeds the national achievement figure of 97.38%. In general, the Government of South Kalimantan has been able to accommodate more students. Included in this is the number of students who were delayed taking education at their ideal age. In contrast, the condition of South Kalimantan NER is quite worrying. There is indeed an increase from previous years, but in the 2022/2023 academic year South Kalimantan NER was recorded at 67.03%. Still below the national average of 68.87%.

The achievement of the South Kalimantan GER needs to be appreciated as proof that the local government has carried out its role well. They have sought to increase the capacity and effectiveness of various affirmative policies in education. However, it should be realized that in the midst of the rapid flow of modernization and the uproar of technological progress, all elements in KalimantanSouth Kalimantan need to correct themselves that there is still a dropout rate experienced by children aged 6 to 18 years in South Kalimantan.

The decline in NER in South Kalimantan, as is common in other parts of Indonesia, is due to various connecting factors. Some of them are due to geographical, economic, to social and cultural barriers. Of the various factors that give rise to a striking inequality between cities and regions. In South Kalimantan itself, for example, some big cities such as Banjarmasin and Banjarbaru recorded NER above 75 %. While areas that are far enough from the city center such as upstream of the North River and Balangan enough to record numbers below 60 %.

The inequality appears as an anomaly. One side has seen progress in the utilization of education for children of compulsory education age. Many schools have accommodated students with a variety of backgrounds. But on the other hand, the distribution of educational resources such as the quality of infrastructure, maksimilasimaximization of regional education autonomy, and social awareness are still the main questions. This can be observed from the participation of school-age children in some areas that still have not recorded significant figures in the field of NER.

Uniquely, a number of regions in South Kalimantan have exceeded the GER target of above 100%, although NER is still below the national average. For example, Hulu Sungai Selatan, Tabalog, and Belangan recorded GERs above 100 %. This phenomenon can be a positive alarm of the need and effectiveness of educational programs in the field of pursuing packages or integration of putuh sekolah students. This figure also provides an early indication that the overall need for an inclusive formal education system is the price of patents that can not be negotiated.

The problem of low NER also provides an indication of the lack of adequate school education in some areas. It also includes the unsuitability of the curriculum to the local context, the distance between schools that are too far, the economic burden on families, to the lack of incentives for teachers, students, and schools to be able to continue learning.

The fulfillment of access to education in South Kalimantan, especially at the high school level, includes efforts for a long-term strategic plan that can

accommodate the needs of children of compulsory school age. If we cannot manage it properly and without the right policy flow, we will certainly not be able to receive the benefits of this nation's golden generation. The implementation of high school education such as SMA and SMK still found inequality, both from the number of students, schools, teachers, and other supporting facilities.

In total, South Kalimantan province has 126 vocational high schools (SMK) with the number of teachers as many as 4,142 and the number of students reached 55,319. Banjarmasin city is the region with the largest number of vocational schools, consisting of 17 private and five public vocational schools with a student to teacher ratio of 1:15. On the other hand, Balangan Regency has the least number of vocational schools, namely 3 schools with a teacher to student ratio of 1:10. This can be seen from the following table:

Table 2. SMKN/SMKS school Data, teachers and students

Kab/ Kota	SMK N	SMK s	teacher SMK N	teacher SMK s	student SMK N	student SMK S	ratio
Kab. Banjar	6	4	228	52	3512	415	1:14
Kab. Tanah Laut	5	2	174	29	2371	358	1:13
Kab. Barito Kuala	7	6	316	94	4651	1181	1: 14
Kab. Tapin	4	1	137	9	1614	72	1: 12
Kab. Hulu Sungai Selatan	3	0	143	0	2143	0	1:15
Kab. Hulu Sungai Tengah	4	1	180	11	2052	63	1: 11
Kab. Hulu Sungai Utara	2	7	118	80	1419	712	1:11
Kab. Tabalong	4	3	196	56	2201	625	1: 11
Kab. Kotabaru	8	2	311	58	4465	800	1: 14
Kab. Balangan	7	11	292	193	4498	2503	1: 14
Kab. Tanah Bumbu	3	0	110	0	1196	0	1: 11
Kota Banjarmasin	5	17	538	336	8985	4011	1: 15
Kota Banjarbaru	5	9	303	178	3407	2065	1: 11
South Kalimantan	63	63	3046	1096	42514	12805	1: 13

On the other hand, the data of Senior High School (SMA) in Kalimantan province showed no significant difference compared to the data of Vocational High School (SMK). The number of schools, teachers, and high school (SMA) students in South Kalimantan province in the 2022/2023 school year availability is significant.

