

## LITERACY OF OUR YOUNGSTERS: RESULTS AND RESTRAINTS FROM PISA

**Bahrul Hayat<sup>1</sup>**

### **Abstract**

This article focused on results of assessment of PISA on level of literacy of youngsters in a number of countries including Indonesia. Key findings comprised reading literacy, mathematics literacy, and science literacy of Indonesian youngsters and those of other countries are described. Several factors assumed to have impacts on the results of assessment covered impacts of gender, engagement on learning, family background, and school characteristics. There are several constraints faced by Indonesia that make the assessment result unsatisfying, namely, input and process of education. Constraints of education input cover 1) insufficient availability of educators and educational staff; 2) unavailable learning facilities or inefficient use of the facilities; and 3) inadequate education costs. Constraints of education process comprise 1) too much structured and heavily loaded content, and 2) teacher oriented instructional method. The constraints of education process cause instructional process ineffective. There are seven solutions that need to be organized to cope with the constraints. They are 1) the development of better curriculum, learning method, and assessment system, 2) the capacity of educators' profession, 3) the improvement of facilities and learning materials, 4) a life skill education, 5) the development of a superior school on basic education, 6) the improvement of quality and relevance of education, 7) the use of ICT for schooling and learning system.

### **A Brief description of PISA**

The Programme for International Student Assessment (PISA) was developed by member countries of the Organisation for Economic Cooperation and Development (OECD) which **involved** 42 participating countries. PISA is aimed at generating internationally comparable indicators of student's achievement in reading literacy, mathematical literacy, and scientific literacy.

PISA assessment covers three periods, namely 2000, 2003, and 2006. The primary focus of PISA 2000 was on the assessment of reading literacy skills, whereas Mathematical literacy and scientific literacy were treated as secondary focus. PISA 2003 was focused on mathematical literacy, and the focus of PISA 2006 is on scientific literacy (see Table 1).

---

1 Associate Professor in Psychometrics at Universitas Indonesia, Universitas Pendidikan Indonesia, and Universitas Islam Negeri Jakarta; National Project Manager for PISA study, and now Secretary General. Ministry of Religious Affairs. The writer is indebted to Dr. Suhendra Yusuf, M.A., and Dr. Wachyu Sundayana, M.A. for preparing the data needed for this report.

Year	Major Focus	Minor Focus	Additional Areas of Interest
2000	Reading Literacy	Mathematical Literacy Scientific Literacy	Equity and literacy Reading attitudes and habits Students' self-regulated learning
2003	Mathematical Literacy	Scientific literacy Reading literacy Cross-curricular Problem solving	Variables associated with performance in mathematical literacy, Attitudes to mathematics
2006	Scientific Literacy	Reading Literacy Mathematical Literacy	Information and Communication Technologies; Attitude to science

Table 1. The Focus of PISA 2000 and Subsequent PISA Cycles

In the last two cycles of PISA, the assessments include students' cross-curricular problemsolving skills, and a comprehensive measure of students' familiarity with information and communication technologies.

The data collected in PISA study consists of three aspects: knowledge, students' background, and school background. The data on knowledge aspects includes reading literacy, mathematical literacy, and scientific literacy. In PISA, reading literacy is defined as 'understanding, using, and reflecting on written texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society (OECD, 1999). Mathematical literacy is defined as 'an individual's capacity to identify and understand the role of mathematics play in the world, to make well-founded mathematical judgments and to engage in mathematics, in ways that meet the needs of that individual's current and

future life as a constructive, concerned and reflective citizen.'(OECD, 1994). Whereas, scientific literacy is defines as 'the capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.' (OECD, 1999).

The data on students and school backgrounds were collected using questionnaires which were administered in connection with the assessments. The school questionnaire was completed by school principals focused on school management, organizational and resource variables that may be associated with students' performance. The student questionnaire used to collect information on individual student variables (e.g., socioeconomic status, parents' education, attitudes towards the three areas of knowledge, reading, mathematics, and science and

their learning engagement). The key features of PISA 2000 assessment, for example, can be seen in Table 2.

