
Indonesian Education Landscape and the 21st Century Challenges

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Abstract

As one of the most extensive education systems in the world, Indonesia has achieved significant progress to improve the educational outcomes in the last two decades. The government has managed to increase school access, funding, and a high rate of school enrollment that in line with the government's policy on 12 years of compulsory education. Like many other developing countries, Indonesia has to deal with a significant challenge to move beyond improving access to education and move towards achieving a high-quality education. The Indonesian government has enacted a series of reforms for the sake of improving the nation's education quality, but managing such a massive education system is not an easy task. Despite the rapid progress in many areas fulfilled in recent decades, the challenges are still there.

Keywords: *Education landscape, Educational Policy, Education System, Indonesia, Media Literacy.*

Introduction

The future belongs to those who prepare for it, and education serves as the passport to achieve that brighter future. As the backbone of every society, education heavily influences multiple parts of a country's politics, economy, and welfare (Bigagli, 2019; Etherington, 2019; Suresh & Kumaravelu, 2017). In today's society, a significant emphasis is addressed on education since a good quality of education will guarantee well-prepared human resources to strive in the brave new world of digitalization (Solas & Sutton, 2018). However, due to the problems in the education sector, many developing countries still face challenges in their economic growth (Adams, 2019; Bakalar, 2018; Lee, Chai, & Hong, 2019; Sukasni & Efendy, 2017). Similarly, as the top emerging and developing country in Southeast Asia, Indonesia has also been facing similar challenges.

With more than 260 million as the total population and ranked as the fourth most populous country and the third-largest democracy all across the globe, education is incredibly essential to Indonesia. This large population puts Indonesia's educational system as one of the largest globally, with more

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than 52 million students and 218,000 schools in 2017 (Kemdikbud RI, 2018; Kemristekdikti, 2018). Hence with these large numbers, Indonesia's most significant challenge for education is not only to improve access but also to improve the education quality to face the fast-paced world we live in.

Based on the rationale above, the paper depicts an overview of the Indonesian education landscape with a focus on its education system as well as the various challenges. This commentary paper is structured around the past histories of education development in the country, the policies, and the current education landscape in Indonesia. The paper also discusses the challenges that the government faces in developing the education system toward the vision of a 'world-class' education system by 2025.

Early Developments of Indonesian Education System

As the paper's starting point, we will begin by reviewing the Indonesian education system in its early developments. It focuses on the intentional system to guide students' learning process from the pre-colonial era, the Dutch and Japanese occupation, until the end of the Indonesian New Order regime in 1998.

Indonesia's education system had been developed since the heyday of Indonesian kingdoms back in the 8th century. During these times, education was delivered through traditional apprenticeship within family and community settings throughout the archipelago (Suratno, 2011). Religious or traditional principles have influenced the evolution of education in Indonesia, the ruling powers' interests, multicultural notion and acculturation, and the spirit of unity as a nation (Bhat, 2019; Djojonegoro, 1996; Harits, Chudy, Juvova, & Andrysova, 2016; Mestoko, 1985).

In the Dutch occupation era (the 1600s–1942), only a particular group of people had access to education. The Dutch established a school classification system based on parentage and social status. The main problem with the education system in this era was the incorporation of the Dutch administration's selective stratification to generate elite classes and obedient educated human resources for the colonial benefit. As a result, this discrimination raised the Indonesian people's awareness of nationalism (Suratno, 2011). In 1907, Van Heuzz (Dutch Governor-General) proposed the procurement of public schools or village schools and curriculum that was managed systematically by the central government. At that time, the Netherlands Indies' administration

approved the proposal, and it can be said that it was the first contribution from the Dutch colonial to the Indonesian education system (Nugrahanto, 2016).

