

Collaborative Leadership to Manage Virtual School in Island and Border Areas



Herman Meiky Koesoy¹, Joulanda A. M. Rawis², Henny N. Tambingon³, Joseph Kambey⁴

¹Doctoral Student of Education Management Study Program, Universitas Negeri Manado, Indonesia

^{2,3,4}Lecturer of Education Management Study Program, Universitas Negeri Manado, Indonesia

ABSTRACT: The border region serves as a gateway that can easily be influenced by internal and external factors, making it a geopolitically significant area. This region is often referred to as a frontier or gray area, affected by the influence of neighboring countries. This research aims to explore the implementation of collaborative leadership in managing virtual schools in Indonesia's island and border areas. The study employs a descriptive qualitative design and involves stakeholders such as schools, universities, teachers, students, parents, and education offices in the regions. The research findings revealed the need for collaborative leadership in all levels of education in Indonesia, including elementary, middle, higher, and universities. All stakeholders, such as schools, universities, teachers, students, parents, and regional education offices, must be involved in this process. The research identified several fundamental issues in implementing education in archipelagic and border regions, including the long distances and travel time between islands, inadequate educational facilities due to limited funding, and a shortage of qualified teachers. One of the reasons behind the limited number of teachers is that the teaching profession is less attractive to island communities due to insufficient economic income.

KEYWORDS: Border Region, Education, Collaborative Leadership, Island Areas, Virtual Schools

I. INTRODUCTION

In light of the transformative potential of information and communication technology (ICT) in education, the Indonesian government has taken strides to harness its power to enhance learning outcomes, particularly in the country's remote island and border regions. This pioneering effort to utilize ICT was implemented in five different locations across Indonesia, including Marore-Sangihe Island in North Sulawesi, Sebatik Nunukan in North Kalimantan, Sabulmil-Atambua in East Nusa Tenggara, Cisoropot-Cianjur in West Java, and Serang-Cijaku in Banten (Rivalina & Siahaan, 2013). Technology has the potential to make teaching more engaging and productive, and is one of the most influential drivers of social and language change (Batubara et al., 2022). Pustekom (Education and Culture Information and Communication Technology Center) has utilized ICT advancements and various software applications to provide a variety of educational and learning services, packaged into the Portal Rumah Belajar (Rumbel Portal). The Rumbel Portal offers virtual classes, learning resources, the 2013 Curriculum (K-13), Space Exploration Space, and continuous professional development (PKB) facilities. So far, PKB has been used to train functional officials of Learning Technology Developers (PTP) completely online. However, the issue of an imbalance in the availability of teachers in schools, both as class teachers and subject teachers, persists without any concrete solutions starting at the education unit level.

To address this issue, the 2011 Joint Regulation of 5 Ministers, namely the Minister of Education and Culture, Minister of Home Affairs, MenPAN, Minister of Religion, and Minister of Finance, was passed to organize and equalize teachers between schools, districts/cities, and between provinces. To implement this regulation, the Ministry of Education and Culture developed Technical Guidelines (Juknis), but this is insufficient to guide district/city Education Office staff. Sector collaboration is required to support the quality of education.

Collaboration in the public sector is generally implemented to address public sector issues that require the participation of stakeholders in realizing common goals. Collaborative governance is based on interdependence, shared responsibility (Prasetyo, 2019), and outcomes of joint efforts, where goals and strategies are built by network partners (Ulibarri & Scott, 2017). However, realizing collaborative governance in the public sector is challenging due to factors such as increasing fiscal pressures, political and cultural instability, development of public services, and increasing knowledge and expectations of citizens with

Collaborative Leadership to Manage Virtual School in Island and Border Areas

respect to public sector organizations (Rakšnys et al., 2020). Moreover, evaluating the effectiveness of state programs, including education, is a complex process that requires specialized knowledge and well-formed tools (Kolesnik et al., 2018), and is essential in educational discourse (Rahman et al., 2021).

The reality is that many public and political officials who talk about the border area always identify with the 3T area (3T stands for "Terdepan" (frontier), "Terluar" (outermost), and "Tertinggal" (underdeveloped)), so that the border area becomes a serious and important concern for the government. Previously, the border area was seen as the "back porch," but it has now become the "front porch." However, this change of view and several projects that have entered the border areas have not yet had a significant impact on improving the welfare of those who are left behind and require serious attention from various parties.

In line with the challenges and opportunities presented by the development of ICT in education and the need for collaborative governance to improve the quality of education in remote and border areas, this study aims to investigate the implementation of collaborative leadership in managing virtual schools in Indonesia's island and border areas. By exploring the experiences of stakeholders involved in virtual school management, this research seeks to contribute to the development of effective and sustainable strategies for improving the quality of education and addressing the unique challenges faced by schools in these areas. This study is expected to provide insights into the potential of collaborative leadership to promote inclusive and equitable education and inform future policy and practice in the Indonesian education system.

II. METHOD

In this study, the author used a descriptive qualitative design. The research was expected to uncover, describe, and understand the phenomena that occurred in the setting and object of research. The choice of a qualitative approach was based on the argument that qualitative research could help interpret the relationship between relative changes and could reveal the reasons for the relationship. Additionally, qualitative research could touch in-depth on small-scale behavioral aspects and could reveal more complex details about field phenomena.

