

Vietnam Education: reform policies, “winning formula”, and the status quo

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ABSTRACT: *Shaking off the remnants from a long-lasting period of colonization and conflicts, the 35-year span from 1986 with multiple comprehensive reforms has transformed Vietnam from a country of war to an “emerging dragon” across all social and economic sectors, including education. Vietnam made an impressive success story of the efficiency of investment in education given its top position in the PISA average score ranking and international academic competitions. This article accounts for the major post-1986 changes of Vietnam’s education system, the country’s “success formula” as well as lapses. Recommendations for educational policymakers and educators regarding the role of the education sector in the coming ever-disruptive social and economic context will be discussed as concluding remarks.*

KEYWORDS: Education policy, education reform, middle-income context, Vietnam, Vietnam education system.

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1. Introduction

Moving on from the historical mid-20th-century war, Vietnam has endured profound changes in all manner of socioeconomic areas, not excluding education. The country’s education system has evolved from being struggling with the long, brutalizing post-war conflicts to one that made the headlines in worldwide newspapers for leading other countries in global academic contests, assessments, and international human indices (World Bank, 2018; Clarke, 2016). This text aims to review the development of Vietnam’s modern education from 1986: the country’s governance, reform policies, the gained outcomes as well as existing issues. Analytical insights from this article are expected to provide a useful point of reference for education alists, practitioners, and policymakers of other developing nations with similar socio-economic contexts. The positive results of Vietnam, compared to other countries with similar or even higher national average income, provide an exotic case study of the management, exploitation, and mobilization of resources to improve education scale and quality.

The modern history of Vietnam has witnessed continuous efforts by the Government to enhance human capital (Table 1). Starting from 1945, the

newly established State prioritize the eradication of illiteracy by setting up tutoring classes among the citizens. Since then, improving people’s education, stretching its citizens’ capacity through unceasing reforming and consolidating the education system as well as realigning between policy and implementation has always been key foci of the country’s socio-economic development plan. These have been further supported by the Government’s advocacy for an open economy, marked by the historic 1986 Doi Moi reform.

This article focuses on the period after 1986 during which education in the country has endured successive fundamental and comprehensive reforms and renovations. The following section will begin by reviewing major movements in the 25-year period that Vietnam had undertaken basic issues regarding illiteracy and primary education universalization. Next, the ongoing trends with some promising achievements, as well as opportunities and challenges facing the modern education system (Figure 1) of the fast-growing country are discussed regarding the ten latest years of development. The review ends with a few notes highlighting the criticality of another switch in educational mission and

Table 1: Chronological stages of Vietnam’s post-feudal education.

Pre 1945	1945 - 1954	1954 - 1975	1975 - 1986	1986 - 2010	2011 - 2020
Feudal and Colonial Period	Independence to Dien Bien Phu Victory	Temporary Separation Period	Pre-Doi Moi period	25 years of Doi Moi	Fundamental and Comprehensive reform
Up until Independence Day in September 1945, 95% of Vietnamese people could not read and write in any languages	“Fighting against poverty, illiteracy and invaders” Anti-illiteracy was one of the top three frontier missions of the country	Significant expansion of school network Establishment of new modern universities	Unification of the two regional systems into one across the whole country Replacement of textbooks at all school levels (completed in 1996) for consistency in education system Anti-illiteracy campaign for adults 1981 Education Reform	Socialization of education: permission of private education sector and collection of tuition fee 2002-2003: New national curriculum and textbooks 2003: Three common policy for the national university entrance examination	2013: Resolution No 29 2014: Assessment and examination reform at primary level 2016: Unification of high school graduation and university entrance examinations into one national examination 2018: Approval of the new competency-based curriculum

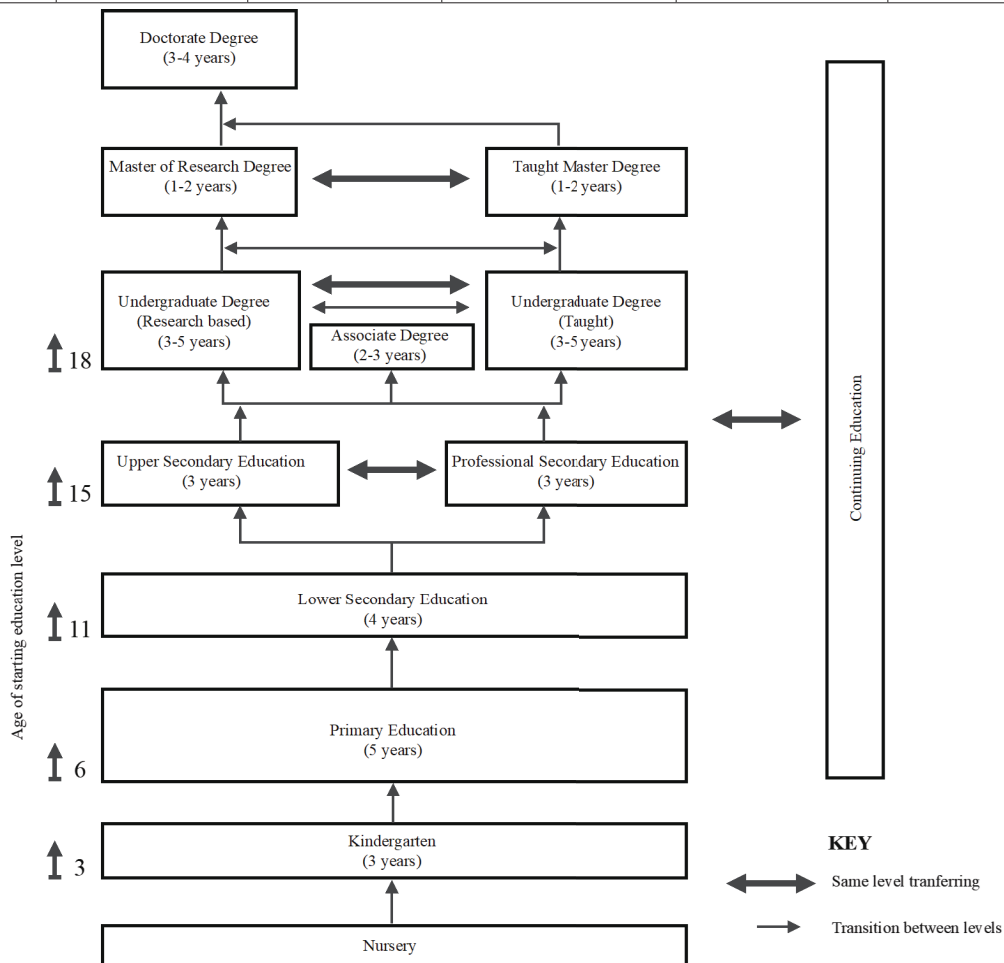


Figure 1: Vietnam National Education System Framework

objectives when the state stands upon another, more chaotic crossroad in the age of digitalization and knowledge-based economy.

2. Twenty-five years of Doi Moi 1986-2010

Prior to 1986, Vietnam's education had in fact undergone several post-war reforms since 1975 with notable improvements in literacy rates, updated national education curriculum and restructuring of the whole system (Communist Party of Vietnam, 1979). However, the sector still had to confront various shortcomings and defi due to ineffi management of resources and irrelevance of educational objectives and content (Pham and Fry, 2004). Given the transitional context of the economy within worldwide movements towards globalization, a comprehensive reform was pivotal to the country's socio-economic development.