However, Indonesian scholars initiated various movements underlying the independent design of a national education system. One of the most critical steps for Indonesian education was the establishment of The *Taman Siswa* School and education system by Ki Hajar Dewantara in 1922. Despite the colonial oppression, he expressly declared the school as "the first national education institution." At that time, nationalism in *Taman Siswa* was marked by the recruitment of teachers from independence movement activists, and the school financing was managed autonomously based on regional self-reliance and passed on to local cultural values (Supardan, 2008). With respect to Ki Hajar Dewantara's contribution, every 2nd of May is commemorated as Indonesian National Education Day.

After more than 350 years of Dutch occupation, the Dutch left Indonesia due to the Japanese invasion (1942–1945). During the Japanese occupation in Indonesia, discrimination in education was eliminated, and Bahasa Indonesia started to be used as the medium of instruction. However, this strategy was used as propaganda to win the Indonesian people's hearts in supporting the Japanese on their World War campaign. Schools were also utilized as a training facility for military and unskilled laborers recruitment during World War II (Suratno, 2011; Susanto, 1994).

When Indonesia proclaimed its independence On Friday, the 17th of August, 1945, a universal education system was conducted to develop a sense of nationality. In the early independence years, the political atmosphere was still overwhelmed by military aggression and physical revolution. It was only since the 1950s that the Indonesian government began to be able to improve its education in a more peaceful situation. Subsequently, the government made rapid development in building educational infrastructure nationally by involving a private-sector contribution to establishing educational institutions.

Indonesian education went to another level during the "New Order" era from 1966 to 1998. During this era, the central government led the improvements in education by expanding education access and restructuring the education system. As reported by Duflo (2001), Indonesia managed one of the fastest documented school-building initiatives at the international level. From 1973 to 1978, the Indonesian government had doubled the number of schools and constructed over 61,000 school buildings. Enrolment rates dramatically increased among children aged seven to 12, from 69% in 1973 to 83% by 1985 (Tobias, Wales, & Syamsulhakim, 2014).

The unique thing about the Indonesian education system is the integration of Islamic education. Religious education was integrated into the state school system from 1975 until today to build equality between religious and secular educational institutions. In 1984 the government established a six-year compulsory education policy, and in the following decade, raised the length of the compulsory study to nine years (Supardan, 2008). The government realized that education is an essential part of the human capital investment. Thus since the 1990s, the Indonesian government has continuously improved the education quality, access to education, and up-scaled the role of education in promoting the nation's economic development.

The New Order administration was considered to be the era of inducing a more progressive national development. In the field of education, there was very significant progress because of the enactment of Presidential Instruction (Inpres) that focused on the accelerated development of Indonesian basic education (primary education and lower secondary education).

However, the "*Inpres*" implementation caused a dilemmatic problem since it was only concentrated on producing as many schools' graduates as possible with less regard to the quality of the education. Moreover, at that time, education was directed at developing militant and nationalist human resources to cope with the demands of living in a cold war era, so the education system was rigid and operated by the authoritarian government system (Hariansah, 2019).

The "New Order" government fell in 1998 and moved on to a new democracy and decentralization period known as the Reformation era. For the country, this transition was associated with changes in the balance of power. The reformation allows middle class and low-income groups to mobilize more unrestrainedly and create incentives for policymakers and political actors to make significant contributions to reform in areas such as education. Moreover, two of the most prominent policies on the national education system in the reformation and the current era are a minimum of 20 percent of national budgets for education and regional autonomy (Ali, 2017; Supardi, 2012; Suratno, 2011).

Current Indonesian Education Structure: An Overview

The current Indonesian education structure is referred to as the structure that has been used from the enactment of the Indonesian law on the National Education System Number 20, the year 2003.

According to that law, education is defined as a conscious and well-prepared endeavor to create both the learning atmosphere and its process so that students can actively develop their potential to have a religious-based attitude, self-control, personality, intelligence, noble character, and skills needed by themselves, the society, nation, and the country. The enactment of the law reflects the government's position in considering the vital role of education for the country and its people's well-being.