III. RESULTS AND DISCUSSION

Geographically, the land area of North Sulawesi Province is located between 000 15'51" - 050 34'06" North latitude and 1230 07'00" - 1270 10'30' East longitude, bordering the Republic of the Philippines to the north and the Moluccas Sea to the east, and Gorontalo Province to the west and Tomini Bay to the south. It is an archipelago province consisting of 287 islands with 59 inhabited islands. This province is one of the borders between countries with 11 small outermost islands as National Strategic Areas (KSN). In addition, there are other KSNs, namely the Tondano Watershed and Manado Bitung Capet and two National Strategic Activity Center Cities (PKSN), namely Melonguane and Tahuna. The potential of North Sulawesi Province lies in the form of rich natural resources, namely agriculture and fisheries as well as tourism potential. In addition to having natural potential, this region is a disaster-prone area. North Sulawesi Province has two WPS, namely WPS 24 (Bitung-Manado-AmurangKotamobagu) and WPS 25 (Gorontalo-Bolmong-Kotamobagu).

According to North Sulawesi Education Observer, Prof. Dr. Ferdinand Kerebungu, the education problems faced by the North Sulawesi Provincial government, based on BPS data in 2021 regarding the study completion rate, especially at the high school level, had decreased when compared to the previous year. In 2020, the study completion rate reached 73.79 percent, while in 2021, it decreased to 68.56%.

In addition, the Expected Years of Schooling (HLS) in North Sulawesi province from 2016 to 2021 were still below the national HLS but were above the average of 12 years, which means that every child aged 7-25 years old has the right to get an education of at least up to the Diploma 1 level. Meanwhile, the RLS in North Sulawesi Province for the last 6 years has been above the national RLS, which proves that in North Sulawesi, the level of education completed by the population over 25 years of age has reached an average of 9 years, which means they graduated from junior high school or even studied at grade X or grade 1 of high school. The expected years of schooling in North Sulawesi in 2021 reached 13.08 years, which means that children aged 7 years have the opportunity to complete their education until they graduate from high school. During the period 2016-2021, the HLS grew by an average of 0.07 years per year. Meanwhile, the RLS or the average length of schooling of the population aged 25 years and over in North Sulawesi grew by 13 percent per year during the period from 2016 to 2021.

Based on data from the Directorate General of Population and Civil Registration (Dukcapil) of the Ministry of Home Affairs, the population in North Sulawesi (Sulut) was 2.66 million in June 2021. Of this number, only 188.35 thousand people (7.09%) of North Sulawesi residents have an education up to the college / university level. In detail, there are 972 people (0.04%) of the population in the province who are doctoral graduates, there are 10.11 thousand people (0.38%) who are educated to the master level, and as many as 136.19 thousand people (5.13%) who study up to the bachelor level. There are also 30.42 thousand

Collaborative Leadership to Manage Virtual School in Island and Border Areas

people (1.15%) of North Sulawesi residents who are educated to the D3 level and there are 10.65 thousand people (0.4%) who study up to the D1 / D2 level. There are 756.43 thousand people (28.48%) in North Sulawesi who have completed senior high school. There are also 451.43 thousand people (17%) in the province who have completed junior high school. There are 500.3 thousand people (18.84%) in North Sulawesi who have completed elementary school. There are 310.62 thousand people (11.7%) who have not graduated from primary school. There are also 448.85 thousand people (16.9%) who are not in school. Limited access to education for residents of small islands starts even after graduating from primary school. Many children choose not to continue their education after completing primary school. The construction of dormitories for children from border islands, although intended to accommodate children from other places, also limits access to education for residents from border islands. The Dikpora Office (Department of Education, Youth and Sports), which is responsible for education, should be more active in promoting the existence of the dormitory and making it easier for children from border islands to access education.

Equalizing and expanding education is a public policy that must be implemented by both central and regional governments. The implementation of compulsory education is guaranteed by both central and regional governments (Arifin, 2005). The implementation of this policy requires careful planning and consideration of at least two approaches: the public administration approach and the managerial approach. Education expansion and equity is a public policy that must be implemented comprehensively by both central and local governments to achieve the ideals of the 1945 Constitution, which aims to improve the intellectual life of the nation. As children are the next generation of the nation, ensuring their access to education must be a concern for both central and local governments (Gultom, 2012).

Disparities in education are caused by various factors, including human resources. The quantity of teachers in Disadvantaged Areas is a regional asset. However, there is currently a significant gap in the competence of teachers in disadvantaged areas. Teachers in remote areas often teach in an unstructured manner and ignore effective learning theories. This is because improving teacher competence has not been prioritized in education development. Efforts to improve the quality of teachers through training and other measures have not been widely implemented in these areas.

Educational facilities and infrastructure are the main factors that influence the success of education implementation. If there are deficiencies in school facilities and infrastructure, the education process cannot run effectively. Besides the number and condition of school buildings, access to the place of education in the form of roads is also important. This is because if it is not considered, it will hamper the distribution of local government assistance, which will be difficult to reach.

The problem of education in North Sulawesi Province is caused by various obstacles, including limited facilities and infrastructure that are still inadequate, triggering a lack of enthusiasm from students to study harder and be less motivated. One of the problems that also exists is the lack of competent teachers, or more teachers who do not match the educational qualifications with the field taken, resulting in a conventional learning pattern where teachers only explain lectures without any innovation or modification of the learning system, which would further develop the potential and new innovations for students to be more creative. Geographical constraints are also an obstacle to the progress of education in the regions, given the vastness of Indonesia with thousands of islands while communication facilities are not yet adequate. The distance between students' homes and the location of the school also concerns the capacity and competence of the parties responsible for the education system to improve the quality of human resources (Gighile et al., 2018).

In addition, the problem of organizing education in the islands and border areas is related to inadequate educational facilities because the allocation of funds for organizing education is still limited. In the 2021/2022 academic year, the number of schools in South Sulawesi at the kindergarten (TK) education level is 4.352 schools, Raudhatul Athfal (RA) 714 schools, Elementary Schools (SD) 6,408 schools, Madrasah Ibtidaiyah (MI) 720 schools, Junior High Schools (SMP) 1.694 schools, MTs 790 schools, SMA 595 schools, and MA 452 schools, SMK 416 schools, and 224 universities.

