

USING THE RESULTS OF LARGE-SCALE ASSESSMENTS IN THE RENOVATION OF GENERAL EDUCATION IN VIETNAM

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ABSTRACT

Large-scale assessment has been used at both the national and international level as indicators to measure the functioning, productivity and equity of educational systems. Besides implementing its own large-scale assessment projects, Vietnam has participated in several international large-scale assessment programs for general education. This paper first outlines the development history of education in Vietnam. Next, it presents a procedure to diagnose the factors of the general education that influence students' learning outcomes, based on the collected data and results of national and international large-scale assessments. Finally, the goals, objectives, solutions, and reform programs would be designed from such procedure to improve the quality of education.

Keywords: Large-scale assessment; General education; Reform; Vietnam.

EDUCATION IN VIETNAM – DEVELOPMENT HISTORY

Since the Independence Day (September 2nd, 1945), Vietnam has conducted 4 renovations on education as the following: i) Education Reform I (1950-1955) with the guiding principle of “*building an education of the people, by the people, for the people*”; ii) Education Reform II (1956-1980) with the guiding principle of “*the implementation of 10-year general education system to meet the dual needs of the struggle for national unification and building the socialism.*”; iii) Education Reform III (1981-1995) with the guiding principle of “*the development of a new socialist*”; and iv) Education Development (1996-2012) with the guiding principle of “*the development of a citizen with the ideology of national independence and socialism*” (Central Committee, 1996; Communist Party of Vietnam, 1979; Vo et al., 1980).

The renovation in economy, politics, and society development (from 1986) has enabled Vietnam - one of the poorest nations in the world – to become a lower middle-income country with a GDP - per capital of over \$2,500 in 2018.

Despite a weak economy, the quality of education in Vietnam has seen significant changes, both in general areas as well as specialized sectors.

In terms of general education, Vietnam has completed the universalization of primary education in 2000, lower secondary education in 2010 (MOET, 2015a); Students of grade 2 and 5 achieved top rankings in Mathematics and Reading Comprehension at PASEC 10 (MOET, 2012); Students at age 15 placed 17th out of 65 in Maths, 8th out of 65 in Science, and 19th out of 65 in Reading Comprehension at PISA 2012 (OECD, 2013; MOET, 2015c); Vietnam participated in Intel ISEF competition, won the first prize in 2012, 2 fourth prizes in 2013, 2 fourth prizes in 2014, 1 fourth prize and the grand prize in 2015, 4 third prize in 2016 (MOET, 2015b).

In terms of specialized education areas, Vietnam has consistently achieved the top 10 countries in the regional and international Olympiad competitions since 2007. Particularly in 2015, 100% of the Vietnamese student participants have won the following: 2 Gold Medals, 3 Silver Medals, 1 Bronze Medal, and 2 Consolation prizes at Asian Physics Olympiad; 3 Gold Medals, 2 Silver Medals, 1 Bronze Medal at Asia-Pacific Informatics Olympiad; 2 Gold Medals, 3 Silver Medals, 1 Bronze Medal at International Mathematical Olympiad; 3 Gold Medals, 2 Silver Medals at International Physics Olympiad; 1 Gold Medal, 2 Silver Medals, 1 Bronze Medal at International Chemistry Olympiad; 1 Gold Medal, 3 Silver Medals at International Olympiad in Informatics; 1 Gold Medal, 2 Bronze Medals, 1 Consolation prize at International Biology Olympiad (MOET, 2015b).

Equality in education has recently become one of the focal points of Vietnam government and Communism Party through a series of policies, and specific socio-economic plans from central to local levels.

Accessibility of education for ethnic minority students has significantly improved through many policies such as: the development of boarding school system for ethnic minority students (308 schools in 2015), community-supported ethnic boarding school (867 schools in 2015); universalization of primary education; eradication of illiteracy; teaching ethnic languages (7 ethnic languages in 782 schools); etc. Accessibility of education for lower income groups has also improved through the Comprehensive Poverty Reduction and Growth Strategy: From 60% poor household nationwide in 1990 reduced to below 5% in 2015; the enrollment rate of poor households into primary schools is more than 90%, that of the lower secondary education is 70%. In 2015, approximately 32% of disabled children had access to schools (from kindergarten to high school), of which nearly 141.000 children are deaf, blind, intellectually challenged, speech & language impaired, physical & mobility impaired, and others (VNIES, 2016).