From the following data it is shown that the city of Banjarmasin has the highest number of high schools, while Tapin Regency and Hulu Sungai Selatan have the least number. The ratio of teachers to students at the provincial level is 1:13, but this calculation indicates an imbalance between the number of teachers and students.

Table 3. Data school SMAN/ SMAS, teachers and students

District/ City	High School N	High School s	High School teacher N	High School Teacher s	High School student N	High School student s	ratio
Kab. Banjar	13	5	376	52	5517	364	1: 14
Kab. Tanah Laut	22	7	488	81	7077	741	1: 14
Kab. Barito Kuala	13	9	419	120	5670	1526	1:13

Kab. Tapin	16	3	416	44	5576	264	1: 13
Kab. Hulu Sungai Selatan	7	2	158	13	1836	231	1: 12
Kab. Hulu Sungai Tengah	7	2	225	25	2754	214	1:12
Kab. Hulu Sungai Utara	9	1	315	6	3985	7	1: 12
Kab. Tabalong	6	2	169	23	1609	124	1: 9
Kab. Kotabaru	11	0	305	0	3249	0	1: 11
Kab. Balangan	11	3	350	29	5287	298	1: 15
Kab. Tanah Bumbu	9	2	187	26	2136	102	1: 11
Kota Banjarmasin	13	17	630	228	10804	2047	1: 15
Kota Banjarbaru	5	10	241	107	4113	934	1: 15
Kalimantan South Kalimantan	142	63	4279	754	59613	6852	1:13

When the data is conceptualized on a provincial scale, there are 331 institutions of Higher Secondary Education, consisting of 142 public high schools, 63 private high schools, 63 public vocational high schools, and 63 private high schools. The number of schools is in line with the number of students reaching 121,784 individuals, spread between public and private high schools. In addition, there are 9,175 teachers who support the learning process, and they are also spread across public and private high schools.

Table 4. Number of schools, teachers, and students

	SMK	SMA
Sekolah Public School	63	142
Sekolah Private School	63	63
Public teacher	3046	4279
Private teacher	1096	754
Private school student	42514	42514
Private School Student		59613
Student Private School Student	12805	6852

The ratio between teachers and students is a crucial factor in determining the quality of education at the high school level. Carefully calculating this ratio is a very significant step in an effort to improve the quality of learning and efficient use of teachers ' teaching time. The ratio here refers to the minimum number of learners in a class, which indicates that the learning process organized by the teacher has met the minimum standards that have been set. As stipulated in Government Regulation No. 74 of 2008 concerning teachers, especially in Article 17. DalanIn the regulation, the ratio is regulated according to the following provisions: for SMA or its level is 20 to 1, for MA or its level is 15 to 1, for SMK or its level is 15:1, while for MAK or its level is 12:1.

When referring to the regulation, it can be concluded that the ratio of teachers and students in South Kalimantan does not meet the adequacy standard. The number of teachers there is not proportional to the number of students in the region. For

example, at the vocational school level, the ratio of teachers and students on average only reaches 1.13, while it should be according to the regulations is 15:1. The lowest ratio was recorded in four districts / cities, namely Banjarbaru City, Balangan Regency, Hulu Sungai Tengah, Hulu Sungai Selatan, and Hulu Sungai Utara, each with a ratio of 11:1. Meanwhile, districts / cities that have adequacy ratios in Banjarmasin City, Tanah Bumbu Regency, Tabalong Regency, Tanah Laut Regency, and Banjar Regency are 15:1 and 14:1, respectively.