Studies conducted by the World Bank and PROSPERA point to a number of problems that contribute to the low quality of education in Indonesia. The World Bank found at least four aspects of the problem: central and local government authority, inadequate teacher quality, low accountability, and suboptimal monitoring and evaluation. Meanwhile, PROSPERA highlighted performance, local government spending, teacher quality, and vocational schools. From these studies, the most prominent problems are the disparity in education quality between regions and the low quality of teachers. The World Bank found an unequal distribution of allocations per student. For example, West Java province received an allocation of IDR 29 trillion or IDR 4,4 million per student, compared to West Papua province, which received an allocation of IDR 3 trillion or IDR 19 million per student. Another condition is the transfer of physical DAK that does not match the infrastructure needed. PROSPERA also found a similar situation. PROSPERA found that there were variations in education spending and performance between regions, inefficient spending, the declining contribution of education spending from PAD, and the need for synergy between central and local government spending.

Collaborative Leadership to Manage Virtual School in Island and Border Areas

The realization of School Operational Assistance (BOS) from Non-Physical Special Allocation Fund (DAK Non Fisik) in North Sulawesi Province from 2020 to 2021 has increased in terms of nominal value, schools, and recipient students. If compared with data from BPS, it can be said that almost all elementary, junior high, senior high, vocational, and special schools in North Sulawesi have received an allocation of BOS funds. For example, the number of senior high schools in 2020 in North Sulawesi according to BPS data amounted to 226 with a total of 64.784 students. In the same year, according to OM SPAN data, 223 schools (98.67%) and 64.307 students (99.26%) have received BOS allocations. The Regional Office of DJPb and KPPN always coordinate with the Regional Government and the local Education Office to accelerate and ensure accuracy of BOS disbursement.

The acceleration effort carried out by the DJPb Regional Office and KPPN from February 11 to 18, 2022, saw the successful distribution of IDR 115.45 billion of Phase I Regular BOS funds to 1,993 public elementary, junior high, high school, vocational and special schools, as well as private sector schools in North Sulawesi, including 294,563 students. This distribution was faster than in 2021, where the Regular BOS phase I batch I was realized on March 5, 2021. As of November 24, 2022, the overall realization of BOS had reached IDR 548.65 billion or 97% compared to the previous year's realization. Unlike the BOS Fund from the Regional Government, whose value has increased, the value of BOS from the Ministry of Religion was reduced because the distribution of BOS to private madrasahs was carried out centrally so that the process of reallocating BOS private madrasah budgets across Ministry of Religion offices and even between Regional Offices could be more flexible. In 2021, the Ministry of Religion also realized IDR 2.55 billion in Bidik Misi (Bidikmisi Scholarship) for 240 students, an increase compared to the realization in 2020 of IDR 2.26 billion for 187 students. Apart from BOS and Bidik Misi, there is also educational assistance in the form of BOPTN and vocational BOPTN, which are channeled through the Ministry of Education and Culture, with a realization of IDR 35.08 billion in 2021 to be handed over to 22 tertiary institutions. The DJPb (Directorate General of Treasury) and KPPN (State Treasury Service Office) of regional offices routinely carry out monitoring and evaluation to encourage acceleration as well as anticipate various obstacles related to the realization of BOS by the Ministry of Religion (Wijaya, 2022).

The relatively large allocation of expenditure for education has a significant impact on increasing the value and ranking of the Human Development Index (HDI) of North Sulawesi Province. In 2020, it managed to rank 7th out of all provinces in Indonesia, up 1 rank compared to the previous years, where it was in the 8th position. Expanding access to education is very beneficial, especially for the poor or low-income people, in order to improve their competencies and skills, so that their wage levels will increase and they will have the opportunity to improve their standard of living. Since 2018, the HDI of North Sulawesi Province has consistently increased until 2021 with a value of 1.1, higher than the National of 0.9. This increase is the 9th largest of all provinces. If examined more deeply, the knowledge dimension is formed by the main components: average years of schooling (RLS) and expected years of schooling (HLS) as a relevant picture of the condition of education and its changes.

Unlike the HDI, the HLS of North Sulawesi Province was ranked 24th in 2021, but it experienced a significant increase of 0.26 during the period 2018-2021, making it the 7th largest increase among all provinces. With an HLS of 12.94 years, North Sulawesi children who are 7 years old in 2021 can expect to study up to Diploma I. To increase the HLS, which will also have an impact on increasing the HDI, more education assistance is needed for higher education, while maintaining or increasing education assistance (BOS) for elementary, junior high, high school, vocational, and special school levels. North Sulawesi's Gini Ratio in the second semester of 2021 was 0.359, which was the 15th highest among all provinces. Expanding access to education, especially for poor families, will have a significant impact on increasing the competence of human resources, leading to lower poverty and inequality (Wijaya, 2022).

In addition to facilities, infrastructure, and the allocation of funds for education, the quantity and quality of teaching staff remain limited. This is because the profession of being an educator is currently less attractive to the island community. One reason is that the economic income level of the teaching profession is considered insufficient.