Table 2

Key features of the PISA 2000 Assessment

- An internationally standardized assessment of 15-year olds, jointly developed by Participating countries and administered to over 250,000 students in 42 countries
- A focus on how young people near the end of compulsory schooling can use their Knowledge and skills to meet real-life challenges
- An emphasize is on the mastery of processes, the understanding of concepts, and the ability to function in various situations within each assessment domain
- The administration of paper-and pencil assessment involving both multiple-choice items, and items requiring students to construct their own answer
- The development of a profile of skills and knowledge among students at or near the end of compulsory schooling
- The development of background indicators relating results to student and school characteristics
- The development of trend indicators that can tract changes over time

### **The Purpose of Participation**

In conjunction with the instruction of Law No. 20/2003 on Indonesia National Education

System and Government Regulation No 19/2005 on National Education Standard, the goal of primary education is to provide the Indonesian 15-year olds with foundation of intelligence, knowledge, good personality and conduct, and skills for their life and continuing their education. To ascertain the accomplishment of the goals, the Department of National Education implements education assessment system, which to a certain extent, covers the following:

(1) teacher-made test whose purpose to get feedback to improve the teaching and learning processes in the classroom; (2) School examination which is mainly focused to measure the achievement of the standard of graduate competence (as supplement to national examination); (3) National examination focusing on three main subjects, Indonesian language, Mathematics, and English with the main goal is to measure the achievement of the standard of graduate competence; (4) International comparative studies, like PISA to get information on profile of knowledge, skills, and competencies of Indonesian students that can be utilized as feedback for policy making to improve the quality of teaching and learning of the three subjects, science, reading, and mathematics at the end of compulsory schooling and to get the background indicators relating results to student and school characteristics and other variables. Other purpose of the participation in PISA assessment is to determine the threshold and the benchmark of basic competencies in the three school subjects.

## **The Implementation**

PISA study was organized by international consortium chaired by Australian Council for Educational Research (ACER) consisting of famous international testing centers in the world, such as The Netherlands National Institute for Educational Measurement (CITO), Educational Testing Center, USA, and National Institute for Educational Research (NIER) in Japan. PISA study involves 42 countries coming from both OECD countries and non-OECD countries.

In Indonesia, PISA study is coordinated by Center for Education Assessment (CEA), Department of National Education. In PISA 2000, the samples of the study were 290 schools involving 7,355 15-year old students within the school system. The schools were selected according to school types (public schools and private schools covering general secondary schools, vocational secondary schools) with the following composition: Junior Secondary Schools (38%), Islamic Junior Secondary Schools (27.6%), General Secondary Schools (15.95%), Islamic Secondary Schools (8.5%), and Secondary Vocational Schools (9.7%).

In PISA 2003, the samples of the study were 350 schools were selected involving more than 10,000 students. A two-stage stratified sample design was used. In the first stage, schools in the sampling frame were grouped into three strata according to the total number of 15-year olds in the school system. Within the strata, schools were categorized by school types (public

schools and private schools covering general secondary schools, vocational secondary schools), school rank (good, fair, and poor), and provinces. In the second stage of sampling, the required number of 15-year old students within each participating school was selected at random.

The administration of the PISA assessment goes through the following stages: (1) Assessments instruments were distributed and administered to the samples in schools by the trained staffs from CEA; (2) the assessment was conducted for 120 minutes as spelt out in the guidelines for PISA assessment, (3) Appointed and trained inspectors monitored the testing sessions in the selected schools, (4) following the assessment, students' responses were scored at CEA by trained markers using detailed marking guides provided by the PISA consortium.

## **Key Findings**

### ***Reading Literacy Achievement***

The achievement of Indonesian students on reading literacy at all levels compared to both Asian countries and OECD countries can be seen at Table 3.

Though the achievement of Indonesian 15-year old students on reading literacy skills is lower than other Asian countries and OECD countries, there was an improvement in the scores achieved by the students in PISA 2003. In PISA 2000 the average scores attained were 371 whereas in PISA 2003 the average scores were 383 as shown in Table 4.