For the high school level, based on the data, the ratio of teachers and students also showed a low figure, which is an average of 1:13. The lowest ratio was recorded in Tabalong Regency, reaching 9:1, while the highest ratio was found in Banjarmasin City, Banjarbaru City, and Tanah Bumbu Regency, which was 15: 1. This situation shows that there is a significant imbalance between the number of teachers and students in some regions, indicating potential obstacles in the organization of learning and the fulfillment of established ratio standards.

Referring to the teacher-student ratio data presented, there appears to be a significant impact on various aspects of educational performance and management. The mismatch between the number of teachers and students can lead to a number of serious consequences, among others; the number of teacher teaching hours is not met; teacher certification allowance is not given or teachers are difficult to be certified; and the financial burden of provincial-level education management increases. This situation requires serious attention and strategic measures to balance the ratio of teachers and students in order to create an optimal and sustainable learning environment.

Not only that, theeducation of qualified teachers has an important influence on the level of their professionalism and performance in carryingtugas out educational tasks. Based on the results of the study, it was revealed that teachers in South Kalimantan have varying levels of education, ranging from Bachelor's degrees to doctoral levels. Based on the data found, the majority of high school/high school teachers still hold a bachelor's degree (S1) of about 75%, while the remaining 25% have earned master's and doctoral degrees.

The following pie chart data Teacher Education SMA / SMK South Kalimantan province.

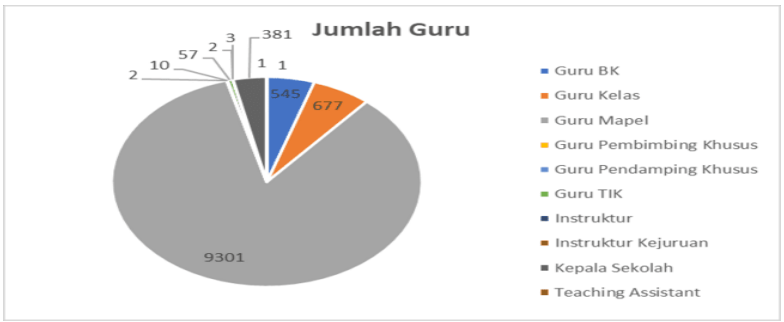

Figure 1. Teacher Education Data SMA / SMK South Kalimantan province (source: Provincial EducationOffice)

Meanwhile, based on information obtained from the South Kalimantan Provincial Education Office, it can be seen that the percentage of teachers who have obtained certification is 38.10%, while those who do not have an education

certificate reaches 61.90%. Therefore, it is necessary to encourage the existence of educational quality improvement programs to increase the number of teachers who have professional qualifications.

The following is a pie chart of the data of teachers who are certified in education and teachers who do not have certificates.

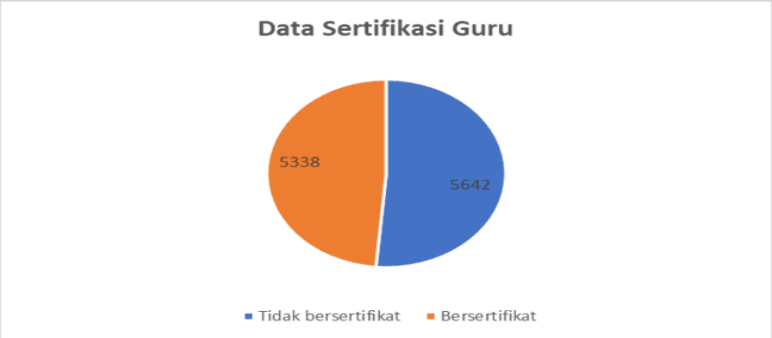

Figure 2. Data on certified teachers of Education (source: Provincial EducationOffice)

One of the challenges in human development in the education sector, in addition to being related to curriculum and teacher quality, is also influenced by geographical, demographic and social factors. Based on the results of the study, it was revealed that South Kalimantan province faces serious challenges in all three aspects. Field Data shows that at least 80% of teachers identify that geographic, demographic, and social factors are the main causes of students dropping out of school and having difficulty accessing education.

