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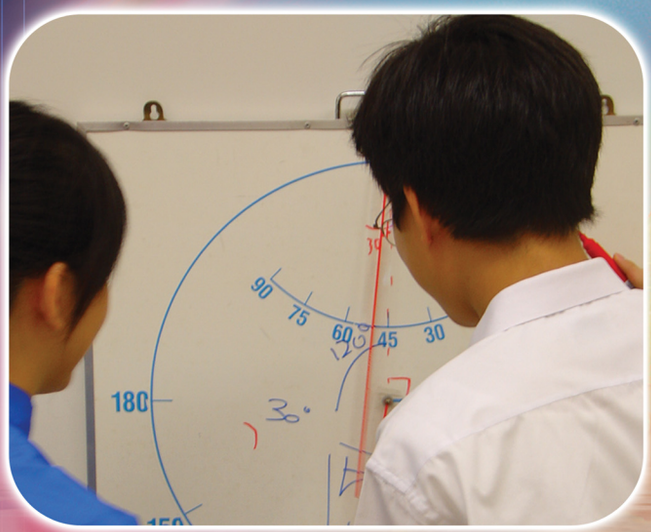
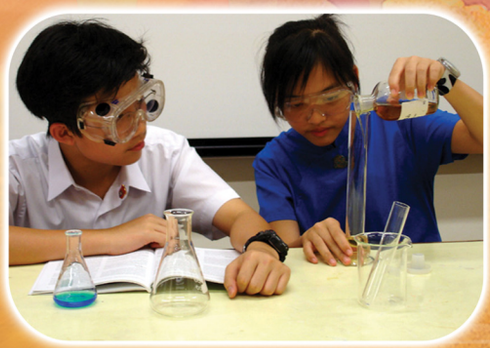
The Fifth HKPISA Report

PISA 2012



From PISA 2000

To PISA 2012



Volume II Executive Summary

HONG KONG STUDENTS ON LINE:
THE DIGITAL TECHNOLOGIES AND DIGITAL ASSESSMENT IN PISA 2012

PISA 2012：香港學生數碼科技與數碼評估的表現

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FOREWORD

The OECD (Organisation for Economic Co-operation and Development) Programme for International Student Assessment (PISA) has been providing Hong Kong with valuable information to enable examination of the quality and equality of our education system from an international perspective since the first cycle of PISA. In PISA 2012, we attempt to address the extent to which our students have acquired the basic competencies essential for meeting the challenges of the twenty-first century. The 21st century education includes not only the knowledge of mathematics, science and reading, but also the digital literacy skills, that is, the application of knowledge to understand and solve real-world problems in a digital world.

Premised on the findings in the previous four HKPISA Reports of PISA 2000+, PISA 2003, PISA 2006 and PISA 2009, this report will provide insights for how we can change the curriculum, pedagogy, assessment, use of information and communication technology to better prepare students to be productive and responsive citizens in a global society and economy in the 21st century. It is hoped that it can provide: (i) researchers with the opportunity for examining the current state of affairs in our education system and the outcome of education reforms over time; (ii) policy makers with the information needed for formulating policies that are responsive to students' needs and the global development; and (iii) teachers and parents with a broader view of their children's learning beyond the local context. With the vision of a better future for all children regardless of their social background, we hope that stakeholders can find in this report, a clear "rationale" and robust "evidence" supportive of their decisions and actions.

The success of this project is due to the contribution of stakeholders from various sectors of the education community and I would like to thank all the students, parents, teachers and principals participating in this project. The data in this survey would not be available without their generous cooperation. I would also like to thank the Education Bureau of the Hong Kong Special Administrative Region Government for commissioning us to conduct the PISA 2012 project. Thanks are also due to the principals and teachers in the Advisory Committee, Mr. Tak-wah Fung, Ms. Suk-han Poon, Mr. Kai-lok Tso and Ms. Kwan-yuk Tsui, for their valuable advice given and time committed. Among the working team, I am grateful to our project advisors, Professor Douglas Willms and Professor Leslie Lo, and the project leader, Professor Yue-ping Chung, Professor Wing-kwong Tsang and Professor Hin-wah Wong, for their insight and invaluable guidance. I would also like to thank my colleagues in the research team who committed their time and expertise in the front line tasks of researching and reporting. Thanks are also due to the Centre staff, Wai Leung, Terence, Thomas, Eric, Kwok Wing and Grace. Without their sustained assistance, the project would not be a success.