In terms of gender differences in learning outcomes, male and female students achieved virtually similar results. In PISA 2012, the difference in Mathematics scores between rural male and female students is 0.01 SD (9, 5 points), that of the urban areas is 0.01 SD (10,6 points), and that of the mountainous areas is also 0.01 SD (11,2 points) (OECD, 2013; MOET, 2015c). At the regional and international Olympiads, most of the Vietnamese groups have female participants, achieving the similar performance (MOET, 2015b).

Nonetheless, the stark difference in learning outcomes between regional and minority groups still existed. In PISA 2012: the average score of Maths and Science of the urban areas is higher than that of the rural areas, respectively 0.62 SD (550 to 488) and 0.44 SD (541.8 to 498.1); the average score of Maths, Reading Comprehension, Science of Kinh people's group is higher than that of the ethnic minority groups, correspondingly 0.52 SD (511,84 to 459,83;), 0.44 SD (509,26 to 465,73), and 0.37 (528,88 to 481,49) (OECD, 2013; MOET, 2015c).

DESIGNING THE REFORM POLICY FOR THE GENERAL EDUCATION OF VIETNAM

Large-Scale Assessment Policy

From 2001 till the present, Vietnam has held 4 national large-scale assessment on the learning outcomes of Maths and Vietnamese language for students at grade 5, in 2001, 2007, 2011, and 2014; national large-scale assessment on the learning outcomes of Maths and Literature and other subjects of students at grade 9 and 11, in 2009 and 2012.

The results of the aforementioned assessments have changed the perception of the MOET

towards the significance of large-scale assessment in improving the quality of education and policy planning in education. This is evident seen through the following milestones:

Centre for Educational Outcomes Assessment - Vietnam Institute of Educational Sciences – has been tasked with the assignments: to analyze the data and draft the national large-scale assessment report; and design the Circular (policy) on large-scale assessment;

The MOET has promulgated and implemented the Circular on the Regulations of Periodic National Assessment of Student's Learning Outcomes for general education institutes (Circular No 51/2011/TT-BGDĐT on November 3rd, 2011 of the MOET minister) (MOET, 2011). Table 1 refers to some essential articles of the Circular.

Table 1 SOME ARTICLES OF CIRCULAR NO 51/2011/TT-BGDĐT ON NOVEMBER 3RD, 2011 OF THE MOET MINISTER	
Article 3 The goals of the periodic national assessment	1. To assess the achieved standard level of knowledge, skills, and competencies of students according to the curriculum at the time of the assessment and other influencing factors.
	2. To build the longitudinal database for the assessment of students' learning outcomes to update and analyze the changing trends of students' learning, therefore examine effectiveness and impact of the new policies on the development of general education.
	3. To supervise and assess students' learning outcomes after a definite learning period, and hence contribute to the adjustment of the implementation of the current curriculum and create the practice basis for the development of the new curriculum.
	4. To recruit/train a team of national experts on the assessment of learning outcomes to conduct the national/international large-scale assessments.
	5. To provide the assessment results and methodologies to the general education institutes, in order to implement the assessments at provincial/city level as well as district level, building the basis of education policy making for the local authority.
Article 4 Scale, cycle, and time of the assessment	1. The periodic national assessment of students' learning outcomes in general education institutes is conducted in the nationwide scale.
	2. The cycle of the assessment is 3~5 years.
	3. The time of the assessment is specified in the Manual instruction for the academic year's tasks.
Article 5 Grades, content, subjects	1. The assessments will be conducted at grade 5, 9 and 11.
	2. The content of the assessment includes the knowledge, skills, and competencies according to the General education curriculum of the MOET.
	3. The subjects: Grade 5: Maths and Vietnamese Language; Grade 9 and 11: Maths and Literature. According to the specific purpose of the assessment, other subjects may be included, which is informed in Manual instruction for the academic year's tasks.
Article 6 Assessment Methodology	1. The assessment uses the written test with questions in both forms of MCQs and essays. The listening-comprehension, reading-comprehension, real-life situation and knowledge questions will be utilized.
	2. Advanced computerized techniques and software will be utilized to sample, design, administer, mark, input, analyze, and manage test data.
Article 7 Assessment Tools	1. Questionnaires, tests for the subjects of assessment.
	2. Questionnaires to collect data.
Article 8 Assessment Procedure	1. Establish the Steering Committee of the National Assessment.
	2. Design the General Outline plan.