This can be seen in the following pie chart:

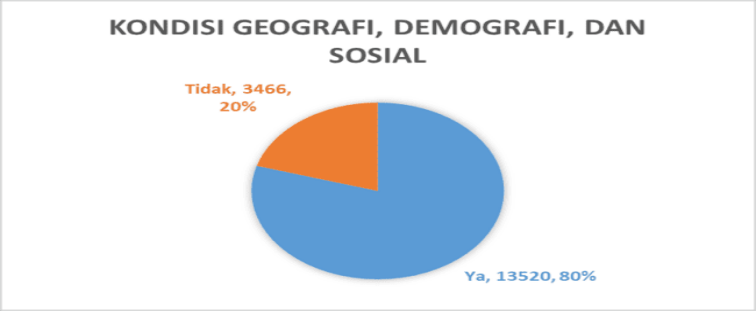

Figure 3. Geography, demographics and social conditions

If the data is classified by each district / city, there is a difference in the statement. For example, in Banjarmasin, 90% of teachers stated that geographic location, demographics, and economic factors largely determine student enrollment rates, receipt of quality educational services, and *tingkat*dropout rates. There is a clear pattern in which the further access to school, the lower the enrollment rate tends to be, and the lower the economic ability of parents, the more it affects the dropout rate.

Data in Banjarmasin showed differences with the data of Banjarbaru City. In Banjarmasin, geographical, demographic, and social conditions are considered very influential and significant.On the other hand, there is a balance between those who agree and disagree. For example, 60% agreed, while 40% disagreed with the

statement. From this data, it can be concluded that in the city of Banjarbaru, the problem of access and quality education services, due to geographical, demographic, and economic factors can still be overcome or controlled properly.

The following is a bar chart of the distribution of data for each city district in Kalimantan province about geographical, demographic, and social location.

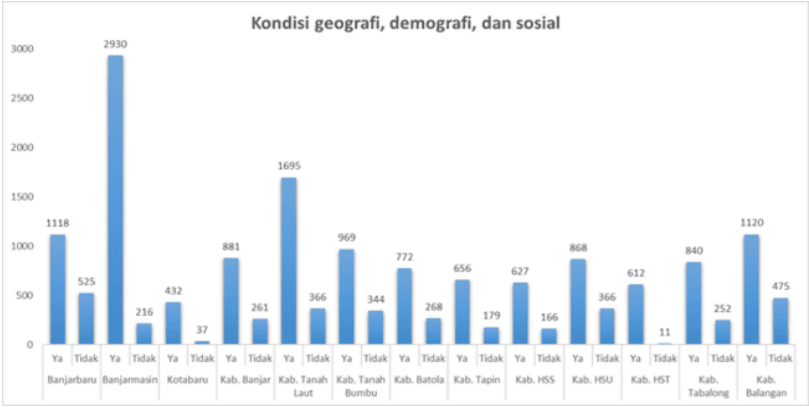

Figure 4. Geographical location affects access and educational services

In order to strengthen these data, research on the impact of economic and geographical factors on school dropout rates also received special attention in this study. For example, the researchers asked the question, "Are there students in your school who quit or resigned because of cost issues?"Based on this data, an average of 30% of all provinces stated that it was a reality. This information can be visualized through the following bar chart:

Figure 5. Students Drop Out Of School Economic Factors

Meanwhile, for geographical factors, rough data showed 34%. This indicates that the geographical location in South Kalimantan is enough to influence the program to increase school enrollment and the implementation of the 12-year compulsory education program. This Data can be represented through the following pie chart:

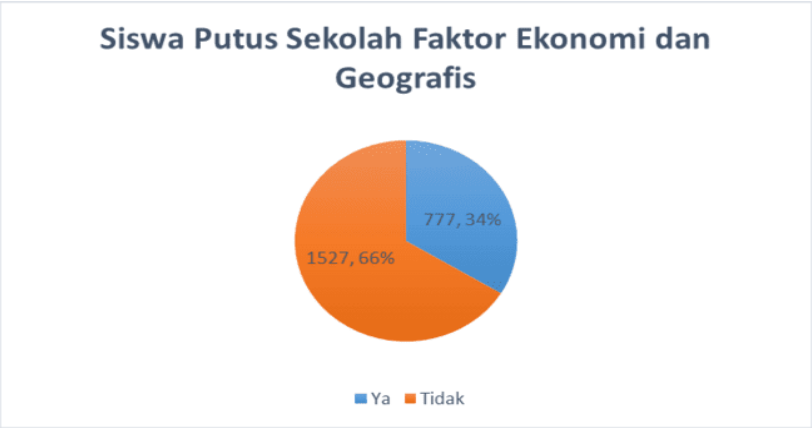

Figure 4. Students Dropout Geographical Factors

Social factors also contribute to the low participation rate and access to high school education in South Kalimantan. The local community has a strong religious cultural strength, which is reflected in the large number of majlis taklim and regular recitation every week in various mosques and prayer rooms. Data from the provincial Religious Affairs Ministry Office shows that in South Kalimantan there are 242 Islamic boarding schools, divided into 167 Salafis, 66 Khalafis, and 9 combinations, spread across 13 districts/cities. Islamic boarding schools that implement the Salafiyah system generally use a traditional approach since its establishment.

Further Data included in this study relate to the use of Information and Communication Technology (ICT) to address access issues and improve the quality of learning. Information on the integration of ICT in education and learning shows very positive results. Although there are still 13% of teachers who have not been able to fully utilize ICT for educational and learning purposes. As we all know, ICT in the context of education can provide solutions to access problems, improve performance, and improve the quality of learning.

The importance of the role of ICT in the learning process is also reflected in its ability to provide a more diverse learning experience to students, so as to improve the overall quality of learning. Data on the use of ICT for high school/vocational school in South Kalimantan as follows:

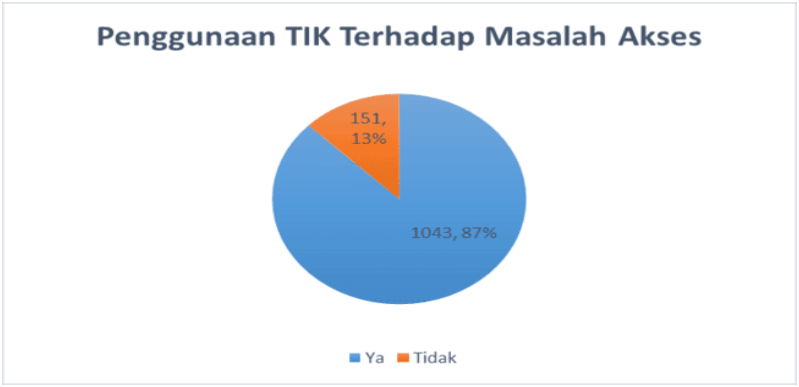

Figure 5. Use of ICT against access problems

Quality differences between cities and regions are also the focus of this study. In this context, the authors spread a questionnaire about the difference in the quality of education, especially at the high school/vocational school level, between cities and regions. So far, growing perceptions indicate a gap in education development between education units that are close to policy makers and education units located in the regions.

This perspective also seems to be confirmed through the results of a questionnaire given to high school/vocational school teachers. About 68% or about 1,560 teachers stated that there are differences in the quality or quality of education between cities and regions.

The visualization of this data can be found in the following pie chart:

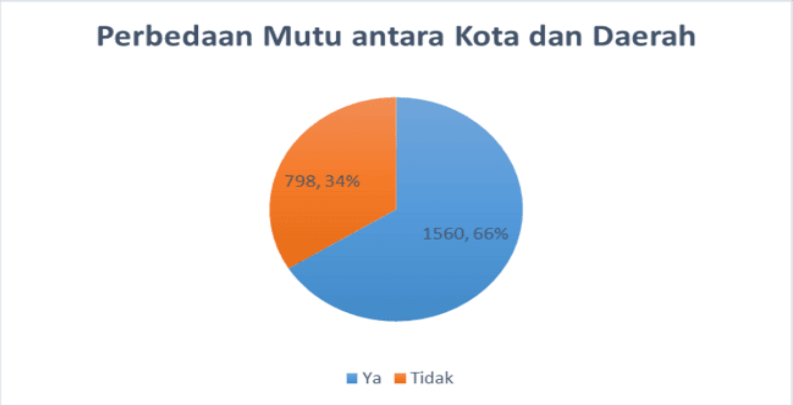

Figure 6. School Quality Differences

As well as aspects of institutions in improving school quality, aspects of teacher quality between cities and regions are also of concern to the author. The perception or presumption of the existence of differences in the quality of teachers in urban and regional schools arises as a result of the observation and evaluation of the community towards the educational environment. In general, many argue that there are differences in the level of qualifications, experience and educational resources between teachers in urban and regional schools.

This perception was confirmed through the results of questionnaire analysis and direct observation in the field. The Data obtained showed that about 63% of SMA/SMK teachers agreed that there are differences in quality between teachers in the regions and in urban areas. These results reflect the view of the majority of teachers who acknowledge the existence of disparities in qualifications and performance between their peers who teach in regional and urban schools. Thus, these data provide empirical support to the initial perception that differences in teacher quality are indeed a concern in the context of education in regional and urban areas.

Urban schools are considered to have easier access to the latest training, more advanced educational resources, and a more supportive learning environment. Urban teachers are often perceived to have better access to professional development, workshops, and additional training that can improve the quality of their teaching.

On the other hand, teachers in the regions are perceived to face the challenge of accessibility to the same training and resources as their urban counterparts. This perception can be reflected in the view that environmental conditions and infrastructure in the area may not support the professional development of teachers optimally .

However, it is important to remember that this perception is not all agreed by teachers, as there are still 37% of teachers who do not agree with this assumption. Then these data vary and do not always reflect the reality in each case. There are many competent and dedicated teachers in local schools, and conversely, not all urban teachers have the same level of qualification or dedication. Therefore, it is important to see each teacher and school as a unique entity with its own challenges and potential.

Here are the percentage data on teacher disparities in urban and regional areas:

Figure 7. Good and competent teaching staff in urban and regional areas

The percentage breakdown regarding the difference between teachers in urban and regional areas can be presented in the form of the following bar chart:

Figure 8. Good and competent teaching staff in each district/ city

After we are given information about the differences between teachers in urban and regional areas, the good news is that the teacher professionalism Improvement Program implemented by the South Kalimantan Provincial Education Office covers all elements of teachers, both in the city and in the region. This is illustrated in the pie chart or figure below, which shows that at least 75% of teachers

regularly attend educational and training programs regarding the use of Information and communication technologies (ICT) for learning.

Although some teachers, about 25%, have not attended professional education and training, this data reflects the seriousness of the South Kalimantan Provincial Education Office in improving the professionalism and quality of teachers in the region. This Data can be seen daram pie chart as follows:

Figure 9. Training To Improve Teacher Professionalism

As many as 77% of teachers agree with the establishment of an open SMA/SMK program and distance learning as a solution to overcome the challenges of access and teaching schedules that have often not been met. Although there are 23% of teachers who disagree, this data reflects the majority of teachers ' support for the development of open high schools and distance learning in South Kalimantan. Teachers understand this context and realize that through the development of this educational model, the problems of accessibility, equity, dropout rates, and improving the quality of education can be effectively addressed.

Figure 10. Teacher's perception of SMA / SMK open and distance

Discussion

The achievement of 98.10% GER in South Kalimantan-exceeding the national average of 97.38% - shows the success of local governments in enlarging the capacity sekolahof secondary schools. This reflects the effectiveness of affirmative policies, such as scholarships and RKB, to accommodate previously delayed learners. However, this figure also reveals the phenomenon of “overshoot”

in some districts (GER > 100%), which signals the high demand for non-formal programs (pursue packages) and the integration of dropout students.