The achievement Indonesian 1 Literacy for each and all contents can  
5-year old students on Mathematical be seen in Table 5

Table 3. The comparative Achievement of Reading Literacy Skills

	< L-1	L-1	L-2	L-3	L-4	L-5	Mean
Indonesia	26.0	37.2	27.3	8.2	1.2	0.1	382
Thailand	13.5	30.5	34.3	17.0	4.1	0.5	420
Korea	1.4	5.4	16.8	33.5	30.8	12.2	534
Japan	7.4	11.6	20.9	27.2	23.2	9.7	498
Hong Kong	3.4	8.6	20.0	35.1	27.1	5.7	510
OECD	6.7	12.4	22.8	28.7	21.3	8.3	494

Table 4. The comparative achievement on Reading Literacy Skills between PISA 2000 and 2003

	< L-1	L-1	L-2	L-3	L-4	L-5	Mean
PISA 2003	26.0	37.2	27.3	8.2	1.2	0.1	382
PISA 2000	31.1	37.6	24.8	6.1	0.4	0.0	371

Table 5 Indonesian Students' Achievement in Mathematical Literacy for each and all contents

Content	< L-1	L-1	L-2	L-3	L-4	L-5	L-6	Me
Space & Shape	49.7	25.9	15.5	6.6	1.8	0.4	0.1	361
Change & Relationships	59.6	20.2	12.3	5.4	1.9	0.6	0.1	334
Quantity	51.1	24.7	14.9	6.1	2.1	0.6	0.1	357
Uncertainty	35.3	36.7	20.4	6.2	1.3	0.1	-	385

Compared to other countries, both Asian and OECD countries, the achievement of Indonesian students in mathematical literacy for each level can be seen in Table 6.

Table 6 The comparative achievement of Indonesian Students in Mathematical Literacy with both Asian and OECD Countries

	< L-1	L-1	L-2	L-3	L-4	L-5	L-6	Mean
Indonesia	50.5	27.6	14.8	5.5	1.4	0.2	-	360
Thailand	23.8	30.2	25.4	13.7	5.3	1.5	0.2	417
Korea	2.5	7.1	16.6	24.1	25.0	16.7	8.1	542
Japan	4.7	8.6	16.3	22.4	23.6	16.1	8.2	534
Hong Kong	3.9	6.5	13.9	20.0	25.0	20.2	10.5	550
OECD	8.2	13.2	21.1	23.7	19.1	10.6	4.0	500

**Scientific Literacy (PISA 2003)**

Indonesian student achievement in Scientific Literacy as compared to other Asian countries and OECD countries was at the lower groups

with the mean scores of 395. With this score, Indonesian achievement was at the lower group followed by the other two countries, Brazil (390) and Tunisia (385).

Table 7 The comparative achievement of Indonesian Students in Scientific Literacy

Countries	Percentile of-						Mean
	5	10	25	75	90	95	
Indonesia	285	310	350	438	483	512	395
Thailand	303	329	373	480	537	571	429
Korea	365	405	473	609	663	695	538
Japan	357	402	475	624	682	715	548
Hong Kong	373	412	478	608	653	680	539
OECD	324	362	427	575	634	668	500

## **The impacts**

### *The impact of gender*

The importance of reducing educational disparities between male and female students performance as expected by PISA has long been the concern of the Indonesian authorities in the Department of National Education. It is in no doubt that significant progress has been achieved in reducing the gender gap in educational attainment in the last decade. This is because of the awareness of the impact that education has on participation in the labour market, occupational mobility and the quality of life of males and females in our contemporary lives.

As reported on the PISA 2003 assessment, younger women today are far more likely to have completed a tertiary qualification than women 30 years ago. In 13 of the 30 OECD countries with comparable data, more than twice as many women aged 25 to 34 have completed tertiary education as women aged 55 to 64 years. University-level graduation rates for women now equal or exceed those for men in 17 of the 30 OECD countries and **in all** but one of the non-OECD countries for which comparable data are available.