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COMPUTER-BASED ASSESSMENT IN PISA 2012

1. The Programme for International Student Assessment (PISA) is a project initiated and coordinated by the Organisation for Economic Co-operation and Development (OECD). Since 2009, PISA has introduced the use of the computer in the conduct of assessment. Computer-based Assessment (CBA) not only enables interactivity between students and test items which cannot be achieved in a paper-based test, but also offers an opportunity to examine the role of information and communication technology (ICT) in students' learning.

2. CBA is offered as an option to supplement the paper-based test in PISA. Mathematics and problem solving were assessed by CBA for the first time, and digital reading for the second time in PISA 2012.

3. In PISA 2012, about 85,000 students from 44 countries/regions took part in a CBA of problem solving. Thirty-two of these countries/regions including Hong Kong also participated in the assessment of digital reading and CBA mathematics. The total assessment time for CBA was 40 minutes.

Table 1 Countries/Regions Participating in CBA Problem Solving in PISA 2012

OECD Countries			**Partner (Non-OECD) Countries / Regions**	
Australia	Germany	Portugal	Brazil	Serbia
Austria	Hungary	Slovak Republic	Bulgaria	Shanghai-China
Belgium	Ireland	Slovenia	Colombia	Singapore
Canada	Israel	Spain	Croatia	Chinese Taipei
Chile	Italy	Sweden	Cyprus	United Arab Emirates
Czech Republic	Japan	Turkey	Hong Kong-China	Uruguay
Denmark	Korea	United Kingdom	Macao-China	
Estonia	Netherlands	United States	Malaysia	
Finland	Norway		Montenegro	
France	Poland		Russian Federation	

4. In common with the paper-based test, PISA develops a framework which describes the scope and dimensions of CBA. The CBA problem solving framework has three dimensions, namely the *nature* of problem situation, the problem solving *process*, and the *context* in which the problem situation may occur. The CBA mathematics and digital reading frameworks are identical to those for paper-based mathematics and reading, which cover three dimensions, namely the *knowledge* that students should acquire, the *processes* that need to be performed, and the *situation* in which knowledge and skills are applied or drawn on. In addition to the assessment, the 44 countries/regions participating in CBA problem solving administered a student questionnaire on ICT familiarity. This could provide a wealth of comparative data to shed light on the educational consequences of students' use of ICT at home and in school.

5. Two-stage stratified sampling and sub-sampling design were used. In the first stage, schools were stratified based on the type of school (government, aided and independent – international and those under Direct Subsidy Scheme) and student academic intake[1] (high, medium and low ability). Schools from each stratum were systematically sampled with probabilities proportional to their enrolment size. The resulting school participation rate is 94.9% which meets the OECD standard. The distribution of participating schools is shown in Table 2.

Table 2 Number of Schools Participating in CBA in PISA 2012 in Hong Kong

Explicit Strata	Implicit Strata	Total Number of Schools	Number of Participating Schools
Government	High Ability	15	6
	Medium Ability	8	2
	Low Ability	7	2
	N/A	1	0
Aided	High Ability	120	46
	Medium Ability	117	40
	Low Ability	126	33
	N/A	1	0
Independent#	Local (DSS*)	55	16
	International	32	3
Total		**482**	**148**

#There is no implicit stratification for independent schools.

*DSS refers to schools under the Direct Subsidy Scheme.

6. In the second stage, 35 students of age 15 were randomly selected from each sample school for the paper-based test. Twenty of the 35 students participating in the paper-based test were also sub-sampled to take the CBA. A total of 2,714 students finally sat for the CBA, whose grade distribution is shown in Table 3.

Table 3 Distribution of Students Participating in CBA in PISA 2012 in Hong Kong

Grade/Form	Number of Participating Students	Proportion (%)
7/S1	27	1.0
8/S2	174	6.4
9/S3	720	26.5
10/S4	1779	65.5
11/S5	14	0.5
Total	**2714**	**100.0***

*The minor discrepancy in the percentage total is due to rounding of numbers.

[1] Student intake denotes the ability of Secondary 1 students admitted by school.