3. Design the assessment plan.
4. Design the sampling database.
5. Select the pilot sample and official sample.
6. Design, experiment, evaluate, complete the assessment tools.
7. Provide professional training for the experts.
8. Launch the official assessment.
9. Marking, data input, and data clearance.
10. Analyze the data.
11. Write the Report.
12. Evaluate and complete the Report.
13. Announce the assessment results.
14. Collect feedback for the assessment results.

Using the Large-Scale Assessments to Design Reform Policies Towards the Radical and Comprehensive Renovation of General Education

To design reform policies towards radical and comprehensive renovation of general education, specifically improving the learning achievement of students, we utilized the model “From Assessment to Policy” of the Assessment and Teaching of 21st-Century Skills Project (ATC21S) (Care et al., 2012), of which 5 stages are: diagnosing the factors influencing student’s learning; generalizing the factors and model of competence development; designing the support activities for learning; Resource development and allocation, implementing support activities, and assessing the impact of the reform to learning; developing the model for the replication of successful factors (Figure 1).

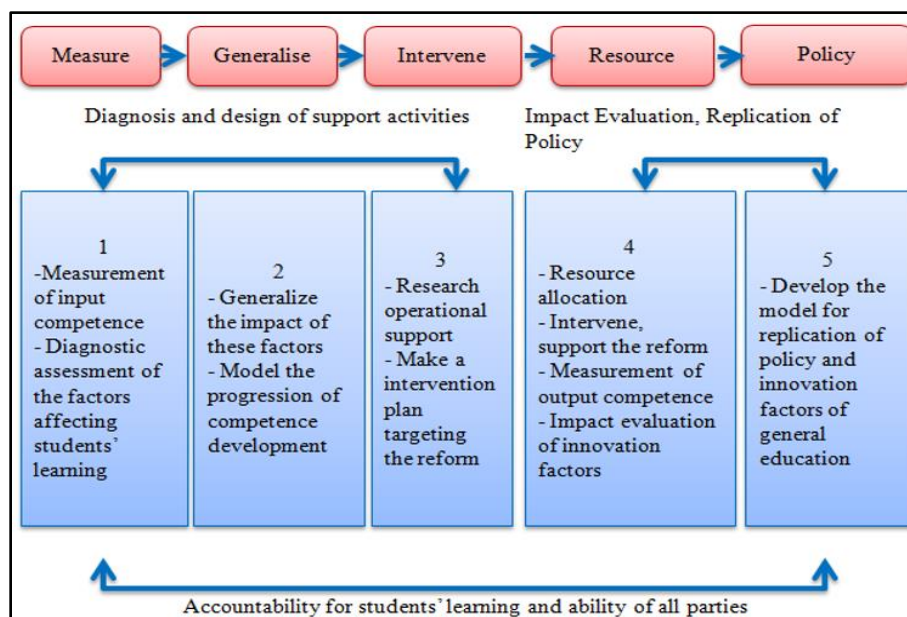


FIGURE 1
FROM ASSESSMENT TO POLICY OF ATC21S

Stage 1

To conduct a diagnostic assessment to identify the systemic factors that have an important influence on learning and student achievement based on the obtained database and information, such as quality of assessment system for Vietnamese students with SABER standard SABER, international assessments (PISA 2012, PASEC 10 in 2011, IGRA 2014) (OECD, 2013; MOET 2014], large-scale national assessments (Maths and Vietnamese for students at grade 5 in 2001, 2007, 2011, 2014; Maths, Literature, English, Physics for students at grade 9 in 2009; Maths, Literature, English for students at grade 11 in 2012) and other assessments/studies (Griffin & Nguyen, 2009; MOET, 2008; World Bank, 2004).

Stage 2

To identify the causation and correlation relationships, and factors influencing the student learning achievement in 5 steps: i) analyze the correlation relationship between the (independent) variables with learning achievements (dependent); ii) select the variables that create huge divergence between two student groups with polarizing results (low and high competencies; Kinh people and ethnic minorities people; urban and rural areas; low and high socio-economic background groups); iii) generalize the factors from aforementioned variables using PCA technique; iv) design Hierarchical Linear modelling (HLM), Multi-level modelling of the important influencing factors; v) identify their levels of impact on student's learning achievement and equality in education. Particularly, the Intra-class correlation coefficient - ρ is used to measure the difference of learning achievement between student groups: a value of ρ measures the difference in scores between provinces, and between students in the same province; another value of ρ measures the oscillation of scores between schools, and students in the same school.