Nevertheless, in certain fields of study, gender differences in tertiary qualifications remain persistently high. International studies have indicated that relatively small gender differences in favour of males in mathematics and science performance in the early years of schooling become more pronounced and pervasive at higher grade levels in many countries, including in Indonesia.

To shed light on these issues, PISA analysed gender differences in three areas: academic performance, occupational choice, and professional aspirations. In every country females, on average, reach higher levels of performance in reading literacy than males -- with an overall difference of 32 points, or almost half of one proficiency level. In reading literacy gender differences range from 20 score points or less in Indonesia, just like in Brazil, Israel, Hong Kong-China, Korea, Mexico and Peru to 50 points or more in Albania, Finland, Latvia and FYR Macedonia.

In mathematical literacy they range from 18 score points favouring females in Albania, not statistically significant differences in 25 of the 42 participating countries to 27 score points favouring males in Austria, Brazil and Korea. However, males tend to perform at somewhat higher levels in most countries, with an average gap of 11 points.

In scientific literacy there are fewer differences between males and females - with males doing better in three countries, females better in six countries and 33 showing no statistically significant gender differences.

Female students are more likely than males to report expected occupations related to life sciences and health as well as teaching, whereas male students more often expect careers associated with physics, mathematics or engineering or occupations related to machinery.

PISA classified students' expected professions at age 30 into

four socio-economic categories, from low-skilled blue-collar to hi-h-skilled white collar. The results showed that in 40 of the 42 countries females seem to have higher expectations toward their future occupations than males by expecting a white-collar occupation.

The evidence from those countries where gender differences are not large may be that effective policies and practices can overcome what were long taken to be the inevitable outcomes of differences between males and females in learning style - and even in underlying capacities.

Indeed, the results make clear that some countries provide a learning environment or broader context that benefits both genders equally.

#### *The impact of engagement on learning*

Students need effective approaches to learning both to succeed at school and to meet their learning needs later in life because most children come to school ready and willing to learn. Schools have to foster and strengthen this predisposition and ensure that young adults leave school with the capacity to continue learning throughout life.

That the students have to regulate the learning process, taking responsibility for reaching particular goals in self-study is not the types of outcomes pursued as a specific part of the curriculum yet they can be strongly influenced by students' experiences at school and play a crucial part in their future. PISA looked at student approaches to learning, especially it examined the way students handle and

address learning tasks in school and the extent to which they are able to identify and pursue their own learning goals by applying strategies and drawing on their motivation.

Regarding study habits, the average difference in reading scores between those who reported that they "almost always" study as hard as possible and those reporting that they "almost never" do was 13 points in OECD countries. In Brazil, Bulgaria, Denmark, FYR Macedonia and Hong Kong-China the gaps ranged from 61 to 73 points.

Data also show that the difference in reading performance between those students who reported not skipping class and those who reported doing so five times or more was 75 score points or more in 12 countries including Argentina, Chile, Thailand, and Indonesia.

The results show that those most likely to memorise information do not always achieve the best results, while those who process or elaborate what they learn do well.

Students who spend more time reading for pleasure, read more varieties of materials and show more positive attitudes towards reading tend to be better readers, regardless of their family background and the wealth level of the country that they are from.

Females generally score higher than males in reading, however, male students who are more engaged in reading tend to outperform female students who are less engaged in reading. Such results suggest that reading engagement is an important



factor that distinguishes between high-performing and low-performing students, regardless of their gender. Reading engagement and reading performance may be mutually reinforcing. In this sense, an important policy tool is to encourage schools and parents to cultivate good reading habits in students.

#### *The impact of family background*

PISA also examined the relationship between student family background and literacy performance both in terms of the impact of background characteristics on individual students and the overall situation in participating countries. It is assumed that home background influences educational success, and socio-economic status may reinforce its effects.