The history of Vietnam was then radically transformed under Doi Moi, a major national reform that switched the country's economy from a centrally planned system to a socialist-oriented market mechanism (Communist Party of Vietnam, 1987). The education reform within Doi Moi targeted to alter the outdated perceptions about the responsibilities of the state under four major objectives: (i) Educational .socialization: private institutions were permitted at all levels with autonomy in governance; (ii) Vocational education: restructuring the resources and foci of vocational education towards the efficiency and competitiveness of labor force; (iii) Comprehensive quality: different varieties of students, teachers, schools and localities were specified and supported; and (iv) Curriculum and textbooks: curriculum objectives were reframed to address requirements of the market economy. In order to achieve these major goals, five key

solutions have been executed: (i) Socialization of education, (ii) Permission of tuition fee collection, (iii) Equity and inclusion in education, (iv) Enhancement of vocational training and streaming at upper secondary education, and (v) Differentiation to identify and cultivate talents.

2.1. Socialization of education

Private schools were allowed to join the market at all study levels, including kindergarten. 18 years after the privatization of the education market, there have been 34% of upper secondary schools were founded by the private sector (Pham and Fry, 2004). Although the first few years following the reform were still lodged in disarray with financial struggles, the scale and scope of the school network in the country spread rapidly and doubled to nearly 26,000 in 2010 as illustrated in Table 2.

Educational socialization at the tertiary level was also enforced by the mobilization of resources from all possible sources outside the state budget. However, it was not until 1988 that the first private university was established. Similar to primary and secondary schools, the share of the private sector in higher education only really expanded towards the end of the period (Table 2). The total number of universities and colleges had increased four-fold after 25 years of reform with 20% being non-public (MOET; GSO; GSO).

Expansion of the system was in time to underlie the growth in the number of students. The goal of universalization of the first nine years of general education accomplished positive outcomes with net enrolment rates springing from 85.6% to roughly 97% at the primary level and from 72.3% to 91.2 % during the period of 1992 – 2010 (GSO, 2010). Unlike the situation

Table 2: The number of schools, colleges and universities 1986 - 2010

		1986-1987	1999-2000	2004-2005	2009-2010
School	Public	13 708	22821	24749	25952
	Private	0	356	240	219
College - University	Public	96	131	201	300
	Private	0	22	29	76

(Source: General Statistics Office: GSO; MOET))

Table 3: The number of students 1986-2010

		1986-1987	1999-2000	2004-2005	2009-2010
School students	Public	12 500 000	16 900 292	16 252 734	14 477 550
	Private	0	905 866	993 565	545 209
College and University students	Public	91 200	786 216	1 181 994	1 656 366
	Private	0	107 538	137760	279 373

(Source: GSO)

Table 4: The number of teachers and student-teacher ratio 1986 - 2010

	1986	2002	2003	2004	2005	2006	2007	2008	2009	2010
Primary	426 200	363 094	366 215	362 448	354 757	349 519	348 727	349 695	355 165	365 772
Lower Secondary		271 755	290 410	302 459	310 250	314 905	317 534	316 973	317 239	316 243
Upper Secondary		88 622	98 759	106 108	115 531	125 239	134 362	140 196	146 321	148 908
Student: Teacher ratio	29.33	24.60	23.27	22.37	21.47	20.73	19.74	18.85	18.35	17.87

(Source: GSO)

in many other developing countries where the quantitative expansion of the system was often accompanied by a trade-off in quality (Rolleston, 2016), mass basic education enrollment in Vietnam was achieved in parallel with significant improvements in learning outcomes at Grade 5 in both Maths and Vietnamese language skills from 2001 to 2007 (Dang and Glewwe, 2018). Not only compulsory education, but access to upper secondary school had also thrived significantly from 27.2% in 1992 to about 72% in 2010 (GSO, 2010). Besides the expansion of the private school, economic growth, rising level of parental education, and extensive construction of state schools by the government also contributed to this upspring in education demand. In terms of higher education, training was also extended to a wide variety of economic constituents to cover the societal demands. The number of postsecondary students had tripled from over 800000 in 1999 to nearly 2 million in 2010 with about 17% from non-public institutions (Table 3) (GSO).

The supply of teaching staff was also thriving (Table 4) yet insufficient in both quantity and quality to catch up with the demand of institutions and students. School teachers experienced an increase of 24% from 1995 to reach 865,485 of whom only 79.2% held a degree (MOET). While

it was estimated that 10000 teachers were lacking given the size of the sector in 2004, quality of higher education faculties was, even more, an issue with only 13.8% holding a doctorate and 56.6% receiving merely the undergraduate level of training (Pham and Fry, 2004). Some young and capable lecturers were attracted away from universities for higher benefits, making the average age of academic laborers 56 with most well-trained lecturers approaching retiring age (Pham and Fry, 2002).

The shortage in quantity and quality of teaching staff could be well explained given the consistently low income in the education sector. Even though the largest share of government expenditure on education was accounted for by staff compensation (GSO, 2016a), which is common in the education sector where teachers make the biggest percentage of state officials and are prioritized by the Government in terms of welfares and benefits, the average monthly salary of educators was not competitive when putting together with workers of other sectors (Table 5) (GSO, 2012).

2.2. Collection of tuition fee

Along with the expansion of private and semi-public schools and colleges, the collection

Table 5: Average monthly income by occupation 2005 - 2011 (USD)

	2005	2007	2008	2009	2010	2011
Agriculture, Forestry and Fishery	71.79	106.57	130.03	154.50	169.16	213.63
Mining and quarrying	222.55	290.84	390.93	370.11	241.04	248.86
Agro-Industry	112.89	144.77	158.13	157.60	177.54	202.85
Construction activities	99.52	131.08	145.94	157.83	169.01	188.15
Transport and Storage	188.87	234.30	250.46	244.89	232.55	258.27
Accommodation services and Food	117.66	183.91	193.26	191.07	183.35	197.30
Information and Communication	234.28	281.50	301.28	285.84	276.29	273.96
Finance, banking and insurance activities	212.95	383.81	411.91	391.44	345.36	337.09
Real estate activities	144.82	227.54	251.64	228.01	236.31	235.96
Professional, scientific and technical activities	163.99	172.66	187.98	184.26	191.76	222.22
Education and Training	84.92	122.40	149.23	158.29	161.30	175.71
Human health and Social work activities	83.97	128.30	150.58	163.25	168.04	186.07
Arts, entertainment and recreation	79.69	125.95	144.43	158.94	159.49	176.64

(Source: GSO (2012))

Table 6: Expenditure by education level and source of funding in 2013 (USD)

	Preprimary	Primary	Lower Secondary	Upper Secondary	Vocational training	Higher education
Government	365.12	398.75	470.81	408.36	893.59	677.40
Household	100.89	57.65	91.28	177.76	427.58	562.09

(Source: GSO (2016a))

of tuition fees was also approved with the exception of public elementary schools due to the universalization goal at this study level. Students were asked to contribute to the system through tuition fee and self-financing their practical training sessions as well as internships. The state budget was spent on infrastructure and capacity- building activities. Despite the extremely low average tuition fee (Pham and Fry, 2011), household contribution noticeably helped to boost spending of the sector, even up to over 80% in the case of higher education (Table 6) (GSO, 2016a).