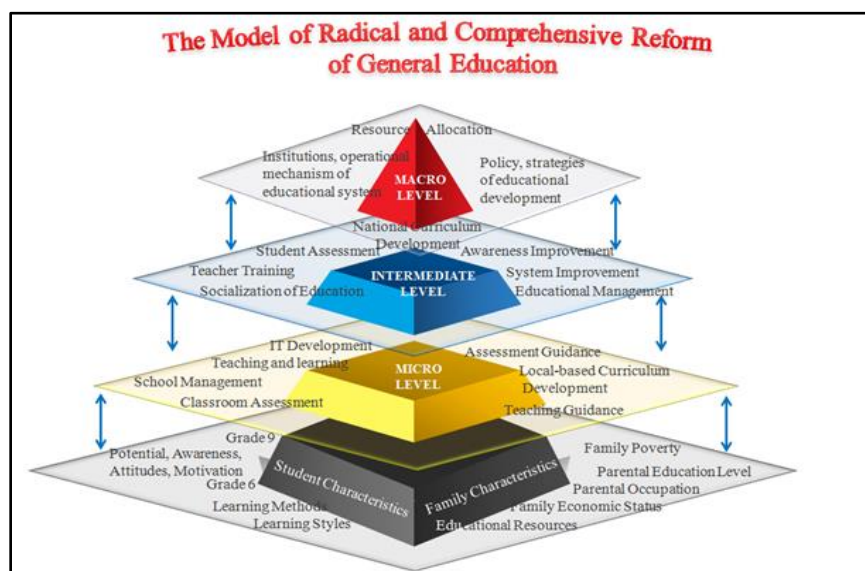


FIGURE 2

MULTI-LEVEL ANALYSIS MODEL ON THE INFLUENCING FACTORS OF LEARNING ACHIEVEMENT

Figure 2 illustrates that all three factors of systemic levels (macro – intermediate – micro) have the significant impact on student's learning achievement, which also are the main targets of the radical and comprehensive renovation.

The new curriculum is underway to be implemented in the academic year 2019-2020. It is currently designed to be focused on the following competencies: Calculation, reading comprehension, application of ICT and media, Problem solving, Communication, Cooperation, Self-study, and Self-management (MOET, 2015d).

The design of model/development continuum for each competency is developed based on the model of Robert Glaser and the assessment system BEAR (Wilson, 2009). The analysis of the competency development is based on RASCH model of Item Response Theory, and two major data analytical models are Partial Credit Model (to assess the development of the general competency) and Multidimensional Model (to assess the component factors of each specific competency). Finally, the development continuum would be integrated into the content of subjects, or the specific learning areas (Nguyen, 2015).

Figure 3 illustrate the development continuum of Problem-solving competency in Maths, which follows the above procedure. Other competencies can and will be developed with the similar continuum.