Although PISA shows that poor performance in school does not automatically follow from a disadvantaged socio-economic background, it appears to be one of the most powerful factors influencing performance on the reading, mathematical and scientific literacy scales. While PISA consistently shows a relationship between advantaged family backgrounds and higher levels of literacy performance for students in every country, the patterns of this influence varied both within and between countries.

Analysis covered the following areas:

*Parental occupational status.* The effects of parental occupational status on literacy performance differ across countries. Differences in reading

scores between students in the top and bottom quarters on the international socioeconomic index of occupational status range from less than 50 points in Hong Kong-China, Korea and Thailand to more than 110 points in Germany and Switzerland. In half of the non-OECD countries, these differences are either equal to, or larger than, 81 points, which is the average difference for OECD countries as a whole.

*Family wealth.* In every country except Albania and Iceland, students from wealthier families on average tend to have higher reading scores. For non-OECD countries, the gaps in reading scores between the top and bottom quarters of the index of family wealth range from 16 points in Latvia and FYR Macedonia to 91 points in Argentina.

*Possessions related to "classical" culture.* PISA assessed the extent to which students come from homes where cultural possessions such as classic literature and works of art are present and how this factor related to achievement. The differences in mean scores on the combined literacy scale between the top and bottom quarters of the national index of cultural possessions range from 10 and 12 points in Indonesia and Thailand to 100 points in Luxembourg. The gaps associated with cultural possessions are smallest in the five Asian countries (less than 52 points).

*Parental education.* In all countries students whose mothers have completed upper secondary education (ISCED 3) have higher levels of performance in the three domains of

literacy than students whose mothers have not completed upper secondary education. Nevertheless, in Hong Kong-China the mean reading score of students with the least educated mothers is higher than the mean scores of students whose mothers have completed upper secondary or even tertiary education (ISCEDS/6) in all the other non-OECD countries except Liechtenstein.

Communication *with parents on social issues and aspects of culture*. PISA surveyed students on how often they interacted or communicated with their parents in three cultural areas (discussing political or social issues; discussing books, films or television programmes; and listening to music together) and in three social areas (discussing how well the student was doing in school; eating the main meal with the student; and spending time just talking). Results show that students who report more frequent interaction with their parents on both cultural and social issues tend to perform better on the combined reading literacy scale in every country.

Social communication is closely related to reading scores in most non-OECD countries, while cultural communication is closely related in most OECD countries.

*Family structure*. Since single-parent families on average have lower income than two-parent families and must cope with the double responsibility of work and child-rearing, it may be more challenging for them to provide and maintain a supportive learning environment for

the children. The relative performance in reading literacy of students from single-parent families is mixed.

In OECD countries students from single-parent families have reading scores that are on average 12 points lower than students from other types of families. In non-OECD countries the same pattern holds in Hong Kong-China, Israel, Liechtenstein and Latvia.

In the remaining non-OECD countries, however, students from single-parent families have roughly similar levels of reading literacy as students from other types of families.

As expected, students from advantaged socio-economic backgrounds tend to have higher reading scores than students from disadvantaged backgrounds. More importantly, while all countries show a clear positive relationship between home background and educational outcomes, some countries demonstrate that high average quality and equality of educational outcomes can go together: Canada, Finland, Hong Kong-China, Iceland, Japan, Korea and Sweden all display above-average levels of student performance on the combined reading literacy scale and, at the same time, a below-average impact of economic, social and cultural status on student performance.

#### *The impact of school characteristics*

PISA underlines the fact that a student's home background is only part of the story of socio-economic disparities in education - and in most countries the smaller part. The combined impact of the school's socio-economic composition can have

an appreciable **effect on** the student's performance, and generally has a greater effect on predicted student scores than the student's own family characteristics. Student performance is shaped not only by the individual characteristics and family backgrounds that they bring to the learning process but also by the resources, admissions policies and approaches to learning that characterise the schools they attend.

This represents a significant challenge for public policy, which strives to provide learning opportunities for all students irrespective of their home backgrounds.