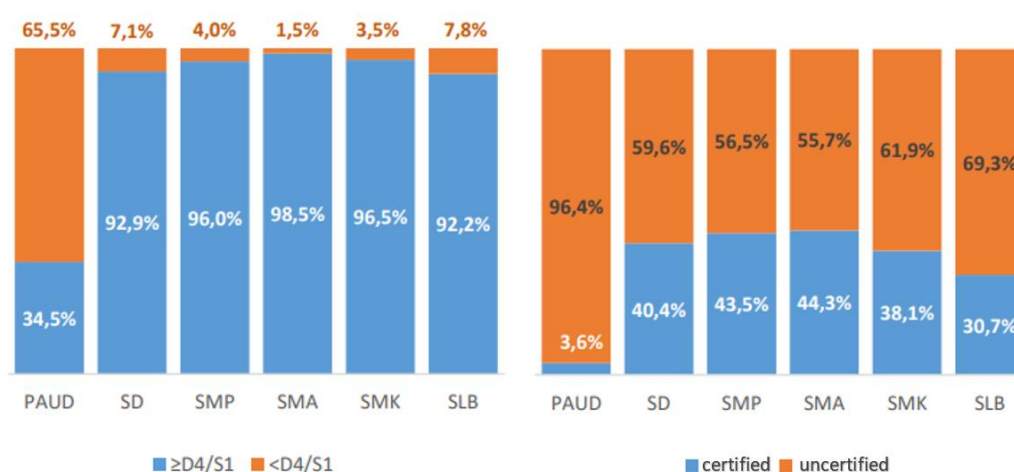
Teacher quality is a crucial factor in improving the quality of education. Research shows that teachers' knowledge and skills have a significant impact on their students' academic performance. As stated by Barber et al. (2007), "the quality of the education system is unlikely to exceed the quality of its teachers." Research by Rivers & Sanders (2002) estimates that more than 50 percent of the three-year achievement gap between two groups of 8- and 11-year-olds was due to one group being taught by a high-skill teacher (top 20 percent of the teaching force) and the other group being taught by a low-skill teacher (bottom 20 percent). As a result, at age 11, the group taught by high-ability teachers scored in the 93rd percentile, while the group taught by low-ability teachers scored in the 37th percentile. This should be taken into consideration by the government in the distribution of education personnel, especially in places with easy access, such as Tahuna, the capital of the district. Educators who are placed in remote areas are usually indigenous people who were initially honorary workers and then appointed as civil servants.

Collaborative Leadership to Manage Virtual School in Island and Border Areas

Based on the 2021 Ministry of Education, Culture, Research and Technology's main data, the number of teachers in North Sulawesi Province in the 2022/2023 academic year is 38,162 teachers, dominated by female teachers, namely 28,992 people while male teachers are 9,170 people. This number is divided into 2,491 kindergarten teachers, 1,020 KB teachers, 1,000 TPA teachers, 89 SPS teachers, 272 PKBM teachers, 239 SKB teachers, 16,532 elementary school teachers, 8,620 junior high school teachers, 4,608 high school teachers, 3,969 vocational school teachers, and 304 special education teachers. The problems faced by educators in border areas are very concerning. In addition to inadequate facilities, amenities and infrastructure, they often do not receive proper allowances. The number is also still insufficient, so teachers have to teach 2-3 classes at once (Rohman, 2016). Some of them are honorary teachers. Thus, education in Indonesia is increasingly seen as discriminatory, especially for border areas which are very concerning. Actually, the government through the Ministry of Education has taken policies for education in underdeveloped areas and outer regions of the archipelago. Among them is the "Indonesia Mengajar" program. The program is aimed at equalizing education throughout the archipelago, especially areas that are still underdeveloped or remote areas that lack teachers (Rohman, 2016).

Apart from equal distribution of the number of teachers, a problem that often adorns the face of education in Indonesia is the lack of teacher welfare, especially honorary teachers. Based on data from the Regional Education Balance Sheet of North Sulawesi Province (2021), the percentage of civil servant teachers in elementary schools is 58%, the remaining 41.6% are not civil servants, in junior high schools the percentage of junior high school teachers who are civil servants is 62%, the remaining 38% are not civil servants, in senior high schools the percentage of civil servant teachers is 55.9%, the remaining 44.1%, finally in vocational high schools the percentage of civil servant teachers is 46.6%, the remaining 53.4%. This shows that the number of civil servant teachers at the primary, junior high, high school and vocational education levels is 50% civil servant teachers, but only at the junior high school level is the percentage of civil servant teachers below 50%. In addition to the above problems, education in Indonesia is faced with the qualifications of the educators themselves. Many teachers are found who teach not in accordance with their scientific background. Thus, the transfer of knowledge does not run optimally. For this reason, the Ministry of Education certifies existing teachers. The aim is to form professional teachers in accordance with the Teacher and Lecturer Law No. 14/2005. The certification began with portfolios, PLPG, and most recently PPG. These programs were launched in order to create a better and more competitive education (Miftahur, 2016).

The government has made efforts to improve the quality of educators in accordance with Law No. 14/2005 on teachers and lecturers. According to Article 8 of the law, teachers must possess academic qualifications, competencies, teaching certificates, physical and mental health, and the ability to achieve the goals of national education. The academic qualifications referred to in this article are obtained through undergraduate programs or four-year diploma programs. Prior to the enactment of the law, many educators in Sangihe had degrees in SGO, SPG, and DII4. Even until the deadline for improving academic qualifications required by Law No. 14 of 2005, which was in 2021, a large number of teachers in North Sulawesi had not been certified, as shown in Figure 1.