Despite the socio-political changes, there have always been two regulating bodies for the Indonesian national education system, namely, the Ministry of Education and Culture and the Ministry of Religious Affairs (Responsible for religious schools). However, in 2014 there was a slight change when the government established another regulating body for higher education to fall under the purview of the Ministry of Research, Technology, and Higher Education (Budiharso & Tarman). Then, at the end of 2019, the government decided to merge the Ministry of Higher Education and the Ministry of Education and Culture under one ministry. The government wants to reunite the ministries in charge of education from the elementary level to the high level so it can establish a tiered and unified education system under one coordination.

A consistent education structure of the 6-3-3 model is applied in the Indonesian education system. Six grade levels of primary school and in secondary education, Indonesia, impose junior high school and high school level. Each of them consists of three grade levels. Students are expected to complete in one year for each grade level for a total of twelve years of national compulsory education structure. The 12-year education structure was confirmed as mandatory education in 2013, replacing the previous nine-year program (Indonesian Act No.20, 2003; Anastasia, 2018). The 12-year program phases out of the previous nine-year compulsory education program launched in 1994. However, since the Indonesian Law Number 20, the year 2003 on the national education system did not specifically recognize a 12-year compulsory education system, the ministry adopted a universal secondary education program as the nomenclature instead (Natahadibrata, 2013).

Aside from the 12-year general academic track, students in Indonesia are also allowed to take vocational programs when they reach upper secondary education or high school. The 12-year compulsory education system and Indonesia's higher education structure can be described in the following table.

Table 1.*Education Structure in Indonesia*

Study Level	Grades	Requirement	Ages	Regulatory Body
Primary Education				The Ministry of Education and Culture (The Ministry of Religious Affairs supervises religious schools in Indonesia)
Early Childhood Education (Pendidikan Anak Usia Dini)	Non-grades	Non-compulsory	2-5 y/o	
Primary School (Sekolah Dasar)	1-6	Compulsory	6-11 y/o	
Secondary Education				
Junior High School /Junior Secondary (Sekolah Menengah Pertama)	7-9	Compulsory	12-14 y/o	
High School/Vocational School Senior Secondary	10-12	Compulsory	15-17 y/o	
Higher Education (Vocational Program)				The Ministry of Research, Technology, and Higher Education.
Diploma 1 (one year) Diploma 2 (two years) Diploma 3 (three years)	varying associate's degrees	Non-compulsory	Avg 17-21 y/o	
Diploma 4 (four years)	bachelor of applied science	Non-compulsory	Avg 17-21 y/o	
Higher Education (General Academic Program)				
Sarjana 1 (Four Years)	Bachelor's Degree	Non-compulsory	Avg 17-21 y/o	
Sarjana 2 (one-two years)	Master's Degree	Non-compulsory	All ages	
Sarjana 3 (three - five years)	Doctoral Degree	Non-compulsory	All ages	

Students in Indonesia can enroll in public or private sector schools. Students are also allowed to attend primary and secondary education in religious schools or widely known as Islamic schools. These religious schools are superintended and financed by the Indonesian Ministry of Religious Affairs. Students in Islamic schools may complete 12 years of education in *Madrasah Ibtidaiyah* (elementary school), *Madrasah Tsanawiyah* (junior high school), and *Madrasah Aliyah* (high school). The structure is equivalent to 12-year compulsory education in public schools (Anastasia, 2018; Harits et al., 2016; Nasir, M. (2020). The ministry of education and culture also opens the opportunity for students with special needs; there are special needs education units and inclusion programs at both the primary and secondary education levels.

Furthermore, students who want to join the workforce directly can enroll in vocational schools (Sekolah Menengah Kejuruan or SMK) in their senior secondary education. Compared to an Indonesian general school, a vocational school is designed to give learners intensive training in their interest subjects. After graduating, the students can pursue a related diploma program to enhance their skills or continue their bachelor's degree program studies.

In order to usher and guide the quality of the education system, the government enacted an act on National Education System in 2003. It is stated in the act that "the Government of Indonesia has been fully conscious of the need for creating equality of opportunity in education and ensuring that primary education is made available to all, including those belonging to economically disadvantaged or socially marginalized groups, and those living in remote areas" (Act on National Education System No.20, the Year 2003).