2.3. Equity and inclusion in education

In parallel with the promotion of education socialization and permission of tuition fees, equity and inclusion education for ethnic minority and disadvantaged children were also one of the key solutions during this period. As of the 2007 –

2008 school year, there were 278 ethnic schools with 86000 students (Kennedy, 2012). Regarding special education, by 1991, 36 schools for children with special learning needs had been founded. Nearly two decades after the reform, in 2003, 6000 students with learning disabilities were enrolled in special schools with the expense of \$400 per year per child (Villa et al., 2003). The percentage of disabled children enrolling in inclusive or special primary education has tripled from 10% in 2000 to over 30% in 2006 (MOET). However, this is a moderate figure compared to the total number of 1.1 million disabled children in Vietnam at the time.

2.4. Enhancement of vocational training and streaming at upper secondary education

With a view to addressing the excessive unemployment rates, the fourth solution was to improve vocational training and strengthen

streaming at the upper secondary level. After nine years of general education, students enter upper secondary education choosing one subject group: technology, natural science, social sciences, or foreign languages. Besides academic mainstream schools, there were also options of short-term vocational certificate programs at vocational training centers for elementary graduates or longer programs of up to three years for lower secondary school leavers. Those who complete lower secondary education could also opt for programs in more academic vocational/technical high schools that require three to four years to complete. These institutions allow the transition to higher education although students on this track would more often continue to do associate degrees.

The solution was considered effective with an increase of 132 percent in the number of students attending vocational training schools and professional secondary programs from 2000 to 2010 (Table 7) (Trines, 2017). The policy was meant to balance out the education system, easing the burden on mainstream upper secondary institutions by subsidizing vocational education. Nonetheless, the quality of vocational training remained short, resulting in a gap between training at schools and the needs of wider society as reflected by the little changes in the workforce by the economic sector against turbulent social and economic transition (Holsinger, 2003).

Table 7: The number of students in vocational education institutions by Ministry of Labors, Invalids and Social Affairs (MOLISA) and MOET in 2001 - 2010 (In thousands)

	Molisa Vocational Training	MOET Technical High School
2000 - 2001	792	255
2001 - 2002	1052	271
2002 - 2003	1074	310
2003 - 2004	1145	360
2004 - 2005	1207	467
2005 - 2006	1322	500
2006 - 2007	1340	516

	Molisa Vocational Training	MOET Technical High School
2007 - 2008	1420	615
2008 - 2009	1580	641
2009 - 2010	1748	685

(Source: ADB (2013))

2.5. Differentiation to develop talents

The last key solution concerned differentiation in the mainstream academic track with the establishment of gifted schools and selective classes for talented students. Universalization did not cover upper secondary education and entry to public upper secondary schools was subject to competitive entrance examinations. There were selective high schools for the gifted where competition was intense and only the most capable students were admitted. These institutions usually offered programs that focused on advancing only one subject area such as Math, Physics, Chemistry, Vietnamese Literature, and Foreign Languages, etc. This model of gifted schools used to be available at lower levels before later being removed, as criticized by experts to negatively affect the quality of intake at upper secondary level (VNIES, 2008). However, this issue remained controversial while up until the present, differentiation is still only available at the upper secondary level whereas elementary and lower secondary schools might have selective classes. At the tertiary level, gifted classes were also open for highly capable students based on their performance in the national university entrance examination (VNU, 2006).

2.6. Selected key transformations

The last ten years within this period also encompassed a couple of radical revolutions regarding teaching/learning and assessment: (i) the renovation of the national general education curriculum started in 2000, and (ii) adjustment in the university entrance examination in 2003.

The revised program, textbooks, and curriculum were officially launched in 2002 and completed six years later for all levels of study. This renovation was critical due to the demand for manpower in the new stage of socioeconomic

development and international integration. This was the first unified national general education curriculum implemented in all regions and areas of Vietnam. A notably new feature of the program was the streaming at the upper secondary level whereby advanced programs of selected subjects were offered to students starting from grade 10, depending on whether they opt for natural sciences or social sciences pathways. Early specialization was expected to better prepare students for university entrance examinations and higher education. The revised textbooks were generally rated as more updated, in line with global movements and promoting consistency, continuation, and development in learning throughout all levels (VNIES, 2010). The newly implemented curriculum also acted as a common platform for the synchronization of the subject's content, teaching/learning method, and equipment, which enhanced the connection between theoretical and practical components.

In parallel with curriculum reform, changes in pedagogical methods were also introduced, focusing on practical, student-centered approaches. Teachers were encouraged to cut down on lecture time, motivate students more in class, and make use of ICT facilities in their teaching habits. However, the achieved outcomes were not comprehensive. ICT use by teachers was limited to planning lessons on word processing software and making presentation slides for projecting purposes. Classroom activities were still heavily teacher-led with students taking notes and memorizing knowledge. The underlying reason was that teachers were not sufficiently trained to update innovative teaching methods and technological applications in education as well as to develop professionally in the field (VNIES, 2010).

Concerning examinations and assessment, since 2004, entry admission at the tertiary level has been centrally administered by MOET. The “three common” policy was promoted for all universities and colleges: common examination papers, organization, and results. This was the foundation for the establishment of a central examination board and subsequently a national university entrance examination across the

country. As a result of the “three common” policy, The Department for Examination and Expertise of Education Quality (now known as the Department of Quality Management) was founded to take charge of assessment and testing, particularly the “three common” model. Generally, the newly implemented administration of the national examination was highly received for its effectiveness and transparency, hence extended until 2015.

3. Vietnam's modern education from 2011 to 2020: the quest for quantity and quality

The latest period of education in Vietnam started with the 2011 – 2020 education sector plan which proposed eight key solutions to the remaining problems from previous stages: (i) Enhancing innovation in education management; (ii) Promoting capacity building; (iii) Innovating content and teaching methods, examination, testing and education assessment; (iv) Increasing investment of resources and renewing education finance distribution mechanism; (v) Strengthening the linkage between universities and the labor market as well as scientific research and technology transfer to meet societal needs; (vi) Fostering educational development for disadvantaged areas, ethnic minorities and social policy beneficiaries; (vii) Promoting education science; and (viii) Expanding and improving the effectiveness of international cooperation in education.

Overall, the achievements of Vietnamese education over the last ten years could be assessed from the three Es perspectives: (i) Equity; Expenditure; and (iii) Effectiveness.

3.1. Equity - Equal access to education

In order to ensure equal access to educational opportunities, it is important to promote universalization at the Kindergarten level since access to pre-school education helps improve attainment and performance at later levels of education. As a result, the Government has issued Decision No 239/QĐ-TTg (Prime Minister, 2010) approving the universalization of the Kindergarten grade 2010-2015 project, which has

been prescribed in the 2009 Education Law. As of 2017, 6 years into the project, profound effects on the development of preschool education have been documented. From 2010 to 2016, the school network has expanded to increase by 4067 (Viet An, 2017) with the enrollment rates of 5-year-old children rising by 13% to reach 99.96% (MOET, 2017b).