MAJOR FINDINGS

Quality and Equality

7. The findings from the Computer-based Assessment (CBA) in PISA 2012 provide valuable information regarding the ***quality*** and ***equality*** of Hong Kong's education system in the digital world. Quality refers to the effectiveness of the education system in developing students' literacy and ICT skills, while equality refers to the benefit from education received by all students regardless of their socio-economic background.

8. In terms of overall quality, Hong Kong students perform well in CBA problem solving, CBA mathematics and digital reading. In PISA 2012, Hong Kong ranks fourth in CBA problem solving, fourth in CBA mathematics, and third in digital reading. Hong Kong's mean performances are significantly above the OECD averages.[2] Taking statistical significance into account, Hong Kong's CBA problem solving score of 540 is only significantly lower than those of Singapore (first: 562), Korea (second: 561) and Japan (third: 552), but is not significantly different from those of Macao-China, Shanghai-China and Chinese Taipei. In CBA mathematics, Hong Kong achieves a mean score of 550; Singapore (first: 566) and Shanghai-China (second: 562) perform significantly better than Hong Kong, but there is no statistical difference between Hong Kong, Korea and Macao-China. In digital reading, Hong Kong gets a mean score of 550, which is only significantly lower than Singapore (first: 567), but not significantly different from Korea and Japan (see Appendix I).

9. As for the equality in Hong Kong's education system, in PISA 2012, the differences between high (95th percentile) and low (5th percentile) achievers in CBA problem solving (304) and CBA mathematics (286) are smaller than the OECD averages (314 and 291 respectively), while that between high and low achievers in digital reading (309) is slightly greater than the OECD average (307). This suggests that Hong Kong students benefit fairly equally from the quality education in Hong Kong, regardless of their ability. Furthermore, economic, social and cultural status (ESCS) has a relatively small impact on the digital performance of Hong Kong students. The impact of socio-economic background on digital performance is measured by the percentage of variance in performance which is explained by ESCS. For Hong Kong, this is 4.9%, which is less than the OECD average of 10.6%. This means that family socio-economic and cultural status generally plays a less important role in students' performance. In other words, Hong Kong students perform equally well regardless of the impact of their socio-economic background. Hong Kong's 15-year-olds score higher than students of similar socio-economic background from many other countries/regions (see Appendix II).

[2] In PISA 2012, the OECD averages are 500 in CBA problem solving, 497 in CBA mathematics, and 497 in digital reading, with standard deviations of 100.

10. The percentage of variation in CBA problem solving performance between schools in Hong Kong is 36.1%, which is lower than the OECD average of 38.3%. Apart from the between-school variance, other measures of equality of educational outcome are the academic and social inclusion indices[3]. Hong Kong has a slightly higher index of academic inclusion (63.8%) and a lower index of social inclusion (67.7%) than the OECD averages (61.9% and 75.7% respectively).

Student Achievement in CBA Problem Solving

11. In CBA problem solving, Hong Kong students score significantly higher than their OECD counterparts at all percentile points. In terms of the proficiency scale, the percentage of Hong Kong students attaining Level 5 or above (19.3%) is higher than that of the OECD countries (11.4%). At the other end of the scale, 3.3% of Hong Kong students are not able to reach Level 1, which is less than the OECD average of 8.2%.

12. On all the sub-scales of CBA problem solving, Hong Kong students perform consistently better than their OECD counterparts. On the two sub-scales on the nature of the problem, Hong Kong students' performance is similar to expected on both *static* and *interactive* problems when compared with the OECD average.[4] Among the four process sub-scales, which are, *exploring and understanding, representing and formulating, planning and executing,* and *monitoring and reflecting*, they have a stronger-than-expected performance on the *exploring and understanding* sub-scale but a weaker-than-expected performance on the *planning and executing* sub-scale. Among the four contexts of problem, Hong Kong students have stronger-than-expected performance with items set in *technological* setting, and similar to expected performance with items with *social* focus and *personal* focus.

13. Regarding gender difference among Hong Kong students, boys significantly outperform girls by 13 points. This gender gap is larger than the OECD average of 7. Furthermore, the percentage of high achieving (Level 5 or above) boys (21.8%) is higher than that of high achieving girls (16.4%) but this difference is only slightly higher than the OECD average of 3.6%. At the lower end, the percentage of low achieving (below Level 2) boys (9.8%) is lower than that of low achieving girls (11.2%). This difference is contrary to the gender difference in OECD countries, that is, the percentage of low achieving boys is 0.1% higher than that of low achieving girls.