In fact, in about one third of all PISA countries, the impact of the school-level effects is greater than the impact of student-level characteristics. Another key finding is that beneficial school effects are reinforced by socioeconomic background.

Schools with more resources and policies and practices associated with better student performance tend, to varying degrees, to have more advantaged students. The net result of this effect is that in countries where there is a high degree of segregation along socioeconomic lines, students from disadvantaged socio-economic backgrounds do worse. This, in turn, means that some of the *inequality of outcomes* observed in the analysis of socioeconomic gradients is associated with *inequality of opportunity*.

In other countries, there is relatively little socio-economic segregation, i.e., schools tend to be similar in their socioeconomic composition. Education policy in these

countries might aim at moderating the impact of socio-economic background through measures aimed at improving school resources and reducing within-school segregation according to students' economic, social and cultural status.

**In** countries where the impact of socio-economic background on student performance is moderate, not all successes can be credited to the education system and, in countries where the impact is considerable, not all of the problems should be attributed to schools either.

PISA results suggest that school policy and schools themselves can play a crucial role in moderating the impact of social disadvantage on student performance. The results reveal some school resource factors, school policies and classroom practices that appear to make a significant difference to student performance. The extent to which students make use of school resources, and the extent to which specialist teachers are available, can both have an impact on student performance.

### **The constraints**

The relevant explanation of this unsatisfactory result of the survey can be traced back to the very basic education policy and the availability of education infrastructure because the education quality is related to a mutually influencing system. The quality of output is influenced by the quality of input and process. The outcomes of quality assessments are utilized to reflect the implementation of education program prepared to aid decision makers.

Education input can be seen from the readiness of the pupil in the opportunity of getting education. However in reality this is not fulfilled because the children are malnourished and other limited conditions. The data (2003) reveal that of about 18 million children under 5-year old, about 28% or five million children are malnourished. It gives much reason for concern that of the total number of the malnourished under 5-years old, about 40% is less than two years old.

The input component which is significantly influence the improvement of education quality includes: (1) inadequate availability of educators and educational staff, (2) learning facilities that are not yet available or not yet efficiently used, and (3) inadequate education cost to support the quality education.

In 2002-3 the total amount of teachers were about 2.6 million from the pre-school education level up to the secondary level, both at public as well as private schools. Teachers are still needed in particular to solve the shortage of teachers which is estimated to be about 427,903 persons. An effort to obtain educators especially teachers is not yet **filled up** the teacher shortage as a consequence of the large number of teachers who retired, stopped working, were relocated, and passed away. Therefore, as of 2003 through the decree of the Minister of National Education, the procurement of assistant teacher has been undertaken in the number of 190.332 persons and in 2004 around 71,309 persons.

The ratio is an indication that the teacher efficiency is caused by several factors, namely the large number of teachers clustering in urban areas, the curriculum which is very specialised in secondary education, and the large number of small schools with an average number of pupils less than 100 persons. The ratio of pupil's service per teacher will be an important policy issue in the improvement of the quality and efficiency of education, since it will be an obstacle to the education unit operational costs and an adequate teacher's salary level.

The other problem is that there are still a lot of teachers who do not teach according to their expertise (mismatch) in particular at the level of private schools. The data (2004) mention that the percentage of teachers who do not qualify for teaching is still quite high, approximately 609,217 persons (49.3%) both at public and private schools.

These teachers do not yet have adequate salaries compared to the teachers' salaries in neighbour countries, such as Malaysia, Brunei, or Singapore, although compared to other Indonesian civil servants, the civil service teachers' salaries are relatively much better due to the functional allowance. This condition that gives reason for concern is also felt by the assistant teachers at public schools who have an income below the regional minimum wages.

Other related problem is the issue of protection of the teacher in carrying out his/her professional duties, which is not yet optimal, such as: early

retirement and unfair treatment of teachers. Meanwhile, the appreciation of educators and educational staff who have performed well and are dedicated is also still minimal. This may cause a low productivity of the educator and educational staff. In addition, an issue that is also important in connection with the enforcement of regional government is that teacher management is not yet effective and efficient.