Accordingly, since the enactment of the constitution, Indonesia has shown progress toward the notion of equitable enrolment, which means that Indonesian children and teens should have uniform access to education. Access to primary education is nearly universal. As reported in almost 97 percent of children between 6 and 12 years old attend primary school, and 82% of Indonesian children attend secondary school (Kemdikbud RI, 2018). Both results have ranked up above the average for the region. Based on the data, it can be summarized that the act reflects a particular fundamental proposition, especially universal access to rudimentary education without discrimination, the bias of gender, equality of opportunity, and equity in education.

Current Challenges

Indonesia comprises more than 17.000 islands, the fourth largest country in the world, with a staggering population of more than 250 million. The archipelago also has the 16th largest economy in the world, the largest economy in the Association of Southeast Asian Nations (ASEAN), and a member of the G20 group of major economies (OECD/ADB, 2015). Based on the facts and figures, it can be assumed that since Indonesia is considered as one of the globe's significant emerging market economies, the Indonesian education sector is predicted to be also well developed.

The development of the education world in Indonesia is not always sunshine and rainbows. The country needs to strive to actualize the ideal values of national education as written on the act and the constitution. One of the country's education system's classical challenges is the heterogeneous nature of the country's education system. The main circumstances that lead to the Indonesian education system's heterogeneous nature are influenced by the vast archipelagic locations, a wide variety of ethnic groups, gaps in rural and urban development, and differences in the social backgrounds of each individual. Due to the implementation of the national education system Act

year 2003 and the increase of budget allocation for education, Indonesia has gradually able to cope with the heterogeneous nature (Rosser, 2018).

However, more challenges are emerging along with the new era of globalization and the Internet of things. Hence, in this part of the paper, the authors would like to bring up two other significant challenges that the government and other education stakeholders need to deal with.

Education Access VS Education Quality

In the post-reformation era (after 1998), Indonesia has made significant efforts to improve access to education. Indonesian children start school earlier, graduate from school on time, and are motivated to pursue their higher education studies. On the contrary, the educational quality and learning outcomes were not making significant progress in the country. As reported by Rosser (2018), Indonesia's most significant challenge toward education is no longer improving access but improving education quality. The Indonesian government expects to develop a 'world-class' education system by 2025. However, numerous international assessments of Indonesia's education performance imply that the country has a long way to go before achieving the desired goal in 2025. Although enrolment in Indonesian schools is progressing well, numerous studies show that Indonesian students are ranked behind their international peers. As an illustration, a triennial study conducted by the OECD's Program for International Student Assessment (PISA) showed that Indonesia's education performance is among the bottom 10 percent of countries worldwide. As an illustration, in the 2015 OECD's ranking, between 55 and 69 percent of Indonesian students performed below the minimum standards across subjects. Their performance level in reading had decreased since 2009 (see table 2.)

Table 2.

PISA underperformance rate

Proficiency Type	Assessment Year	OECD PISA Underperformance (Percent of students performing below minimum)				
		OECD Average	Singapore	Malaysia	Thailand	Indonesia
Mathematics	2009	1.4%	-2.3 %	-21.8%	1,3%	-8%
	2015	23 %	8%	38%	54%	69%
Reading	2009	1.5%	-1.3%	-6.7%	7.1%	2%
	2015	20%	11%	37%	50%	55%
Science	2009	3.4%	-1.9 %	-9.3%	3.9%	-9.6%
	2015	21%	10%	34%	47%	56%

Source: OECD PISA report (2010, 2015)

The table above describes that more than 50% of Indonesian students perform below the minimum levels on international exams. Moreover, Indonesia scored below 500 in the PISA standard. Indonesia's ranking is 63 out of the 69 PISA member countries (Sakinah, 2018).