However, pre-school education in Vietnam still faces prolonged challenges regarding the regional gap in quality. The shortage of preschool institutions in some industrial zones leaves workers with no choice other than to send their children to non-licensed, unsafe private nursery classes. In mountainous and remote areas, issues such as lack of standard schools and classrooms, water, sanitation, and hygiene facilities are prevalent.

While access to basic education in Vietnam has continued to improve both quantitatively and qualitatively, enabling disadvantaged children to benefit from quality elementary education (Rolleston and Krutikova, 2014), the situation at the upper secondary level is more complicated. According to Dang and Glewwe (2018), although upper secondary education in the country has transformed from an elite system to be relatively more open and inclusive, the extent to which children can access post-basic education, in terms of both quantity and quality, still varies and is largely affected by family income level. Dang and Rogers (2015) found that the top income quintile

in Vietnam invests 15 times more than the bottom group in private tuition part of which helps to prepare children for the entrance examination to upper secondary schools. More specifically, Rolleston and Iyer (2019) have proved persistent inequities by household wealth in performance and progression to upper secondary education. The observed gap is becoming even wider between ethnic minority and majority students. While 79% of ethnic majority students successfully progressed to upper secondary education in 2014, the figure was only 50% for their minority counterparts (Dang and Glewwe, 2018). Most strikingly, despite the nearly full primary enrollment rates, Vietnam has become one of the countries with the highest rates of out-of-school students of secondary school age in South East Asia (Murray, 2012).

At the tertiary level, the Vietnamese Government also offers a number of equity-enhancing policies, including financial aid schemes such as scholarship, tuition exemption/reduction, student loan, and non-financial instruments such as bonus point system in the university entrance examination and separate admission quotas for students from remote areas and ethnic minority groups. As upper secondary education is fundamental for progression to universities and colleges, although gender equity continues to be secured with female:male students ratio of around 1 over the past decade (figure 2), the access gap by income to

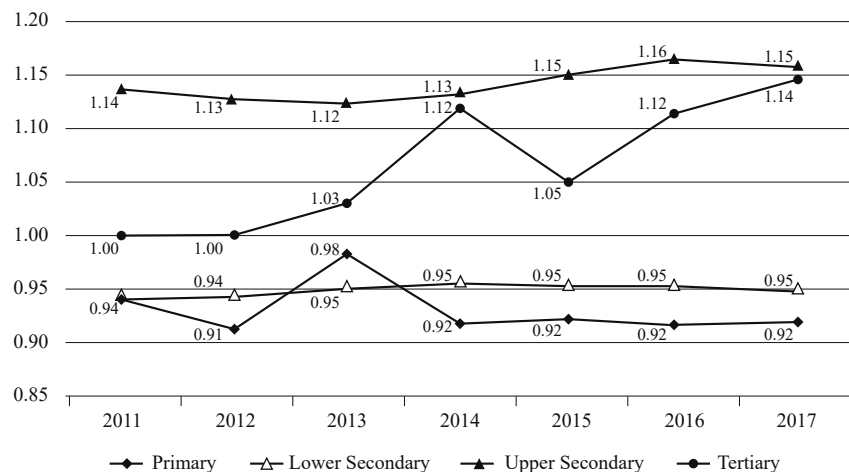


Figure 2: Enrollment ratio by gender (female:male) in primary, secondary, and tertiary education from 2011 to 2017

(Source: GSO)

universities and colleges in Vietnam continues to remain large and widen over time (Table 8). According to the VHLSS by GSO (2019), the percentage of the population over 15 years old completed tertiary education in urban areas is four times higher than that in the countryside and less developed economic regions. The top quintile accounts for the highest proportion of the population undergoing postsecondary education and training, more than 41.7 percentage points compared to the bottom quintile. The percentage of university degree holders is lowest for the bottom quintile and increases to the highest in the top quintile. Besides, while ethnic minority students accounted for nearly 20% of total enrollment at the primary level, the figure was only approximately 5% at universities and colleges (MOET, 2017b). The low educational attainment rates towards higher levels of study also seemed to be more potent for some specific groups of ethnic minorities. According to data from Vietnam Household Living Standard Survey (VHLSS) from 2012 to 2016, although almost no significant variation across ethnic groups with respect to the rates of primary school enrolment was found, at the lower secondary level, Tay, Muong, and Thai groups performed very similarly to the Kinh in the net enrolment rates in general and differentiation became most visible at upper secondary level (Le and Nguyen, 2016).

Table 8: Highest education level attained by income quintiles in 2010 and 2019 (percentage)

Household Income Quintiles	2010	2019
First quintile	0.9	5.3
Second quintile	5.4	10.8
Third quintile	10.5	15.9
Fourth quintile	21.4	26.9
Fifth quintile	37	47.0

(Source: GSO 2019; 2010)

In spite of equity-enhancing policies by the Vietnamese Government, including financial aid schemes such as scholarship, tuition exemption

reduction, student loan, and non-financial instruments (i.e. bonus point system in the university entrance examination and separate admission quotas for students from remote areas and ethnic minority groups), these analyses imply a need to establish and implement a more specific and effective financial aid framework that targets the bottom income quintiles, in order for those with need are really benefited from the monetary aid programs. This is because even though there are 10 percent of tertiary students under tuition fees and other fees exemption/reductions, the beneficiaries are not well-targeted. Given the current size and infrastructure of schools and institutions in Vietnam, the expansion of MOOC and distance learning would be considered effective in enhancing access and equity. In fact, from 2017, MOET has issued Circular No 10/2017/TT-BGDĐT (MOET, 2017a) which specified the conditions and standards of this form of training at universities. Some other government initiatives include high-quality early-childhood education programs; assigning teaching assistants proficient in the local mother languages in the beginning years of primary school to facilitate the transition for children who do not speak Vietnamese at home; and financial support-including cash transfer programs to households, subject to school attendance-to raise attendance in upper secondary education. More recently, Bui et al. (2019) provided evidence that education incentive schemes by the government, including tuition fee reduction and the education subsidy, have positive effects in improving secondary-school enrollment of Vietnamese students.

Despite efforts to support students with disabilities, the outcomes have not been positive with low enrollment rates at higher education levels (only 0.12% at Upper Secondary School in 2017 (MOET, 2017b)). According to 2016 – 2017 statistics by UNICEF and GSO (2018), only 1.0% of children with disabilities are in a special school/classroom. The percentage of schools with suitable infrastructure and sanitation facilities for students with disabilities are 2.9% and 9.9% respectively. Even though a quarter of children with disabilities aged 2-17 live in poor

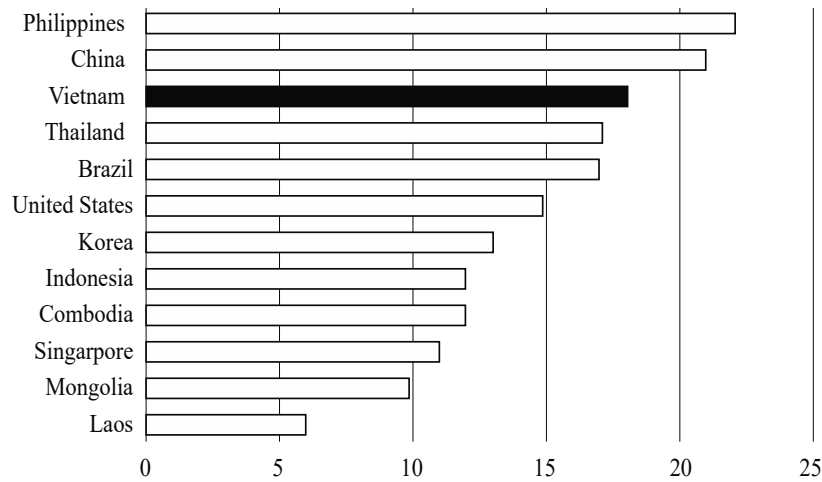


Figure 3: The overall rate of return to schooling at tertiary education

(Source: Montenegro and Patrinos (2014))

households with schooling opportunities of 21% lower than those without disabilities, only 55.5% benefit from tuition fee reduction or exemption.