The education supporting infrastructure is not yet fully adequate. This can be seen for example by the unavailability of a library in the school. On a national scale, only 27.6% of elementary schools already have a school library. In addition, there is an unequal distribution by province.

Other facilities that influence the education quality are the availability of books. On a national scale, the average ratio of books per pupil is not yet of one pupil one book.

A bigger problem is not only found in the availability of books but also in the effectiveness of such textbooks in improving the quality of education.

Another matter in connection with education facilities and infrastructure is the use and utilisation of information and communication technology (ICT). Although still within a limited scope, education in Indonesia already utilises ICT in management and learning. The ICT is an important issue in the Indonesian education development. To catch up it will be necessary to expand and intensify ICT utilisation in the management of education through automation of

data collecting, office matters, and as curriculum matter as well as media in the interactive learning process.

Inadequate education budget, both from the aspect of availability as well as in its efficient management also hinders quality. The education development during the last five years (2000-2004) has already been assigned the highest priority in the national development as shown by the provision of the development budget with the biggest portion compared to other development fields. The Government's commitment in carrying out the Constitution has gradually started to be realised. However it only reaches 6.6% yet of the State Budget spent by the central government which also does not yet cover the budget allocated by the regional government through the Regional Budget. The Central Government and the regional government also are not yet capable of providing free basic education services.

Compared to other countries, the allocation of the education budget in Indonesia is still low. The report of Human Development Index (2004) discloses that during the period 1999-2001 Indonesia only allocated public expenditure as much as 1.3% of the Gross Domestic Product (GDP). Meanwhile during the same period, Malaysia, Thailand, and the Philippines subsequently allocated 7.9%, 5.0%, and 3.2% of their GDP. However the 2003 National Social and Economic Survey disclose that the average expenditure per capita for education has reached 2.2% in rural areas and 4.5% in urban areas or a national average of 3.5%.

The people's contribution in providing the education budget is still higher than the budget contribution from the government. This shows a big potential if 20 % of the State Budget/ Regional Budget could be realised with the assumption that the people's contribution is of a constant nature.

The Government allocate the larger portion of the budget on teachers' salaries, while the operational costs other than salaries reach at the most 5-10%. As a consequence the financing of learning facilities, staff development, and maintenance costs of the school facilities and infrastructure is quite low so that it does not support the effort of improving quality. Variations between regions and education units regarding education costs, including financing of salaries and other than salaries still have a big potential of creating unfairness in an equal distribution of quality education.

The learning process is reported also ineffective. The learning process thus far is still too much oriented on the mastering of theory. The learning methods are too much teacher oriented and tend to neglect rights and needs, growth and development of the children, so that a pleasant, interesting and mind developing learning process is not optimal.

The learning content that is too much structured and heavily loaded also causes the learning process in schools to become sterile to the condition and changes in the physical and social environment. This condition causes the learning process to become a routine, not attractive and unable

to foster the creativity of the pupil, the teacher and the school principal to develop an innovative learning approach. This problem is added by the dominant development of the left side of the brain, so that the creative and innovative ideas of the pupils become dull. The low quality of learning occurs at nearly all levels and types of education and may lead to a low education efficiency rate, grade repetition rate and school dropout. However, the potential of the pupils can also be seen from the success of the pupils in managing to get various awards in the international Olympics in science and mathematics. These talented students come from schools that have a good guidance system and supported by quality teachers.

### **Coping the constraints**

PISA portrays the students with problems primarily set in real-world situations. These are constructed in such a way that aspects of reading, mathematics, and science literacy would be of genuine benefit in solving the problem. The objective of the PISA assessment is to obtain measures of the extent to which students presented with these problems can activate their knowledge and competencies to solve the problems successfully. It is expected that these life skills that will enhance our students' learning process will be a benefit for students at school; even larger benefits are likely to accrue when they live together in the society.

Understanding gender differentiation in student's achievement is also important because it indicates how

equitably the benefits of schooling are being shared among students from differing socio-economic backgrounds, at least in terms of student performance.