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[3] The index of academic inclusion is measured by the variation in student performance between schools divided by the total variation in student performance. The index of social inclusion is measured by the between-school variation in the ESCS index of students divided by the total variation in ESCS index.

[4] Expected performance refers to the likelihood of success in a subscale based on the success in all other subscales in OECD countries. Countries/regions with stronger-(or weaker-) than-expected performances are countries/regions whose students' relative likelihood of success in a subscale is significantly larger (smaller) than the OECD average.

Student Achievement in CBA Mathematics

14. When compared with the OECD average, Hong Kong students outperform their OECD counterparts at all percentile points. On the proficiency scale, the percentage of Hong Kong students who attain Level 5 or above (25.4%) is much higher than the OECD average (11.3%). At the lower end, 7.8% of Hong Kong students are below Level 2, which is significantly lower than the OECD average of 20.0%.

15. Hong Kong shows a significant gender difference in CBA mathematics performance, with boys outperforming girls by 17 points, which is greater than the OECD average of 12 points. The percentage of high achieving (Level 5 or above) boys (30.1%) is higher than that of high achieving girls (19.8%). This gender difference is greater than both the OECD average of 5.0% and the difference of any participating country/region. At the lower end, there is no difference between the percentage of low achieving (below Level 2) boys and girls (7.8%). This is unlike the OECD countries which show a percentage of low achieving girls (20.8%) somewhat greater than that of low achieving boys (19.1%).

Student Achievement in Digital Reading

16. In PISA 2012, for digital reading, Hong Kong students achieve a mean score of 550, which is significantly higher than the 515 achieved in PISA 2009. The improvement is due to a significant rise in the performance of students at all percentile points except the very low achievers at the 5th percentile. The higher the percentile point, the greater the improvement in digital reading performance a student has made.

17. Hong Kong girls perform significantly better than boys in digital reading, and the 19-point gender gap is smaller than the OECD average of 26 points. There are more high achieving (Level 5 or above) girls (22.9%) than boys (19.5%) and this gender difference is slightly higher than the OECD average of 2.7%. At the lower end of the scale, there are more low achieving (below Level 2) boys (9.3%) than girls (5.5%). This difference is lower than the OECD average of 8.2%.

Parental Involvement, Investment and Perception

18. For parental involvement, parents' perception of school quality has consistently shown the strongest positive association with students' performance in CBA problem solving, CBA mathematics and digital reading. Regarding home-based involvement, social communication between parents and students shows a significant positive association with digital reading performance, while parents' involvement related to mathematics learning shows a significant negative association with CBA problem solving, CBA mathematics and digital reading performances. In common with the findings in paper-based tests, school-based involvement shows significant and negative associations with students' performance in CBA mathematics and digital reading.

19. Considering the four kinds of parental investment, IT resources show significant positive effects on the CBA mathematics score, while cultural resources show significant positive effects on the CBA problem solving score. However, educational resources provided at home show a negative impact on CBA problem solving performance.

IMPLICATIONS AND RECOMMENDATIONS

For Policy Makers

20. In PISA 2012, Hong Kong students are top performers in CBA problem solving, CBA mathematics and digital reading. In common with the paper-based test, the CBA results demonstrate that the Hong Kong education system is effective in developing students' digital literacy without compromising on equality. Regarding academic and social inclusiveness, the Hong Kong education system is slightly more academically inclusive and less socially inclusive than the OECD counterparts in general. However, it is much less inclusive, academically and socially, than some East Asian countries/regions like Korea and Singapore. The current comprehensive schooling, through reducing the student allocation bands from 5 to 3, may have helped reduce academic segregation. However, the Direct Subsidy Scheme (DSS) policy might have diverted wealthy families from the public school system, resulting in an increase in social segregation between schools. Further analysis is needed to find out the reason for the academic and social segregation between schools and possible measures to alter it.

21. It is worth capitalising on parental practices that have a positive influence on student learning. In common with the previous cycles, home-based social communication works for enhancing students' performance, but school-based involvement consistently shows a negative association with students' performance. Policymakers should be aware that parental involvement is still an untapped resource, which is important for the all-round development of adolescents. Also, the government should ensure that sufficient educational, cultural and IT resources are available to all students.