Regarding gender equity in education, Vietnam has always been an interesting case with a “reverse gender gap” found in both enrollment and attainment rates (Thanos et al., 2018; Dang and Glewwe, 2018). In general, boys are still more likely to be prioritized for resources and investment. However, when being given educational opportunities, girls tend to outperform their male counterparts in terms of test scores and transition rates to the higher education (Rolleston and Iyer, 2019; Thanos et al., 2018), resulting in higher enrollment rates at upper secondary and tertiary level (figure 2). It could be due to the fact that boys are often under pressure to enter the labor market earlier as they are expected to be the primary earner in the family. Popular jobs for boys such as drivers or constructors are often better paid compared to sewing, for example, for girls. Girls are also perhaps more aspired to learn and advance their study, therefore outscoring boys in several nations

scaled education investigations (Azubuike and Little, 2019). This reversegender gap in fact originates from traditional gender stereotypes in the country making females have to strive more for the same results compared to males.

3.2. Expenditure on education

One of the key elements of the achievements in the education sector in Vietnam is the consistently high expenditure on education with the focus on primary and basic literacy education to ensure universalization and inclusion of less advantaged regions. Such investment has yielded positive outcomes as the overall rate of return to schooling in Vietnam surpassed those of most nearby countries (Figure 3) (Patrinos et al., 2018). In 2012, 14.3 percent of education spending was allocated to pre-primary and 50.4 percent to primary and lower secondary education (Kataoka, 2019). In recent years, the Vietnamese government's investment on education has been increasing, maintaining around over 20% of total budget expenditures (Table 9) (GSO, 2017; 2016a).

Table 9: Education expenditure and share of total public expenditure within social and economic sectors in 2011 - 2018

	2011	2012	2013	2014	2015	2016	2017	2018
Education Expenditure (USD)	5.1	1.29	2.75	3.55	3.62	3.48	9.00	10.21
Spending on Education as share of total public expenditure (percent)	12.62	12.99	14.30	15.83	13.90	13.71	15.09	14.29

(Source: GSO)

Table 10: Education expenditure by government and households in 2009 - 2013 (Billion USD)

	2009	2010	2011	2012	2013
Households	1.70	2.49	2.91	3.02	3.19
Local governments	6.45	5.45	6.29	7.72	8.74
Central government	0.72	0.97	1.07	1.41	1.64
Total price in 2013	8.87	10.91	11.19	13.09	13.57

(Source: GSO (2016a))

The share of public expenditure on education in Vietnam, together with Malaysia's, is among the top in the Asia Pacific region. Spending on education in countries with higher income levels is generally lower, about 3% in the case of Singapore, under 4% in Hong Kong and Japan, or nearly 5% in South Korea (GSO, 2016a). In another aspect, however, these figures represent the public expenditure as a share of total GDP while the actual amount of spending on education in the country is still relatively low in reality (Table 9).

It is worth noting that government expenditure on education, much as being high at central level, proved to be less effective when spending autonomy is granted to local authorities. This is the result of the decentralization when provincial-level authorities are empowered to make decisions over the financial budget. In Table 10 it can be seen that as of 2013, 64% of total expenditure on education was distributed by the local government whose spending priorities vary substantially across the country (GSO, 2016a).

Although the government spends a relatively large section of the country's wealth on education, it does not mean private spending is limited in Vietnam. On the contrary, Vietnamese households contribute a high proportion of total education spending, even at basic education levels-higher than the OECD average and some non-OECD countries. In 2012, the proportion of household spending was the highest for upper secondary at 34 percent, and the lowest for primary education at 17 percent (UNICEF and GSO, 2018; GSO, 2016a).

In spite of the high expenditure on education at lower academic levels, investment in tertiary education only takes up 0.33% GDP, which is among the lowest worldwide, compared to the average level of 1.1% by OECD (Kataoka, 2019). In 2015, the total investment in university education only accounted for 0.25% GDP, equivalent to 0.8% total government expenditure and 5% expenditure on education, excluding tuition fees. Expenditure per university student, calculated as a percentage of GDP per capita, is only two-thirds and one-third of that on general education and OECD respectively (Kataoka, 2019). With regards to R&D, universities in Vietnam only receive 13 percent of public spending on Science and Technology Investment, equivalent to about 0.05 percent of GDP for research programs (Ministry of Science and Technology, 2017). This moderate level of investment poses challenging obstacles to the goal towards a future knowledge economy.

3.3. Effectiveness

Despite the relatively low net amount of investment, Vietnam education quality still accomplished impressive progress given students' performance in international investigations. According to the 2015 PISA results, Vietnam ranked 8th in Science, 22nd in Math, and 30th in Reading out of the 72 investigated countries. The average Science score in Vietnam is 32 points higher than that of OECD, which is equivalent to one academic year.

When further analyzing the 2015 PISA average reading scores and public expenditure per student, the result for Vietnam is outstanding compared to OECD countries while investment in education in Vietnam is remarkably lower (Kataoka, 2019). Compared to countries with similar income levels such as Indonesia and Peru, or Thailand and Brazil with a double level of investment, Vietnam's results are still distinguished with a gap of over 90 points, equal to 2 or 3 academic years (Kataoka, 2019).

Vietnam is considered to bear similar systematic characteristics with successful education systems in the East Asian region, including strong government commitment in ensuring

Table 11: Percentage of low-skilled labor and labor productivity (USD/person) of Vietnam and ASEAN 6 group

	Singapore	Malaysia	Philippines	Thailand	Vietnam	Indonesia
Percentage of low-skilled labor	12	16	34	13	42	16
Labor productivity	83 181.80	21 034.48	7 546.40	10 397.70	3 660	7 500

(Source: GSO)

equitable education for all individuals, rigorous accountability mechanism for educational institutions, supported by internal and external inspection network, and cultural aspects such as high values for academics, high parental expectations and strictly disciplined environment for teachers and students. When looking into the underlying factors of Vietnam's 'winning formula', researchers have pointed out that the gap in PISA average scores between Vietnam and other equally or better-developed countries is not due to Vietnamese students possessing more desirable attributes, but rather such attributes are better manifested in Vietnam than other nations. In other words, Vietnamese education is more effective in transforming observable traits into measurable outcomes (Glewwe et al., 2017). In addition, despite the overall impressive performance, Vietnamese students' scores in Mathematics reveal significant variation across different domains of Mathematics examined in the test. Specifically, PISA comprises the formulating domain (conversing a real-life problem into a mathematical problem), the interpretation domain (applying the mathematical output to a real context of the problem), and the employing domain (find the suitable mathematical tools to solve a math problem). Vietnam's performance is heavily skewed towards the employing domain than the other two, suggesting that Vietnamese students are not equally proficient at different dimensions of Mathematics, and especially worse in formulating and interpreting mathematical concepts (Bodewig and Badiani-Magnusson, 2014).