The teachers' quality also drives the low performance of Indonesian students. In supporting the quality of teachers and reforming the system, the Indonesian government has enacted the Teacher Law in the year 2005 aimed at raising the economic status and quality of the teachers. However, assuring teachers' quality still remains as a challenge for the country. Averagely, 10 percent of Indonesian teachers are frequently absent from schools, and 13 percent of teachers are at the school but not staying and teaching classes. The absenteeism rate even reaches as high as 19 percent in remote areas (Australian Council for Educational Research, 2014).

The Teaching quality of teachers is also unsatisfactory. Averagely, Indonesian teachers only scored 53 percent on a national aptitude test for teachers in 2015 (JJPN, 2016). A study by The World Bank in 2014 also found no evidence that the teacher certification reforms in Indonesia could improve the learning outcomes of the students (Mae Chu Chang et al., 2014). It seems that the output of the certification program benefited more from the teachers financially rather than to their teaching quality. When state imperative and systemic certification tests become the teachers' primary concern, they cannot succeed in enabling autonomous and independent thinkers (Long et al., 2017), and the continued use of unqualified teachers will compromise the quality of the subjects taught in schools (Fomunyan, 2018). In line with this, Mahmud (2018) argued that the 90-hour training program is not sufficient enough, and a revision of this program is imminent since the program outcome does have a significant impact on improving the national education quality.

Aside from the unsatisfactory outputs of teachers' teaching quality, another challenge that also needs to be highlighted is the rapid change of curriculum in the country. In Indonesia, the education curriculum has been changing ten times since the country's independence. The curriculum has changed in 1947, 1952, 1964, 1968, 1975, 1984, 1994, 2004, 2006, 2013 (Kemdikbud RI, 2018), and today the ministry of education is developing a new curriculum for 2020. Keeping the curriculum responsive to a changing era's demands is crucial to any country's education system. However, rapid changes in a system can result in complex problems and often trigger the possibilities of education structure inconsistencies (Bahzar, 2019; Bee, 2008; Ismanto, 2019)

Political reasons often cause the problem with Indonesian curriculum changes. The changes in the Indonesian curriculum happened not because of the result of a rigorously implemented evaluation program. In other words, different regime causes a different curriculum (Ismanto, 2019; Sakinah, 2018).

A curriculum change or transition should be designed based on strong rationales that can justify why the change is necessary in the first place and what outcomes are targeted for the sake of the nation's future education. What the country can do about the curriculum changes is by starting to focus on one sector first rather than an overhaul changes of the whole educational structure. For instance, the curriculum transition can be started and focused on primary education. The policymakers then carefully evaluate the implementation in that level of education before continuing to evaluate the next level of education structure to keep up with the global needs and get rid of obsolete points in the curriculum.

The Rise of Information-saturated Era and the need for a New Literacy

The advancement of technology and information is unavoidable. Today we live in an information-saturated era where information and knowledge are penetrating massively through multiple mass and cultural media, including the Internet (Potter, 2014, 2019). Education stakeholders and policymakers need to focus on the future to predict what is coming and to take the necessary steps so teachers and students will be ready for the rapid changes as the interface between the digital world and humankind become much closer than ever.

The "internet of things" is the next challenge that cannot be taken lightly. The education sector needs to adjust to the development. Students can access multiple information online to extend their range of learning, and teachers could not rely on only one source for teaching. The internet has revolutionized the game for education, and the education quality can be improved by using the Internet in many ways. The rise of the digital era opens doorways to a wealth of information, educational and knowledge resources, expanding opportunities for the learning process in and beyond the classroom.

"With great power comes great responsibility" The often-quoted phrase from a Spider-Man movie can be seen as the way we have to deal with the Internet. Regardless of the many great opportunities the digital world gives, it also creates increasingly complex challenges. A new and particular

literacy is needed so the "power" can be used responsibly, including in the education sector. According to Kartadinata (2018), both students and teachers must have the relevant skills and literacy in entering the 21st century and digital era. He added that the way they are thinking needs to be creative, innovative, critical, and problem solving-based. In terms of working ethos, they need to communicate, collaborate, and adjust to contemporary information technology. As part of the global citizen, the education stakeholders should be able to interact globally, have responsibilities, and cultural awareness. These skills are needed to support the education system in this particular era.