22. Hong Kong boys outperform girls in CBA mathematics and CBA problem solving, and girls outperform boys in digital reading. In comparison with the respective paper-based tests, the gender differences are smaller in digital reading but larger in CBA mathematics. This may imply that boys can recover their loss in reading performance but girls may increase their loss in mathematics performance in a digital context. Further studies may investigate how to fully exploit the advantage of digital media to boys in cultivating their reading habits and how to help girls overcome their difficulties in doing mathematics and solving problems in a digital context.

For Educators & Parents

23. PISA 2012 not only assesses students' digital performance, but also examines their attitudes towards problem solving. Results show that the level of perseverance of Hong Kong students is higher than the OECD average, while their openness is far below the OECD average. These two kinds of attitudes are found to be significantly positively correlated with students' performance in CBA problem solving, CBA mathematics and digital reading. Despite their satisfactory digital performance, there is room for improvement in the attitudes towards problem solving among Hong Kong students.

24. For the use of computer and ICT both at school and outside school, Hong Kong results display relatively lower indices than the OECD countries. Interestingly, it is found that students' use of a computer outside school, regardless of whether it is for schoolwork or leisure, is positively associated with their performance in CBA problem solving, CBA mathematics and digital reading, while their use of computer at school is negatively associated with all CBA performances. This may be due to the fact that in Hong Kong, the students who need to use a computer in school are the disadvantaged students who cannot afford ICT facilities at home. Another possible reason is that due to rapid developments in digital technology, there may be ICT activities at school, which are not investigated by the PISA questionnaires, contributing to students' performance.

25. Further studies are needed to investigate how some countries/regions have made better use of ICT at school and how they design different ICT activities in class so that the use of ICT and computers can be beneficial to all students in learning. While the investment from the Government, schools and community in hardware in all schools is regarded as a successful first step, stronger focus should be put on classroom pedagogy to support curriculum innovation and improvement of using computers to better effect. In particular, explicit research and development strategies are needed to keep abreast of successful experience in other countries/ regions such as "Finnable 2020"[5] and to evaluate the school contexts, learning environments and teaching processes to examine the circumstances under which ICT activities can enhance students' learning, problem solving skills and overall competencies to promote their autonomous learning in a digital world.

For Future Research

26. CBA in PISA 2012 provides useful information about students' digital performance and various contextual factors. These factors include students' immigrant status, gender differences in digital outcomes, attitudes towards problem solving, and various online activities. All these factors are worthy of further investigation, and the relative contribution of different individual, familial and school factors should be explored in future.

27. Notwithstanding Hong Kong students' top digital performances, the finding concerning students' low level of openness to problem solving warrants further investigation. Given that openness to problem solving is positively associated with digital performances and is essential to one's daily life, longitudinal study and action research are recommended methods to identify ways to help students develop an open attitude towards new and complex problems.