Students' lacking of essential practical skills is a prolonged issue in Vietnam's education which is most exacerbated at university and college education. As of 2016, a vast majority of the labor force in Vietnam is still locked in the unskilled job sector (Anh Kiet, 2019). The

workforce in this country has been found to be deficient in many skills, including leadership and managerial skills, socio-emotional skills, and job-specific technical skills by enterprises and skilled laborers in Vietnam only accounted for 9.4 – 10.2% from 2009 to 2014 (ILISSA, 2014). In 2018, around 40 percent of FDI firms in Vietnam country reported difficulties finding skilled employees (Das, 2018). Compared to other regional nations, Vietnam's labor market is comprised mostly of low and medium-skilled workers while Singapore and Malaysia both boast skilled, service-based workforces (WEF, 2016). The country had the highest ratio of low-skilled labor in the region (over 40 percent) compared to 9 percent in Thailand and 8 percent in Singapore; and also suffers from the lowest labor productivity in the region (Table 11). These skills gaps suggest that the current tertiary education and training sector in Vietnam is detached from the demand of the labor market.

The country's lagging behind in skills education across all levels has its roots in the ineffective teaching practices which mainly involve content-based learning and teaching (Tran, 2012). The teacher-centered approach is prevalent in Vietnam because of large class sizes, limited materials and resources, and rigid quantitative curriculum without flexibility for higher levels of interaction and processing in classrooms (Thanh, 2010).

Among various attempts by the Government to address these skills gaps in education is the issuance of a new competency-based curriculum, launched in 2016, and will be officially implemented from 2020 (MOET, 2018). This revised national curriculum aims to alter the outdated teaching and learning methods based on the transmission of knowledge and memorization of facts with technology-based education to equip students with hands-on skills necessary for the

21st century. Compulsory subjects were reduced and complemented with optional and integrated subjects and theme activities.

In addition, the education assessment mechanism also went through major reforms including the removal of continuous assessment at the elementary level and a combination of high school graduation examination and university entrance examination into the National High School Examination in the 2016 (MOET, 2015). Changes in criteria, forms, and organization of assessment seek to save students and teachers from unnecessary stress and pressure, as well as motivate students' interest and autonomy in learning.

4. Recapitulation and the path forward

4.1. The recap notes

In consideration of other countries in the same income group, Vietnam makes a good example of achieving equity in access and quality. Exclusive of the astonishing rates of universalization, the young yet thriving education system is well-known for its ability to maintain large-scale low-end standards for students' performance. This might be attributed to the country's long tradition of valuing knowledge and scholarship, demonstrated by teachers', families', and all levels of authorities' commitment and investment in educational objectives. Together with support policies by the Government and effective collaboration with international organizations, it is justifiable that Vietnam could maximize the effects of the limited investment resources with prominent achievement figures.

However, there still remain for the country to concern. First, even though it seems that universalization of primary and lower secondary education has been achieved with the enrollment rates approaching 100%, the drop-out rates and attainment level of children, especially those of ethnic minorities (Riccio et al., 2013) with 21% not fully literate (CPTC, 2018), revealed the other side of the story. Second, teachers' professional development, especially renovation and innovation in pedagogical methods, is still left behind. Last, but most importantly, regardless of the high achievements

in international assessment papers, Vietnamese students at all study levels are reportedly lacking in skills and motivation as a result of the mismatch between education and practical market demands. The top priority mission of the education sector, to prepare human capital for the country's fast-growing economy, is yet to be fulfilled.

4.2. Lessons learned and future orientation

In the coming wave of transformation when the economy must switch from labor-inputs-based to knowledge-based, lifting labor productivity is a must for the country to escape the "middle-income trap" and become a high-income nation.

As warned by Boston Consulting Group (BCG, 2015), by 2030, most countries will face labor shortages, the key element to top economies in the world in this coming era is therefore human capital. In this regard, Vietnam is of advantage with the golden age population of which 25% is within 15 – 29 years old and about 50% of the labor force is under 40 (GSO, 2016b) (Figure 4). According to a report by PwC (PwC, 2017), Vietnam has high potential of moving into the top 20 countries with highest economic growth rates.

However, reports by international organizations have pointed out the fall in population growth rate and the rapid aging speed of the country (United Nations, 2017; World Bank, 2017). UNESCO has identified Vietnam as one of the world's fastest-aging societies (World Bank and MPIV, 2016). In 2017 the median age in Vietnam was 30.4 years; in 2050 it is projected to be 42.1 years (United Nations, 2017). As there will be more 65+ citizens, the proportion of working-age people in the population will decrease, and costs associated with age and health care will grow. By 2050, life expectancy is projected to be 82.1 years, up from 75.6 years in 2018 (United Nations, 2017). This leaves the country with no choice other than to boost the capacity of human resources by enhancing the quality of the education sector. The key foci of the education sector in the higher road will have to include the development of an Educational Strategic Plan together with the Socioeconomic Development Strategy with specific

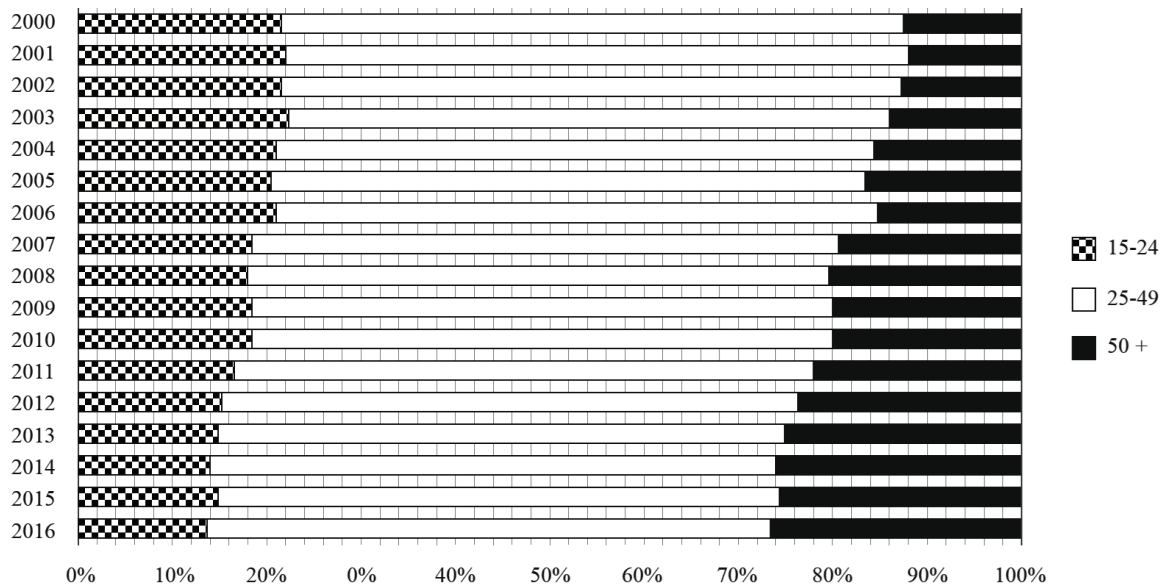


Figure 4: Percentage of labor force in different age groups, 2000-2016

(Source: GSO)

educational objectives, a prescribed process that coordinates and harmonizes different components of the education network, the implementation of guided practice with supporting institutional regimes, and, at the panoramic level, the integration of motivation and accountability pressure in the social and political system.