Sumber: Data Verifikasi Pusdatin, November 2021

Sumber: Data Verifikasi Pusdatin, November 2021

(a)

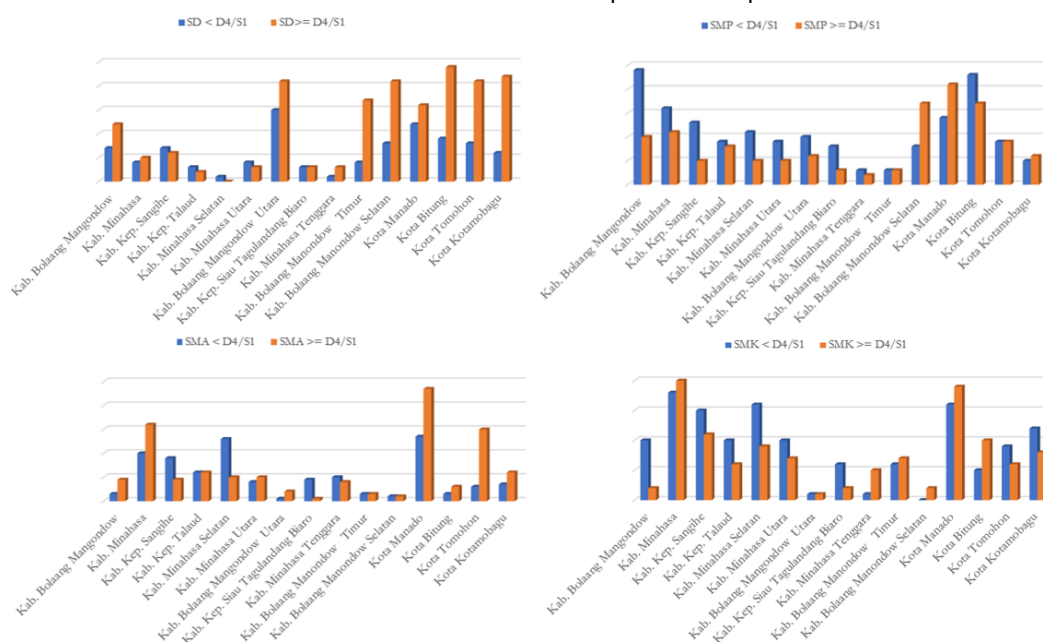
(b)

Source: Pusdatin, 2021

Figure 1. Qualifications for Teachers (a) and Certified Teachers (b) on North Sulawesi Province in 2021

Collaborative Leadership to Manage Virtual School in Island and Border Areas

Figure 1 shows that teacher qualifications in North Sulawesi Province for primary, junior secondary, senior secondary, vocational and special education teachers are dominated by teachers with educational background qualifications < D4/S1, while for PAUD education level, teachers with educational background qualifications \geq D4/S1. This indicates that there are still many primary, junior high, high school, vocational and special education teachers who are not in accordance with the Ministry of National Education regulations that require teachers to have a minimum education of D4/S1 with a special major in teaching. Compared to other units, PAUD is the second lowest of the six education units. In North Sulawesi province, only 3.6% of teachers are verified in PAUD; 40.4% in SD; 43.5% in SMP; 44.3% in SMA; 38.1% in SMK; and 30.7 in SLB. This shows that the number of certified teachers in North Sulawesi Province is below 50% of the total number. The large number of uncertified teachers is not only constrained by educational qualifications. However, they are also constrained by the fulfillment of credit points. Teachers who work on small islands or in remote areas are unable to fulfill the required credit points.



Source: District Education Balance, 2020

Figure 2. Qualifications of elementary, junior high, high school and vocational teachers in cities/districts of North Sulawesi Province

Figure 2 shows a comparison between the distribution of qualified and unqualified teachers. In urban areas, the percentage of qualified primary school teachers is above 70% in the East Bolaang Mongondow district, followed by Kotamobagu city, Southeast Minahasa district, South Bolaang Mongondow district, Tomohon city, and Bitung city. In East Bolaang Mongondow district, the percentage of qualified teachers was 80.95% and the percentage of unqualified teachers was 19.05%. In Kotamobagu city, the percentage of qualified teachers was 78.57% and the percentage of unqualified teachers was 21.43%. Southeast Minahasa district had 75% qualified teachers and 25% unqualified teachers. South Bolaang Mongondow district and Tomohon city both had the same percentage of qualified teachers at 72.41% and unqualified teachers at 27.59%. Bitung city also had the same percentage of qualified teachers at 72.73% and unqualified teachers at 27.27%. For qualified elementary school teachers, the overall percentage is below 70% in both cities and districts, indicating that there are still many elementary school teachers who have not met the standards as teachers.

High school teachers who are qualified with a percentage above 70% are Tomohon City, North Bolaang Mongondow Regency, and Bolaang Mongondow Regency. In Tomohon City, the percentage of qualified high school teachers was 83.33% and the percentage of unqualified teachers was 16.67%. In North Bolaang Mongondow district, the percentage of qualified high school teachers was 80% and the percentage of unqualified teachers was 20%. In Bolaang Mongondow district, the percentage of qualified high school teachers was 75% and the percentage of unqualified teachers was 25%. The most qualified SMK teachers by city/district in South Sulawesi province are those in Southeast Minahasa and South Bolaang Mongondow districts. In South Bolaang Mongondow district, the percentage of qualified teachers is 100%, indicating that all SMK teachers in South Bolaang Mongondow district are qualified. In Southeast Minahasa district, the percentage of qualified junior high school teachers is 83.33% and the percentage of unqualified teachers is 16.67%.

Collaborative Leadership to Manage Virtual School in Island and Border Areas

Based on these percentages, more than 70% of the teachers in these cities and districts are qualified, indicating that they have followed the policy issued by Permendiknas since 2019. However, qualified elementary, high school, and vocational schoolteachers in the cities and districts of North Sulawesi province are still far from the percentage in other units such as junior high schools. The distribution of qualified teachers in each region is evenly distributed in both cities and districts. Teachers are required to have a minimum academic qualification of a bachelor's degree (S-1 or D-IV) in accordance with the subjects in primary school. It is also a requirement for teachers to have an educator certificate, which ensures that they possess several teacher competencies. Obtaining a teaching certificate can be the initial capital for a teacher to further develop and improve their performance or competence (Aliyyah et al., 2020).