[5] For details, please refer to the website: http://www.finnable.fi/

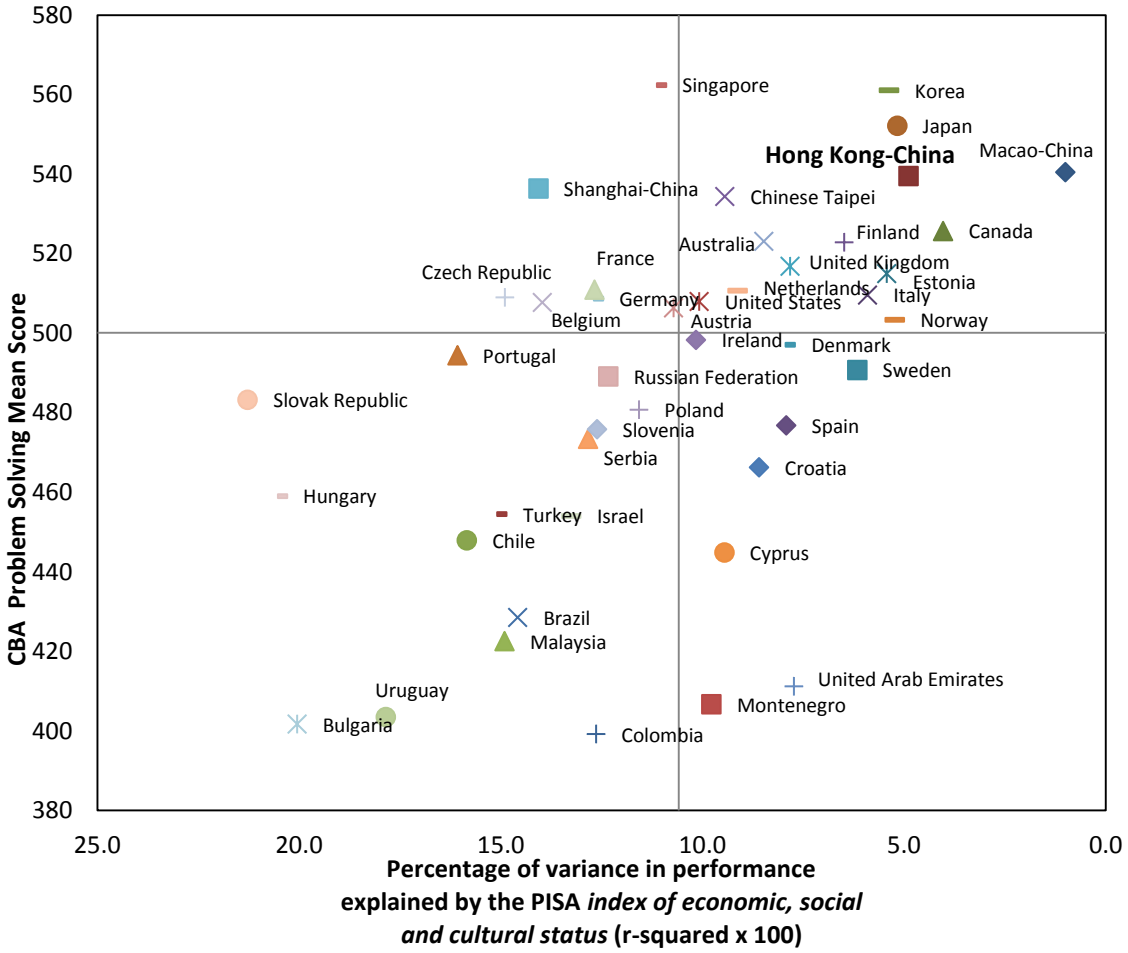
28. The finding concerning the negative association of school-based involvement of parents with digital performances is similar to that found from results of paper-based tests, suggesting that this undesirable condition is persisting. Further research is needed to learn how to transform the nature of home-school interaction and parental participation, which has not improved to any great extent during the past ten years.

Appendix I Performance of 15-Year-Old Students in CBA Problem Solving, CBA Mathematics and Digital Reading in PISA 2012