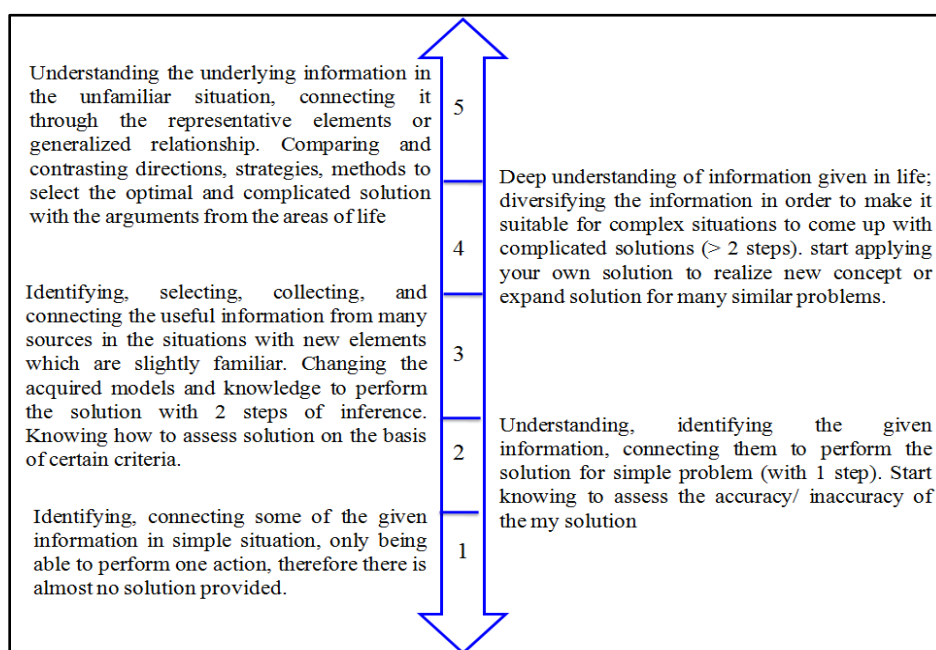


FIGURE 3
THE PROBLEM SOLVING COMPETENCE DEVELOPMENT CONTINUUM THROUGH MATHS

Stage 3

Based on the results of stage 1 and 2, the MOET designed the project “*The radical and comprehensive renovation of education and training of Vietnam*”. The project aims to reform the whole system of education, whose foundation is the general education. On that ground, the Central Committee (2013) promulgated the Decision “*Radical and comprehensive renovation of*

education and training” (Decision No 29-NQ/TW on November 4rd, 2013) to officially announce a new age of change and development for the education of Vietnam.

The goals and a number of objectives, solutions towards the reform of general education have been summarized in Table 2 (refers to the Decision No 29-NQ/TW on November 4rd, 2013).

Table 2 DECISION NO 29-NQ/TW ON NOVEMBER 4rd, 2013	
I. Goals	
	1. Focus on both mental and physical development; the formation of values and competencies; to find and nurture all talents; career orientation for students; to improve the quality of comprehensive education; to emphasize on the education of ideology, tradition, ethics, lifestyle, foreign language, informatics, competency and the practical ability to apply learned knowledge; develop the competency of creativity, self-study, lifelong learning; The completion of designing the general education curriculum post-2015; to guarantee that after lower secondary education (end of grade 9), students have the sufficient general background knowledge; high school education can provide adequate support in the preparation of occupational and academic choices; to improve the quality of the education universalization; to implement 9-year compulsory education post 2020.
	2. In 2020, 80% of the youth will finish the general education or similar alternatives.
II. Objectives, solutions	
	1. Enhancing the leadership of the Communist Party and the control of the government
	– To strongly affirm the ideas, goals, objectives, solutions toward the reform of education in the political system, education sector, and whole society. Raising awareness of the crucial roles of teachers and educational management staff; learner as the center of the learning process; family’s responsibility to collaborate with schools in educating the children.
	2. Continuous innovation and synchronization of essential factors of education in the focus of learners’ competencies and values
	– To clearly identify the outcome standards of each school level and subject.
	– Curriculum reform aims to develop the values and competencies of learners, balancing the ethics, intellects, physiques, and aesthetics; humanity, literacy, and vocation. The reform content is simplistic, modern, practical, appropriate with different ages, learning levels, and professions; increase in practice and application of knowledge; to focus on humanity, ethics, lifestyle, law-abiding citizenship; to emphasize on the essentials of Vietnamese culture, traditions, values, and the quintessence of mankind’s culture, core values of Marxism–Leninism and Ho Chi Minh ideology; To improve the knowledge of physical education, national defense, and career orientation; Learning and teaching informatics and foreign languages to be aligned with standards; To pay attention to the languages of the ethnic minority groups; to teach Vietnamese language and preserve the Vietnamese culture in oversea communities.
	– Continuous renovation on teaching and learning methods; to capitalize on the positivity, proactivity, creativity, and knowledge/skills application of learners; to mitigate the obsolete, teacher-centred teaching methods; To encourage self-study learning to constantly update knowledge; shifting from the traditional classroom environment to more diverse learning methods, such as social, extra-curricular, research activities; to promote the use of ICT and media in