However, the new literacy still poses as one of the main challenges. As previously mentioned, Indonesian academic performance is unsatisfactory, and one of the significant underperformance areas is information literacy. The definition of literacy, in this case, is not merely the ability to read but also to comprehend messages and produce them accordingly. Literacy is not only about reading and writing but also to help people grasp the complexity of life and the world as a whole. To improve the way people think, act, and communicate, to make us a better, wiser, and smarter human being (OECD, 2010; Pinantoan, 2013).

In Indonesia, the hype for accessing and employing digital media is not yet balanced by the suitable literacy of the users. Numerous tests and studies have indicated that the country has a shallow level of literate behavior. Progress in International Reading Literacy Study (PIRLS) reported that in terms of reading comprehension, Indonesia ranked at number 41 out of 45 participants (PIRLS, 2012). In 2017, only 17,66 % of the Indonesian population had a high level of literate behavior (Badan Pusat Statistik, 2017). On top of that, a study from Central Connecticut State University in 2016 showed a startling fact that Indonesia was ranked 60 out of the world's 61 most literate and digital literate nations (Fadhillah, 2018; Miller, 2016). In reference to those facts, the data indicate that Indonesia's level of media literacy is in a critical stage, and this is threatening since the level of digital participation in Indonesia is exceptionally high. As a matter of fact, Miller (2016) pointed out that societies that do not practice literate behavior are often squalid, undernourished in mind and body, repressive of human rights and dignity, brutal, and harsh (Miller & Mckenna, 2016).

Although the government has much improved the education' budget, the quality of education based on international education assessments such as PISA, PIRLS, and ACER is far from satisfactory when compared with other neighboring countries. Therefore, in coping with the face-paced era,

media and digital literacy are highly recommended to be embedded in the education system. Policy to guide digital participation in an education setting is also imminent. So far, there were no clear incorporated policy or media education at schools. At the time of this writing, there are no precise initiatives regarding the issue.

Nevertheless, the Ministry of Education and Culture agreed and supported that digital and media literacy should be part of the education system (Chabibie, 2017). Thus it is expected that the government will rise to the challenge and imposed the digital literacy education and curriculum as a part of education quality development. Adaptation to technological advancement is a must. It is vital to understand that the education curriculum should be intertwined with the cultural, political, social, and historical contexts of the education system and the world and era in which they operate (Fomunyam, 2018; Potter, 2014).

Conclusion

To sum up, the paper provides a brief overview of the Indonesian education landscape, socio-political changes, and their efforts to improve the quality of education and seek to understand the challenges they have to face. Despite the country's achievement in opening equal access to education and student learning, certain issues such as the side-effect of rapid curriculum changes, unsatisfactory outputs of the teacher training program, and the low level of media literacy in the society need to be solved in order to achieve the goal of world-class education in 2025. Indonesia's most formidable challenge is no longer improving the access but enhancing the quality of both the learners and educators.

Therefore, the paper recommends that prioritizing the teaching skills upgrading, along with curriculum and pedagogy reforms, are the focal points to improve teaching quality and student learning. Improved teaching performance is not determined by the teachers' salary increase alone. The government needs to transcend the teachers' training program into an upgraded and more right-on-target competency program to ensure that students are protected from the risk of less competent teachers gaining entry into the education system.

Secondly, the digital age is not a matter of being ready or not. It is not an option, but it is a consequence of progress. Qualified literacy and imposed digital media education as part of the education curriculum can serve as the solution in preparing the national education system to embrace the 21st century challenges. Finally, the Indonesian education system's challenges imply

that educational reform cannot be carried by the government alone. Collaborations with scholars' communities, higher education institutions, and public engagement will contribute to the national education system's constructive development.

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