CBA Problem Solving			CBA Mathematics			Digital Reading		
Countries / Regions	Mean	S.E.	Countries / Regions	Mean	S.E.	Countries / Regions	Mean	S.E.
Singapore	562	(1.2)	Singapore	566	(1.3)	Singapore	567	(1.2)
Korea	561	(4.3)	Shanghai-China	562	(3.4)	Korea	555	(3.6)
Japan	552	(3.1)	Korea	553	(4.5)	**Hong Kong-China**	**550**	**(3.6)**
Macao-China	540	(1.0)	**Hong Kong-China**	**550**	**(3.4)**	Japan	545	(3.3)
Hong Kong-China	**540**	**(3.9)**	Macao-China	543	(1.1)	Canada	532	(2.3)
Shanghai-China	536	(3.3)	Japan	539	(3.3)	Shanghai-China	531	(3.7)
Chinese Taipei	534	(2.9)	Chinese Taipei	537	(2.8)	Estonia	523	(2.8)
Canada	526	(2.4)	Canada	523	(2.2)	Australia	521	(1.7)
Australia	523	(1.9)	Estonia	516	(2.2)	Ireland	520	(3.0)
Finland	523	(2.3)	Belgium	512	(2.5)	Chinese Taipei	519	(3.0)
United Kingdom	517	(4.2)	Germany	509	(3.3)	Macao-China	515	(0.9)
Estonia	515	(2.5)	France	508	(3.3)	United States	511	(4.5)
France	511	(3.4)	Australia	508	(1.6)	France	511	(3.6)
Netherlands	511	(4.4)	Austria	507	(3.5)	Italy	504	(4.3)
Italy	510	(4.0)	Italy	499	(4.2)	Belgium	502	(2.6)
Czech Republic	509	(3.1)	United States	498	(4.1)	Norway	500	(3.5)
Germany	509	(3.6)	Norway	498	(2.8)	Sweden	498	(3.4)
United States	508	(3.9)	Slovak Republic	497	(3.5)	Denmark	495	(2.9)
Belgium	508	(2.5)	Denmark	496	(2.7)	Germany	494	(4.0)
Austria	506	(3.6)	Ireland	493	(2.9)	Portugal	486	(4.4)
Norway	503	(3.3)	Sweden	490	(2.9)	Austria	480	(3.9)
Ireland	498	(3.2)	Russian Federation	489	(2.6)	Poland	477	(4.5)
Denmark	497	(2.9)	Poland	489	(4.0)	Slovak Republic	474	(3.5)
Portugal	494	(3.6)	Portugal	489	(3.1)	Slovenia	471	(1.3)
Sweden	491	(2.9)	Slovenia	487	(1.2)	Spain	466	(3.9)
Russian Federation	489	(3.4)	Spain	475	(3.2)	Russian Federation	466	(3.9)
Slovak Republic	483	(3.6)	Hungary	470	(3.9)	Israel	461	(5.1)
Poland	481	(4.4)	Israel	447	(5.6)	Chile	452	(3.6)
Spain	477	(4.1)	United Arab Emirates	434	(2.2)	Hungary	450	(4.4)
Slovenia	476	(1.5)	Chile	432	(3.3)	Brazil	436	(4.9)
Serbia	473	(3.1)	Brazil	421	(4.7)	United Arab Emirates	407	(3.3)
Croatia	466	(3.9)	Colombia	397	(3.2)	Colombia	396	(4.0)
Hungary	459	(4.0)	*OECD average*	*497*	*(0.7)*	*OECD average*	497	(0.6)
Turkey	454	(4.0)						
Israel	454	(5.5)						
Chile	448	(3.7)						
Cyprus	445	(1.4)						
Brazil	428	(4.7)						
Malaysia	422	(3.5)						
United Arab Emirates	411	(2.8)						
Montenegro	407	(1.2)						
Uruguay	403	(3.5)						
Bulgaria	402	(5.1)						
Colombia	399	(3.5)						
OECD average	*500*	*(0.7)*						

Note: Shaded area indicates scores significantly different from those of Hong Kong.

Appendix II Relationship between CBA Problem Solving Performance and the Impact of Socio-economic Background across Countries/Regions



Note: The ESCS index for PISA 2012 is derived from three variables related to family background: parental education and occupation, and the number and type of home possessions related to education.

PISA 電腦化評估的概述

1. 學生能力國際評估計劃(PISA)由經濟合作與發展組織(OECD)發起及統籌。PISA 自 2009 年起加入電腦化評估(CBA)。相比起筆試，電腦化評估不但增加了學生與試題之間的互動，亦能揭示資訊與通訊科技(ICT)對於學生學習所發揮的功能。

2. PISA 電腦化評估是用作補充筆試的測試選項。在 PISA 2012，數學和解難首次以電腦化進行評估，數碼閱讀則為第二次。

3. 來自 44 個國家和地區約 85,000 名學生參加了 PISA 2012 解難的電腦化評估，其中 32 個國家和地區(包括香港)亦參加了數碼閱讀和數學的電腦化評估。電腦化評估測試時間共 40 分鐘。

表一　參與 PISA 2012 電腦化評估解難的國家和地區

OECD 成員國家			**夥伴 (非 OECD 成員) 國家/地區**	
澳洲	德國	葡萄牙	巴西	塞爾維亞共和國
奧地利	匈牙利	斯洛伐克共和國	保加利亞	中國上海
比利時	愛爾蘭	斯洛文尼亞	哥倫比亞	新加坡
加拿大	以色列	西班牙	克羅地亞	中華台北
智利	意大利	瑞典	塞浦路斯	阿拉伯聯合酋長國
捷克共和國	日本	土耳其	中國香港	烏拉圭
丹麥	韓國	英國	中國澳門	
愛沙尼亞	荷蘭	美國	馬來西亞	
芬蘭	挪威		黑山共和國	
法國	波蘭		俄羅斯聯邦	