	teaching-learning.
	– Design textbook, teaching-learning materials suitable for different learners' needs, focusing on ethnic minority and disability students.
	3. Radical reform on the assessment to guarantee the fairness and objectivity
	– The conducts of examination and assessment have to follow the standards and criteria which are accepted by the society and experts worldwide; to combine the assessment results of formative and summative assessments, teacher and peer assessments, school and community/family assessments.
	– Changing the exit exam methods and the verification of high school graduation towards the reduction of burden in cost and pressure for the society, without compromising the impartiality, fairness, and sound judgment of student's competencies, as the basis for the admission of vocational or higher education.
	– Completion of the assessment on the quality of education. Periodic quality assessment for education institutes. Focus on monitor, assess, control the quality of education with private, foreign institutes.
	4. Completion of education system in the orientation of the open, lifelong learning system
	– At the moment, the current general education has to be stable; to increase stream-lining after lower secondary school; career orientation in high school; to continue to research on the education reform for a system which is suitable with the specific conditions and background of the country, and the current trends around the world.
	– Encourage social responsibility to invest in building and developing high quality school at all levels (community-funded)
	5. Radical changes in educational administration are needed to ensure democracy and unity, as well as to improve the institute's autonomy and societal responsibility.
	– To identify the duties of educational administration organizations and other ministries, locals; To assign the administration task to education institute; To enhance the decentralization, responsibility, and generate motivation, creativity of institutes.
	– To empower the governing power of the government, especially the content, curriculum, and the quality of education of the overseas education institutes in Vietnam; to complete the administration regulations of foreign education institutes.
	– To standardize the quality criteria; to focus on the outcome standards. To establish the independent quality verification system for education. To promote the role of ICT and science-technology in education management.
	6. Developing teaching and education management staff for the reform
	– To design professional development plan for teachers and education management staff. To standardize the teaching staff of each school level with the goal being all teachers, lectures will have a university degree or higher, with pedagogic capabilities
	– To develop a pedagogic school system meeting the goals and training requirements of the reform; to prioritize on a number of key pedagogic schools; to have a distinct admission policy to attract candidates with high competencies, values, and pedagogic capabilities.
	– Continuous renovation on goals, content, training methods to improve the quality, responsibility, professional ethics and competencies.
	7. To actively integrate and improve the effectiveness of international cooperation in education
	– To actively integrate in education on the ground of independence, and

	socialist orientation, preserving the traditional values of Vietnamese people. To complete the uni/multi-lateral procedures, and operation of overseas institution commitments on education.
	– To establish regulations to support overseas organizations, foreign individuals, overseas Vietnamese people who are involved in the scientific research, application and transfer of science and technology in Vietnam; To strengthen cultural exchanges and international academics.

Stage 4 & Stage 5

From 2014 to 2030, the Vietnamese Government (2014) will implement reforms at all the levels of primary and secondary curriculum through the following actions:

1. Media project on the radical and comprehensive renovation of education.
2. Project to complete structure of the national education system.
3. Review and improvement of the network of training institutions for schoolteacher in period from 2014 to 2020 and vision to 2030.
4. Streamlining and career orientation Project in general education.
5. The project of renovation on curriculum, textbooks of general education
6. The project of renovation on forms and methods of design, inspection and testing, assessing the quality of education.
7. The project of renovation on training, retraining and professional development for teachers and managers of education establishments, and vocational training to meet the requirements of education and training renovation.
8. The project of renovation to support reform policies, financial policies for educational, vocational training and non-public institutions.
9. The project of renovation on the recruitment of officials and public servants based on the assessment of the competency of the applicants.
10. The project of renovation to ensure facilities for general education curriculum.
11. The project of renovation on reinforcement of schools and classrooms and public houses for teachers 2016 - 2020
12. The project of renovation on increased application of information technology in the management and support of teaching, scientific research to improve the quality of education.
13. The project of renovation on human resource development of ethnic minorities.

There are also many projects and plans using different loans or funds.

CONCLUSION

Vietnam has achieved remarkable success in improving the academic performance of high school students, especially in the context that the national economy just escaped poverty and international economy is still in crisis. The growth results of students in Vietnam has stabilized over the years, not only for specialized groups (represented by the regional and international Olympiads), but also with the mass group (represented by PISA 2012, PASEC 10 in 2011 and more other large-scale assessments at national level), not only for Kinh students but also for the ethnic minority students, to students with good living conditions as well as the students having poor living conditions ... However, to narrow down the achievement gap and access to education among these groups of students is still a great challenge for Vietnam.

Important factors create impressive academic achievements as well as the inequality in access to education, in the aforementioned study results was carefully analyzed by the education experts, based on data and results of the national and international large-scale assessments, based

on the creative application of models, theories and advanced assessment techniques around the world. These factors impact (both positively and negatively) to the achievement of students, occurring at all three levels of education management - macro, intermediate and micro. Hence, the Central Government issued Resolution “*Radical & comprehensive renovation of education and training*”, the Government launched the action plans to specify the directions of the Central Government, and the Ministry of Education and Training and other ministries, related industries implement different particular reform project.

This is a specific direction of Vietnam to utilize the assessment results on a large scale (national and international) to build the renovation policy of general education in Vietnam. The true effect of this approach as well as the lessons learned will be tested and proven after about 15 years, but we believe that the scientific approach as described above will be able to help educate Vietnam complete its renovation goals.

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