The results of many studies show that teacher certification does not always align with teacher competence in teaching. A study conducted by Kardiyem (2013) on certified accounting teachers at vocational schools in Grobogan Regency showed that the professional competence of teachers has not been maximized. In this case, the teachers' abilities were still lacking in applying SK and KD, material development, and understanding students' thinking patterns. Another study conducted by Kartowagiran (2011) examined the quality of certified teachers in Sleman Regency. In his research, a sample of 10 percent of a total of 548 certified teachers at all levels of education in Sleman Regency was taken. From the results of his research, it was found that the performance of some professional teachers (post-certification) in Sleman Regency was not good, and these deficiencies included making and compiling learning tools (lesson plans).

While the government's policies and programs to improve teacher qualifications and competencies are crucial, the focus should also be on teacher competencies and teacher quality. The quality of teachers is related to welfare issues and the problem of improving the ability of teachers. It is important to determine the percentage of teachers who are in training and how many are not, regardless of one's proximity to a policy implementation agency. This will ensure continuity between efforts to improve teacher competence and increase the overall quality of education (Astuti, 2016).

After the Covid-19 pandemic hit Indonesia, schools are still the only public facilities that have not been able to open widely (Pardini et al., 2022). Data from the OECD survey on education during the pandemic highlighted that in the half-crisis, the rate of school closures in 33 European countries completely closed primary and secondary schools for an average of 42 days, thus limiting access to digital learning and for certain groups, not even motivating them to do independent learning. Later OECD analysis also showed that repeating schools to cover existing gaps is not an alternative solution, but some countries have decided to improve learning in the future by providing student-focused measures (Schleicher, 2021).

However, online learning cannot be implemented properly due to the many obstacles experienced by each region, especially remote areas. Internet distribution in Indonesia is not evenly distributed, with urban areas being more dominant than rural areas. Therefore, many remote or rural areas face difficulties in online learning as the internet network is difficult to reach, resulting in online learning such as video calls cannot be optimally conducted.

The education situation in border areas faces multiple obstacles. On one hand, the areas are remote and lack access to internet networks. On the other hand, the pandemic situation has forced all regions in West Kalimantan to implement a learning-from-home system in all educational units. So far, online learning has been implemented for more than a year. In 2021, 43 villages in North Sulawesi Province could not communicate with cellular telephone facilities and access the internet. This number was drastically reduced from 2019, where 112 villages in North Sulawesi were not yet covered by cellular signals and the internet. In 2021, five districts/cities have cellular signal and internet coverage in all their villages, namely Sangihe Islands Regency, North Minahasa Regency, Manado City, Tomohon City, and Kotamobagu City.

Based on existing field data, the high dropout rate and low education participation rate in border areas require efforts to expand access for the community and to understand the importance of education for their children. This requires appropriate collaborative efforts between policy conformity, local government, and the border communities themselves to address specific education issues in the country's border areas.

The main issue of education provision at the primary level in border areas is the policy gap in improving education development. These include gaps in geographical and communication access, teachers' qualifications and competencies, curriculum, timeliness of teachers' salaries, supervision, and parents' support for their children's education. Similarly, it is difficult to build standard education facilities due to communication difficulties or scarcity of teaching and learning aids. In addition, the demands of a standardized education system regarding the level of education and a rigid national curriculum prevent border areas from catching up in education.

Based on the Joint Decree of Four Ministers Regarding Guidelines for the Implementation of Learning in FY 2020/2021 and FY 2020/2021 During the Covid-19 Pandemic, secondary and higher education units have begun to implement a hybrid learning system, taking into account strict health protocols. Hybrid learning is a learning method consisting of: 1) a combination

Collaborative Leadership to Manage Virtual School in Island and Border Areas

of learning models; 2) a combination of learning methods; 3) a combination of online learning with face-to-face learning (Hofmann et al., 2006).

Since the closure of the border area, teaching and learning activities in primary and secondary schools have been suspended. The vulnerability of border communities is layered because there are still those who live in isolated areas, especially those who are indigenous peoples (Niko, 2020). According to Tati & Fatmawati (2021), the focus of government collaboration in education policy during the pandemic is in terms of public policy or public management. The consensus reached includes education policy in the process of policy formulation to implementation.

The implementation of collaborative governance in education services is based on four variables proposed by Ansell & Gash (2008), including conditions, institutional design, leadership, and collaborative processes. Institutional design and leadership are driven by time, tasks, and targets (Doberstein, 2016). According to Šiugždinienė et al. (2019), increased competence of all actors supported by high internal and external commitment plays an important role in driving innovation and improvement. Interactions between actors with different roles, background identities, and resources facilitate the development of new solutions and innovations to address otherwise insurmountable problems. There is evidence that collaboration spurs public innovation (Hartley et al., 2013; Sørensen & Waldorff, 2014).

Collaborative leadership is crucial for building alliances at the community level. Leaders need to connect different professionals, build trust, encourage discussions, and seek consensus and innovation (Díaz-Gibson et al., 2015). The identified leader initiates and secures resources to support collaborative governance (Emerson et al., 2012).

The collaborative governance process in basic education services involves several stages, with the community or parents represented through the school committee. Participation in consultation or joint practice contributes to crisis improvement and helps study the dynamics between different organizational actors (Larruina et al., 2019). Collaboration is a governance changer that emphasizes the nature of the process by which various community actors engage in collective action (Morse & Stephens, 2012). Dialogue forums, trust, and commitment between actors are essential for successful collaboration. However, the absence of regulations can hinder the collaboration process (Utami et al., 2019).