The way forward for the Vietnam education system is, inevitably, to address several fundamental questions: (i) What are the political mobilization mechanisms for prioritizing education in public expenditures?; (ii) What does it take to coordinate different learning and teaching components of an education system, such as curriculum, textbook, and assessment?; (iii) How can we measure learning outcomes based on students' development of skills?; (iv) What are the linking mechanisms between macro-level visions, policies and everyday practice of front-line teachers?; and (v) What motivates students to learn and what motivates teachers to have high expectations of the students?

The ultimate goal of these objectives is to construct an education system that focuses on developing learners' qualities and competencies through customization for individual potentials as well as supporting lifelong learning.

First, that requires the application of teaching and learning in real-life contexts to equip students with practical skills such as problem-

solving, ICT, and innovation for today's world since access to knowledge has been eased by technology, making qualifications no longer a "passport" for all as in the past (Cameron et al., 2018). Within this context, the new national general education curriculum has been approved and come into effect from 2020, switching from knowledge-based to a skills-based approach with a view to helping learners expand capabilities and develop core skills for the 21st century, including foreign language proficiency and ICT skills. These competencies are fundamental tools for lifelong self-expansion of knowledge, personal development, and innovation-based economic growth of the country (Lee, 2001; Mutula and Van Brakel, 2007; Vuong, 2019).

Renovation of the school curriculum could not be complete without adjustments in assessment and testing. The current approach of testing and assessment in Vietnam is still heavily knowledge-based, which favors rote learning, memorization of factual knowledge, cramming, and exam-oriented education. As a result, Vietnamese students, though achieving top results in test papers, are still lacking in practical skills that prepare them for their future careers. This would contribute to the mismatch between school education and real-life demands from the job market. Skills-based measurement of learning outcomes, which are now only in practice

at the primary level, should be implemented extensively and comprehensively, particularly in the high school national examination.

Last in order but not of importance, it should be noted that in the case of Vietnam with multiple reforms in education, what hampers the potential expected effects of a good policy has often been limitations in teachers' and staff's capacities. Most of them were undertrained to practice the changes in curriculum, pedagogical methods, testing, and management. To address this existing issue, Vietnam has developed various teacher training programs via in-site training courses as well as online platforms. In addition, to compensate for the deficit in number and quality of teaching staff, the development of online learning portals which eradicate outdated models to promote the lifelong learning capacity of students is critical. This also facilitates the education system's effort to offer multiple cost-effective pathways that suit variations in individual needs and learning styles, in order to cultivate and foster the motivation and passion of learners.

References

- ADB (2013), Viet Nam: Vocational and Technical Education Project, . Asian Development Bank.
- Anh Kiet. (2019). Vietnam spends 5.8% of GDP on education. Hanoitimes - Economic and Urban newspaper. Retrieved from <https://english.vietnamnet.vn/fms/education/216664/vietnam-spends-5-8--of-gdp-on-education.html>
- Azubuikwe, O. B., & Little, A. W. (2019), Learning Motivations, Learning Outcomes and Gender in Vietnam'. *Young Lives*.
- BCG (2015), A Study of Employment and Talent in the Digital Economy (Part I)'. Boston Consulting Group.
- Bodewig, C., & Badiani-Magnusson, R. (2014). Skilling up Vietnam: Preparing the workforce for a modern market economy. World Bank.
- Bui, A., Nguyen, C., Nguyen, D., Nguyen, T., & Pham, T. P. (2019). The Effect of Tuition Fee Reduction and Education Subsidy on School Enrollment: Evidence from Vietnam. *Children and Youth Services Review*. doi:10.1016/j.childyouth.2019.104536.
- Cameron, A., Pham, T., & Atherton, J. (2018), Vietnam Today – First report of the Vietnam's Future Digital Economy Project'. Brisbane: CSIRO.
- Clarke, M. (2016). The latest PISA results: Seven key takeaways. <http://blogs.worldbank.org/education/latest-pisa-results-seven-key-takeaways>. Accessed 2020.02.07.
- Communist Party of Vietnam (1979), Resolution 14 - NQ/TW' C. E. Committee. Hanoi: National Political Publishing House.
- Communist Party of Vietnam (1987), Document for the Sixth National Communist Party Congress' C. E. Committee. Hanoi: National Political Publishing House, p. 12.
- CPTC (2018), Report on 5-year implementation of Resolution 29-NQ/TW' C. P. a. T. Commission. Hanoi.
- Dang, H.-A. H., & Glewwe, P. W. (2018). Well Begun, But Aiming Higher: A Review of Vietnam's Education Trends in the Past 20 Years and Emerging Challenges. *The journal of development studies*, 54(7), 1171-1195. doi:10.1080/00220388.2017.1380797.
- Dang, H.-A. H., & Rogers, F. H. (2015). The Decision to Invest in Child Quality over Quantity: Household Size and Household Investment in Education in Vietnam. *The World Bank Economic Review*, 30(1), 104-142. doi:10.1093/wber/lhv048.
- Das, K. (2018). Labor Market Trends in Vietnam. <https://www.vietnam-briefing.com/news/labor-market-trends-vietnam.html/>. Accessed January 20 2020.
- Glewwe, P., Lee, J., Vu, K., & Dang, H. A. (2017), What Explains Vietnam's Exceptional Performance in Education Relative to Other Countries? Analysis of the 2012 PISA Data' *RISE Annual Conference, Center for Global Development, Washington, DC*,