According to Doronila (1997), the cognitive benefits of literacy are probably mediated rather than direct, that is, cognitive changes are a result of being part of a literate community. This suggests that efforts directed towards developing a more literate and more thoughtful population should be directed to integrating literacy activities to the central economic and sociocultural activities of the communities and not just to teaching literacy. In such an approach even illiterates should be able to develop advanced thinking skills. We also ensure the sustainability of the literacy practices (whether acquired formally or informally) in the community.

This literacy survey like PISA will benefit the policy makers to augment deeper understanding of the interrelationship of literacy development and social transitions that should provide new insights with which to develop strategies and approaches to meet the needs of the vast numbers of students who could benefit from enhanced literacy for their future lives as well as the improvements of existing educational programs.

The improvement of education quality will be done through the following activities. First, the development of curriculum, learning method, and assessment system, as a part of the basic and systematic activity in developing the education quality. Second, the capacity of

educators' profession will also be developed in order to perform an effective learning process based on the existed competency standard. Third, the improvement of facilities and learning materials, such as: library, learning media, laboratory for language/Science/Maths, educational tools, modules, and other relevant books. Fourth, a life skill education will be given to the secondary school graduates, who can not effort to continue their study, so that they are able to work. Fifth, the development of a superior school on basic education has targetted in each district/town will become a local superior school in year 2009, and the same target also addressed to the international school. Sixth, the improvement of quality and relevance in Vocational Education is implemented by improving the study or major program which is in line with the employment world needs. Seventh, the use of ICT for the schooling and learning system will be developed with the same model.

### **Lessons and implications**

There are important issues to be addressed concerning how literacy programs should be designed and supported to enhance the quality of education for young adults. Literacy programs should teach functional skills and be closely linked to mainstream social sector and community development delivery systems.

The experiences from which literacy and numeracy skills are to be acquired must be meaningful to the students. Literacy instruction is apt to

be more effective if it is carried out in contexts where literacy is or could be used to improve daily life.

Teaching young adults to read and count is not enough. They need basic knowledge, too. It is prior knowledge that makes literacy functional. Printed instructions for using pharmaceutical products, for example, require some knowledge of human health and biology for comprehension and safe and effective use. This is probably one of the mechanisms through which literacy influences health behavior.

The effectiveness of literacy programs needs to be continually monitored, requiring major investments in building research capacity. This, of course, cannot be done unless indicators of program effectiveness are stipulated at the outset. That, in turn, involves definitions of literacy and numeracy that are both measurable and meaningful.

Literacy educators have taken pride in the fact that their work is “action oriented.” Increasingly, their activities will have to be “result oriented” as well. The implications are very profound. The research and evaluation capacity of many organizations responsible for adult literacy programs either will have to be significantly strengthened, or expertise developed locally to service these organizations. Literacy instruction is often more successful when it is combined with teaching practical skills. Developing functional literacy often involves teaching basic

scientific knowledge and sometimes a knowledge of a language other than the mother tongue. The impact of literacy programs can be improved with better targeting, especially to youths who have been denied the opportunity to complete their studies.

## REFERENCES

- Doronila, Ma Luisa C. 1997. *A research and development approach to the delivery of comprehensive functional education and literacy in the Philippines*. Asia Literacy Regional Forum.
- Department of National Education. 2005. Strategic Planning of Ministry of National Education 2005 -2009
- Hoxeng, J. 1995. *Adult literacy in the Third World: A critique of current practice*. Second draft outline. Washington, DC: US Agency for International Development.
- Literacy Online. National Center on Adult Literacy (NACL) brief, the University of Pennsylvania.
- OECD. 2001. *Knowledge and Skills for Life: First results of PISA 2000 ...* 2004. *Learning for tomorrow's world: First Results of PISA 2000*.
- Yusuf, Suhendra. 2003. *Kemampuan dasar untuk hidup 'Basic competencies for living.'* The National Education Assessment Centre (*Puspendik*), Department of National Education.