In basic education services, formal and informal meetings are used to share understanding, and communication media are employed when incidental issues arise. However, stakeholders need to hold further meetings to resolve issues that require attention. The lack of communication and coordination between stakeholders, internal departments, and officers can lead to wasteful duplication, unmet needs, bad feelings, conflict, and reduced synergy (Chandra & Azhar, 2019).

The collaborative governance process has yet to achieve maximum results, as seen by the lack of assistance for school renovations, facilities, and infrastructure. Less than 50% of schools categorized as severely or lightly damaged have received assistance. Another weakness is the involvement of the private sector. Although the government has formulated many collaborative governance policies, their implementation is local, acting as a natural experiment with built-in controls for analysis, as was done in this study. Variations and facilitative institutional and leadership designs were analyzed to build a more comprehensive theory of collaborative governance (Doberstein, 2016).

Fulfillment of public services is a necessity and welfare. Effective public services provided by public organizations can have a positive impact on democracy and human rights, improve socioeconomic welfare, and reduce poverty (Kusumasari et al., 2019). The public must request services because the government is empowered to manage the environment. Bureaucratic reform in the service sector accelerates the improvement of public service quality. Since 2013, the government has had one agency and one innovation, Public Service Innovation, which is a breakthrough type of service that is original and creative or adapted, providing direct and indirect benefits to the community.

The application of traditional governance models (top-down and hierarchical) and managerial models (control and performance-based) is still prominent in the public sector (Hendriks & Van Gestel, 2017). Furthermore, there is no regular supervision in schools in distant villages. In addition, special allocation funds (DAK) at the central government level and local government revenue and expenditure budgets (APBD) at the local government level for education are low. Cross-sectoral cooperation and the involvement of the private sector in the cooperation process have not been maximally implemented. The involvement of the private sector helps increase efficiency, investment, and alternative sources of revenue for the government. This cooperation is expected to provide optimal benefits for the government, the private sector, and the community (Hakim et al., 2019). Hence, the role of local government is an important factor for businesses to get involved (Furqoni et al., 2019).

IV. CONCLUSIONS

Currently, the implementation of education in the islands has not shown optimal quality results compared to those on the mainland. This can be seen from the quality of graduates and the lack of students who wish to continue to a higher level of education. Communication between policymakers and implementers is still ineffective due to geographical conditions, which

Collaborative Leadership to Manage Virtual School in Island and Border Areas

require policymakers to physically visit schools to monitor progress. However, this is difficult due to the absence of communication networks such as cellphones and the internet. As a result, policymakers lack the means to directly see and monitor every problem and deficiency that exists in each school.

In the COVID-19 era, remote learning has become a necessity for education implementation, as face-to-face learning is not possible. Therefore, every student, teacher, and lecturer must carry out education with the help of the internet and communicate using mobile phone tools. It is now time to use collaborative leadership in organizing education in the islands and border areas of North Sulawesi Province. Referring to the criteria of collaborative governance, the procedures of the education policy formulation process have partly met the criteria of collaborative governance, including the involvement and participation of relevant policymakers and resulting consensus. However, the policy formulation process does not involve non-state actors, so the policy has not yet achieved collaborative governance.

REFERENCES

- 1) Aliyyah, R. R., Humaira, M. A., Ulfah, S. W., & Ichsan, M. (2020). Guru Berprestasi: Penguatan Pendidikan Di Era Revolusi Industri 4.0. *Jurnal Sosial Humaniora*, 11(1), 59–64. <https://doi.org/https://doi.org/10.30997/jsh.v11i1.2362>
- 2) Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571.
- 3) Arifin, A. (2005). Paradigma baru pendidikan nasional dalam Undang-Undang SISDIKNAS no. 20 tahun 2003. Balai Pustaka.
- 4) Astuti, R. (2016). Dilema Guru SD Terhadap Implementasi Kebijakan Pemerintah Terkait Peningkatan Kompetensi dan Kualifikasi Guru. *Jurnal Pendidikan Tematik Dikdas*, 1(1).
- 5) Barber, M., Mourshed, M., & Whelan, F. (2007). Improving education in the Gulf. *The McKinsey Quarterly*, 3947, 101–116.
- 6) Batubara, O. P., Silitonga, C. T. M., & Sipayung, S. R. (2022). The Influence Of Technology As A Supporter Of Education, Especially In English Lessons. *Journal Of Humanities, Social Sciences And Business (JHSSB)*, 1(2), 37–42.
- 7) Chandra, W., & Azhar, K. (2019). Construction of collaborative governance model of Indonesian overseas graduate study scholarship program. *Russian Journal of Agricultural and Socio-Economic Sciences*, 86(2), 109–122.
- 8) Díaz-Gibson, J., Civís Zaragoza, M., Carrillo Álvarez, E., & Cortada Pujol, M. (2015). El liderazgo y la gobernanza colaborativa en proyectos educativos comunitarios.
- 9) Doberstein, C. (2016). Designing collaborative governance decision-making in search of a ‘collaborative advantage.’ *Public Management Review*, 18(6), 819–841.
- 10) Emerson, K., Nabatchi, T., & Balogh, S. (2012). An integrative framework for collaborative governance. *Journal of Public Administration Research and Theory*, 22(1), 1–29.
- 11) Furqoni, I., Rosyadi, S., & Isna, A. (2019). Collaborative governance in corporate social responsibility forum in Banyumas Regency. *Jurnal Bina Praja: Journal of Home Affairs Governance*, 11(2), 209–217.
- 12) Gighile, P. N., Tulusan, F., & Londa, V. (2018). Implementasi Kebijakan Pendidikan Dasar Daerah Kepulauan (Suatu studi di Kecamatan Manganitu Selatan Kabupaten Kepulauan Sangihe Provinsi Sulawesi Utara). *JURNAL ADMINISTRASI PUBLIK*, 4(55).
- 13) Gultom, M. (2012). Perlindungan hukum terhadap anak dan perempuan: kumpulan makalah-makalah seminar. PT. Refika Aditama.
- 14) Hakim, A. R., Zaenuri, M., & Fridayani, H. D. (2019). Collaborative governance in managing educative tourism of jogja exotarium in sleman regency 2019. *Journal of Governance and Public Policy*, 6(2), 195–215.
- 15) Hartley, J., Sørensen, E., & Torfing, J. (2013). Collaborative innovation: A viable alternative to market competition and organizational entrepreneurship. *Public Administration Review*, 73(6), 821–830.
- 16) Hendriks, W., & Van Gestel, N. (2017). The emergence of hybrid professional roles: GPs and secondary school teachers in a context of public sector reform. *Public Management Review*, 19(8), 1105–1123.
- 17) Hofmann, J., Bonk, C. J., & Graham, C. R. (2006). Why Blended learning hasn’t (yet) fulfilled its promises. *Handbook of Blended Learning: Global Perspectives, Local Designs*, 27–40.
- 18) Kardiyem. (2013). Analisis Kinerja Guru Pasca Sertifikasi: Studi Empiris pada Guru Akuntansi SMK Se-Kabupaten Grobogan. *Journal of Economic Education*, 2(1), 18–23.
- 19) Kartowagiran, B. (2011). Kinerja guru profesional (Guru pasca sertifikasi). *Jurnal Cakrawala Pendidikan*, 3(3), 463–473.
- 20) Kolesnik, E., Pavlova, L., & Rybalova, T. (2018). Effectiveness evaluation of implementation of target programs for

