Student Performance in PISA 2012

Mathematical Literacy
When compared with their overall math proficiency, Hong Kong students perform the best in formulating, scoring the highest on the space and shape scenarios, but perform relatively low in interpreting math problems and math tasks. They have made a significant improvement in math performance since 2006.

Scientific Literacy
Hong Kong students perform consistently well and outperform most of the other countries/regions. They have made a significant improvement in science when compared with PISA 2003 and 2006.

Reading Literacy
Hong Kong students perform consistently well and outperform most of the other countries/regions. Compared with the previous four PISA studies, Hong Kong students perform the best in 2012 when compared with 2000.

CBA Problem Solving
Hong Kong students perform well and rank fourth in CBA problem solving. As for the problem solving process, they show a stronger than expected performance in retrieving and applying knowledge while being weaker than expected performance in predicting and executing.

CBA Mathematics
Hong Kong students perform well and rank fourth in CBA mathematics.

Digital Reading
Hong Kong ranks third in digital reading in PISA 2012. A remarkable improvement has been made in 2012 when compared with 2009.

Non-cognitive Performance
Hong Kong students’ self-efficacy and self-concept in math have improved from 2003 to 2012. Yet, their self-efficacy in math is still lower than the OECD average, while their anxiety towards learning math is still higher than the OECD average.

Student Performance in PISA 2012

We care to work together to improve the school for students. Hong Kong students as reflected by their low self-concept and self-esteem.

Online Activities and CBA Performance
Activities found to be positively correlated with students’ performance include using email, reading news on the Internet, obtaining practical information from the Internet, and participating in social networking.

Hints for Educators
Given the generally outstanding math performance of Hong Kong students, math teachers may have sufficient room for attending to other domains of their curriculum. Enhancements in math for the Information Age by making a liberal move to emphasize the current demands for skills in fast, complicated, symbolic and other mathematical manipulations such as formulas, but instead, to give students more opportunities to analyze, to conceptualize, to reason, and to argue and to reflect in working out math in the classroom.

The study of students’ self-related cognition and learning motivation indicates that a wide array of students’ non-cognitive (affective) factors, such as math self-efficacy, math self-concept, and intrinsic and instrumental motivation, are positively associated with math performance. It can be contended that the cognitive and the non-cognitive (affective) domains are inter-related and interacting with each other, both being important elements in nurturing future citizens.

Stronger focus should be put on classroom pedagogy to support curriculum innovation and improvement of using computers to better engage students. Educators can examine the circumstances under which ICT activities can enhance students’ learning, problem solving skills and overall competencies to promote their autonomous and lifelong learning in a digital world.

Despite their satisfactory digital performance, there is room for improvement in the attitudes towards problem solving (perseverance and openness) among Hong Kong students.

In the new digital age, schools and teachers may explore different ways to proactively guide students to make good use of information technology. Students should be encouraged to persist in in-depth learning with an open mind, to exercise their creativity, and to broaden their horizons by using computers, rather than to merely browse and copy information, chat with friends or even be addicted to computer games.

Hints for Parents
Regardless of parents’ socio-economic status, home-based parental involvement in children’s education is a promising avenue by which children’s performance can be enhanced. Enhancements in math at home among family members, discussing school life with the children and teaching math in a problem-oriented way are important means for parents. However, children may take to support their children’s learning. Besides, the proper and positive role of home-school communication should be promoted in order to facilitate partnership between school and parents. This partnership will lead to a more thorough understanding of the children, which is essential for providing the children with appropriate guidance and support.

Things you can do to promote your child’s learning:

- Discuss school life with your child.
- Have dinner with your child.
- Spend time chatting with your child.
- Invest on educational resources for your child.
- Purchase books and classical literature for your child.

You can do things to promote your child’s learning in the Information Age:

- Allow your child to use computer and Internet at home for learning and guide him/her.
- Encourage your child to read online news and search for practical information.
- Understand the need of your child regarding using email and participating in social network.
- Encourage your child to communicate with teachers and classmates for learning purpose via the Internet.

Organiser of PISA in Hong Kong:
Hong Kong Centre for International Student Assessment (Programme commissioned by Education Bureau).

For more information, please contact HKPISA Centre.

Director: Professor Esther Sui Chi HO
Telephones: 2605 7289
Fax: 2605 5358
E-mail: hkipisa@hku.hk
Website: http://www.fed.cuhk.edu.hk/hkpisa
Address: Room 504, Simon Building, 66 Pershing Road, The Chinese University of Hong Kong, Shatin, Hong Kong

For more information about OECD/PISA, please visit the website: http://www.oecd.org/pisa/

Prof. Esther HO

*In face of the digital age, it is essential that students be able to take advantage of the new tools. For parents, they may take to support their children’s learning. Besides, the proper and positive role of home-school communication should be promoted in order to facilitate partnership between school and parents. This partnership will lead to a more thorough understanding of the children, which is essential for providing the children with appropriate guidance and support.*