- June. pp. 15-16.
- GSO, Major socioeconomic index in 2005 and 1986'. 24.05.2019. Available at: <https://www.gso.gov.vn/default.aspx?tabid=418&ItemID=4326>.
- GSO, The number of general education students every year'. Available at: <https://www.gso.gov.vn/default.aspx?tabid=722> (Accessed: May 24 2019).
- GSO, The number of universities and colleges in Vietnam, . 2019.05.14. Available at: <https://www.gso.gov.vn/default.aspx?tabid=722>.
- GSO, Vietnam National Budget'. 2020.02.08. Available at: https://www.gso.gov.vn/defaultpx?tabid=715&fbclid=IwAR1yNAam5MWajaUR_8JZJg910vvzLYLifUSIRwPvw9ppowvZ_fJGnoFwqAE.
- GSO (2010), Vietnam Household Living Standards Survey'. General Statistics Office.
- GSO (2012), Report on the 2011 Vietnam Labor Force Survey'. General Statistics Office.
- GSO (2016a), Education Financing in Viet Nam, 2009-2013'. General Statistical Office.
- GSO (2016b), Labour force at 15 years of age and above by age group Vietnam'. General Statistics Office.
- GSO (2017). National Accounts, State budget and Insurance. Statistical Yearbook of Vietnam 2017: Statistical Publishing House.
- GSO (2019), Vietnam Household Living Standards Survey'. General Statistics Office.
- Holsinger, D. B. (2003). Secondary curriculum question in Vietnam: What should be taught? Prospects: Quarterly Review of Comparative Education, 3(3), 339–352.
- ILISSA (2014), Skilled labour: A determining factor for sustainable growth of the nation'. Institute of Labour Science and Social Affairs. Available at: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/--ilo-hanoi/documents/publication/wcms_428969.pdf.
- Kataoka, S. (2019), Vietnam's Human Capital: Remarkable Education Success and Future Challenges'. Hanoi: The World Bank Group.
- Kennedy, K. J. (2012). Education in South-East Asia. Edited by Colin Brock and Lorraine Pe Symaco. British Journal of Educational Studies, 60(3), 280-281. doi:10.1080/00071005.2012.714544.
- Le, T. D., & Nguyen, T. T. H. (2016), Inequality in Educational Opportunities and Outcomes: Evidence From Young Lives Data in Vietnam'. Young Lives.
- Lee, J.-W. (2001). Education for Technology Readiness: Prospects for Developing Countries. Journal of Human Development, 2(1), 115-151. doi:10.1080/14649880120050219.
- Ministry of Science and Technology (2017), Vietnam Science and Technology Outlook 2016'. Department of International Cooperation.
- MOET, Vietnam education Statistics across all levels'. May 24th 2019. Available at: <https://moet.gov.vn/thong-ke/Pages/thong-ke.aspx>.
- MOET (2015), Decision No 3538/QĐ-BGDĐT on Approval of the National High School Examination from 2015' M. o. E. a. Training.
- MOET (2017a), Circular No 10/2017/TT-BGDĐT on regulations of distance learning at university level' Ministry of Education and Training.
- MOET (2017b), Statistics of Vietnam education system'. Available at: <https://moet.gov.vn/thong-ke/Pages/thong-ke.aspx>.
- MOET (2018), Circular 32/2018/TT-BGDĐT on the implementation of the National General Education Curriculum' V. M. o. E. a. Training.
- Montenegro, C. E., & Patrinos, H. A. (2014). Comparable estimates of returns to schooling around the world. The World Bank.
- Murray, H. (2012), Is school education breaking the cycle of poverty for children? Factors shaping education inequalities in Ethiopia, India, Peru and Vietnam' *Policy Paper 6*. Young Lives.
- Mutula, S. M., & Van Brakel, P. (2007). ICT skills readiness for the emerging global digital economy among small businesses in developing countries: Case study of Botswana. 25(2), 231-245. doi:10.1108/07378830710754992.
- Patrinos, H. A., Thang, P. V., & Thanh, N. D. (2018). The Economic Case for Education in Vietnam.
- Pham, L. H., & Fry, G. W. (2002). The Emergence of Private Higher Education in Vietnam: Challenges and Opportunities. Educational Research for Policy and Practice, 1(1-2), 127–141. doi:<https://doi.org/10.1023/A:1021130320485>.
- Pham, L. H., & Fry, G. W. (2004). Education and Economic, Political, and Social Change in Vietnam. Educational Research for Policy and Practice, 3(3), 199–222. doi:<https://doi.org/10.1007/s10671-005-0678-0>.
- Pham, L. H., & Fry, G. W. (2011). Vietnam as an outlier: tradition and change in education. Education in South-East Asia (pp. 221-243). Oxford, England: Oxford Studies in Comparative Education Series.
- Prime Minister (2010), Decision No 239/QĐ-TTg on approval of the universalization of kindergarten for five-year-old children from 2010 to 2015' T. G. Office.
- PwC (2017), Spotlight on Vietnam: The leading emerging market'. Price Waterhouse Cooper.
- Riccio, J., Dechausay, N., Miller, C., Nuñez, S., Verma, N., & Yang, E. (2013). Conditional Cash Transfers in New York City: The Continuing Story of the Opportunity NYC-Family Rewards Demonstration.
- Rolleston, C. (2016), Escaping a low-level equilibrium of educational quality'. RISE Working Paper 16/008. London: DFID.
- Rolleston, C., & Iyer, P. (2019). Beyond the basics: Access and equity in the expansion of post-compulsory schooling in Vietnam. International Journal of Educational Development, 66, 223-233. doi:<https://doi.org/10.1016/j.ijedudev.2018.09.002>.

- Rolleston, C., & Krutikova, S. (2014). Equalising opportunity? School quality and home disadvantage in Vietnam. *Oxford Review of Education*, 40(1), 112-131. doi:10.1080/03054985.2013.875261.
- Thanh, P. T. H. (2010). Implementing a student-centered learning approach at vietnamese higher education institutions: Barriers under layers of Casual Layered Analysis (CLA). *Journal of Futures Studies*, 15, 21-38.
- Thanos, M., Van, P., & John, G. S. 2018 (2018), Puzzle me this? The Vietnamese reverse gender education gap'. Helsinki, Finland: UNU-WIDER.
- Tran, J. (2012). Vietnamese higher education and the issue of enhancing graduate employability. *Journal of Teaching and Learning for Graduate Employability*, 3(1), 2.
- Trines, S. (2017). Education in Vietnam. *World Education News and Review*. Retrieved from <https://wenr.wes.org/2017/11/education-in-vietnam>
- UNICEF, & GSO (2018), Children with disabilities in Vietnam'.
- United Nations 33 (2017), World population prospects: The 2017 revision'. New York, United States: United Nations, pp. 1-66 2.
- Viet An (2017). How does universalization of Kindergarten benefit children in Vietnam? <https://dantri.com.vn/giao-duc-khuyen-hoc/pho-cap-mam-non-5-tuoi-dem-lai-nhung-quyen-loi-gi-cho-tre-em-20170627105555198.htm>. Accessed 18.06.2019.
- Villa, R. A., Van Tac, L., Muc, P. M., Ryan, S., Thuy, N. T. M., Weill, C., et al. (2003). Inclusion in Viet Nam: More Than a Decade of Implementation. *Research and Practice for Persons with Severe Disabilities*, 28(1), 23-32. doi:10.2511/rpsd.28.1.23.
- VNIES (2008), Evaluation of the gifted schools quality'. Vietnam Institute of Educational Sciences.
- VNIES (2010), Report on the assessment of the application of transformative teaching methods in general education'. Vietnam Institute of Educational Sciences.
- VNU (2006), Decision on the establishment of undergraduate gifted class, .
- Vuong, Q. H. (2019). Computational entrepreneurship: from economic complexities to interdisciplinary research. *Problems and Perspectives in Management*, 17, 117-129.
- WEF (2016), Human Capital Outlook Association of Southeast Asian Nations (ASEAN)'. Kuala Lumpur, Malaysia: World Economics Forum. Available at: http://www3.weforum.org/docs/WEF_ASEAN_HumanCapitalOutlook.pdf.
- World Bank (2017), Population growth (annual %)''. The World Bank Group. Available at: <https://data.worldbank.org/indicator/SP.POP.GROW?locations=VN&view=chart> (Accessed: 2019/05/22).
- World Bank (2018), Human Capital Index: Country Briefs and Data'. Available at: <https://www.worldbank.org/en/publication/human-capital> (Accessed: 7/2/2020).
- World Bank, & MPIV (2016), Vietnam 2035: Toward prosperity, creativity, equity, and democracy'. World Bank Washington, DC; The Ministry of Planning and Investment of Vietnam.