Although the overall participation rate is high, the highest NER is “only " 77.74 % (Banjarmasin) and the lowest is 52.23 % (Hulu Sungai Utara). This gap confirms that the expansion of access has not always been followed by the ability of students to complete education at the age of 16-18 years. In the context of 12-year compulsory education, the pure participation rate is still below the National (67.03% vs. 68.87%) is an indicator that the quality and continuity of learning has not been evenly distributed.

The difference in NER between cities and remote areas reflects geographical influences: transport infrastructure and a minimal internet network make access to schools difficult. Meanwhile, the economic burden on families—the cost of transportation, uniforms, and basic necessities-prompted 30% of teachers to report students dropping out of school due to cost issues. This suggests that the intervention must be cross-sectoral, combining direct subsidies and free school transport.

A strong religious culture-evident from the province's 242 boarding schools—leads many teenagers to non-formal religious institutions. Although positive for character building, this tendency decreases formal NER. Therefore, collaboration between pesantren and open schools/PJJ can offer a dual curriculum: religious and general, so that students still have access to formal diplomas (Al Shammari, 2021; Syakur, 2020; Afriza, 2022; Hanifah et al., 2022).

The average ratio of 1:13 (below the standard of 15:1 SMK, 20: 1 SMA) and 61.9% of teachers are not certified show the challenges of teaching capacity. The long-term implications: the burden of teacher teaching hours is not met, the quality of learning decreases, and teacher motivation is depressed. Therefore, it is necessary to add professional teachers, remote area incentives, and accelerate certification to reduce teaching quality disparities.

Given the limitations of regular schools and external barriers, SMA / SMK open and distance become strategic solutions (Sanoto et al., 2023; Black, P., & Wiliam, D., 2018;). Flexibility of time and location allows students of ideal and non-ideal ages to study without having to move domicile. This is important to improve NER, because students who are geographically or economically constrained can continue their formal education according to the 2003 National Education Law.

The implementation of ICT online platforms, interactive modules, virtual tutorials-provides an opportunity to level the quality of learning. The obstacle of 13% of teachers who have not fully utilized ICT must be overcome through regular training. With adequate infrastructure, PJs ideally compensate for the lack of face-to-face tutors and support independent learning, so that learning continuity is better maintained (Abdullah et al., 2020; Mohammadi et al., 2020; Sukmawati, F., et al., 2023; Chinmi, M., & Marta, R. F., 2020).

Improving NER and reducing dropout requires multi-dimensional strategies: affirmative financial policies, Teacher Capacity Building, Collaboration with religious institutions, and the development of digital infrastructure. The opening of Open units / PJs in the lowest areas of NER needs to be prioritized, while maintaining regular curriculum standards. With this holistic framework, the 12-year

compulsory education target can be achieved not only quantitatively, but also evenly and qualitatively (Chanifah et al., 2021; Rice, 2022; El-Sabagh, 2021; Munawwir, A., & Nerizka, D., 2022).

CONCLUSION

South Kalimantan province has shown a strong commitment in realizing compulsory education for 12 years through an increase in the gross participation rate (GER) of high school/equivalent which in the 2022/2023 school year reached 98.10 %, surpassing the national average (97.38 %). However, the Pure participation rate (NER) of 67.03% is still below the national achievement (68.87 %), with a real disparity between urban areas (NER ≥ 75% in Banjarmasin, Banjarbaru, Tabalong) and outlying areas (NER < 60% in Hulu Sungai Utara, Balangan). Geographical, economic, and socio–cultural barriers—including the large number of non-formal boarding schools—are a major factor in high dropout rates and low NERs, although GERs sometimes exceed 100% thanks to package programs and delayed student integration.

In response to limited capacity and access challenges, SMK / SMA Terbuka is seen as a strategic alternative: a flexible, affordable service that accommodates graduates of SMP / Madrasah Tsanawiyah who are hindered by socio-economic barriers, time, and location. With a curriculum framework & objectives equivalent to regular schools, as well as ICT support for independent learning and periodic tutorials, this open model is expected to close the gap in NER, reduce school dropout rates, and realize equitable distribution of Secondary Education in all corners of South Kalimantan.

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