Collaborative Leadership to Manage Virtual School in Island and Border Areas

municipal education: improvement of approaches. *Public Policy and Administration*, 17(4), 568–585.

- 21) Kusumasari, B., Pramusinto, A., Santoso, A. D., & Fathin, C. A. (2019). What shapes public sector innovation?
- 22) Larruina, R., Boersma, K., & Ponzoni, E. (2019). Responding to the Dutch asylum crisis: Implications for collaborative work between civil society and governmental organizations. *Social Inclusion*, 7(2), 53–63.
- 23) Miftahur, R. (2016). Problematika Guru Dan Dosen dalam Sistem Pendidikan Nasional. *Jurnal Cendekia*, 14(1), 50–71.
- 24) Morse, R. S., & Stephens, J. B. (2012). Teaching collaborative governance: Phases, competencies, and case-based learning. *Journal of Public Affairs Education*, 18(3), 565–583.
- 25) Niko, N. (2020). Poor and Hunger: How Do Indigenous Peoples' Respond to COVID-19 in Indonesia? *Journal of Community Development Research (Humanities and Social Sciences)*, 14(1), 81–92.
- 26) Prasetyo, D. A. (2019). Collaborative Governance and Infrastructure Development in Indonesia: A Review. *Journal of Public Administration Studies*, 1(4), 30–32.
- 27) Rahman, A., Zebua, W. D. A., Satispi, E., & Kusuma, A. A. (2021). Policy formulation in integrating vocational education graduates with the labor market in indonesia. *Jurnal Studi Pemerintahan*, 12(3), 331–371.
- 28) Rakšnyš, A. V., Valickas, A., & Vanagas, R. (2020). Challenges of creation and implementation of collaborative innovations in public sector organisations. *Public Policy and Administration*, 19(1), 9–21.
- 29) Rivalina, R., & Siahaan, S. (2013). Tanggapan Awal Terhadap Pemanfaatan TIK dalam Kegiatan Pembelajaran di Kabupaten Belu. *Jurnal Teknodik*, 73–83.
- 30) Rivers, J. C., & Sanders, W. L. (2002). Teacher quality and equity in educational opportunity: Findings and policy implications. *Teacher Quality*, 13–23.
- 31) Rohman, M. (2016). Problematika Guru dan Dosen dalam Sistem Pendidikan di Indonesia. *Cendekia: Jurnal Kependidikan Dan Kemasyarakatan*, 14(1), 49–71.
- 32) Schleicher, A. (2021). Repeating the school year not the answer to COVID learning losses. *OECD Education and Skills Today*. [https://oecdeditoday.com/repeating-school ...](https://oecdeditoday.com/repeating-school...)
- 33) Šiugždinienė, J., Gaulė, E., & Rauleckas, R. (2019). In search of smart public governance: the case of Lithuania. *International Review of Administrative Sciences*, 85(3), 587–606.
- 34) Sørensen, E., & Waldorff, S. B. (2014). Collaborative policy innovation: Problems and potential. *The Innovation Journal*, 19(3), 1.
- 35) Tati, & Fatmawati. (2021). Collaborative Governance Dalam Kebijakan Pendidikan Tinggi di Masa Pandemi. *Jurnal Sosial Dan Humaniora Universitas Muhammadiyah Bandung*, 3(1), 59–66.
- 36) Ulibarri, N., & Scott, T. A. (2017). Linking network structure to collaborative governance. *Journal of Public Administration Research and Theory*, 27(1), 163–181.
- 37) Utami, I. P., Hadi, K., & Syafriyana, Y. (2019). Regional Government Strategies in the Development of Sumenep Keraton Tourism in the Perspective Collaborative Governance. *Journal of Local Government Issues (LOGOS)*, 2(1), 51–74.
- 38) Wijaya, E. (2022). Membangun Sulawesi Utara Melalui Pendidikan. *Manado Pos*.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.