4. PISA 電腦化評估與筆試類同，建構了一個架構來說明所涵括的內容與維度。電腦化評估解難的架構有三個維度：問題的「本質」、解難的「過程」、以及問題出現的「處境」。電腦化評估數學和數碼閱讀的架構，跟數學和閱讀筆試的架構相同，共有三個維度：學生須具備的「知識內容」、需要進行的「過程」、以及運用或獲得知識技能的「處境」。參與電腦化評估解難的 44 個國家和地區的學生除了進行評估，亦須填寫「資訊與通訊科技問卷」，以了解他們在家裏和在學校使用資訊與通訊科技的情況如何影響其能力表現。

5. 研究採用二段分層和二次抽樣方法。在第一階段，研究把學校按類型(官立、資助、私立學校──包括國際學校和直資學校)與收生成績[1] (高、中、低能力)分組，有系統地從學校組別中隨機抽選樣本學校，選中機率與學校的學生人數成正比例。得出的學校參與率為94.9%，符合 OECD 標準。表二顯示參與學校在各組的分佈。

表二　香港參加 PISA 2012 電腦化評估的學校分佈

顯層	隱層	學校總數	參與學校數目
官立學校	高能力	15	6
	中能力	8	2
	低能力	7	2
	(不適用)	1	0
資助學校	高能力	120	46
	中能力	117	40
	低能力	126	33
	(不適用)	1	0
私立學校#	本地 (直資*)	55	16
	國際學校	32	3
總數		**482**	**148**

私立學校沒有收生成績資料。
* 直資是參加直接資助計劃的學校。

6. 在第二階段，研究從每所參與學校隨機抽樣選取 35 名十五歲學生參加筆試，再進行二次抽樣，從參加筆試的 35 名學生隨機抽樣選取 20 名學生參加電腦化評估。結果共有 2,714 名學生參加電腦化評估，表三顯示了他們的年級分佈。

表三　香港參加 PISA 2012 電腦化評估的學生年級分佈

年級	參與學生人數	百分比 (%)
中一	27	1.0
中二	174	6.4
中三	720	26.5
中四	1779	65.5
中五	14	0.5
總數	**2714**	**100.0***

* 總百分比的少許差異是由於各年級的百分比四捨五入之故。

[1] 收生成績指中一學生的入學成績。

重點研究結果

質素與均等

7. PISA 2012 電腦化評估的研究結果，揭示在數碼世界下本港教育系統的「質素」與「均等」。「質素」指教育系統培育學生基礎能力和數碼能力的成效；「均等」指教育系統讓不同社經背景的學生均能從教育中獲益。

8. 就整體質素而言，香港學生於電腦化評估解難、電腦化評估數學及數碼閱讀方面均表現良好。在 PISA 2012，香港在電腦化評估解難和電腦化評估數學均排名第四，在數碼閱讀排名第三。香港的平均成績顯著高於 OECD 平均值[2]。若以統計學的顯著度作準，香港的電腦化評估解難分數(540 分)只顯著低於新加坡(第一名: 562 分)、韓國(第二名: 561 分)和日本(第三名: 552 分)，但與澳門、上海和中華台北並無顯著差異。電腦化評估數學方面，香港的平均分數為 550 分，只顯著低於新加坡(第一名: 566 分)和上海(第二名: 562 分)，但與韓國和澳門並無顯著差異。數碼閱讀方面，香港的平均分數為 550 分，只顯著低於新加坡(第一名: 567 分)，但與韓國和日本並無顯著差異(見附錄一)。

9. 就香港教育系統的均等而言，在 PISA 2012 的電腦化評估解難和數學範疇中的高分者(第 95 百分位數)和低分者(第 5 百分位數)之間的成績差距(分別為 304 分及 286 分)，較 OECD 平均值小(分別為 314 分及 291 分)；但在數碼閱讀範疇，高分者和低分者的成績差距(309 分)則稍微大於 OECD 平均值(307 分)。這個結果顯示，香港學生不論能力如何，都能大致均等地從香港的優質教育中獲益。此外，香港學生的社經文化地位(economic, social and cultural status, ESCS index)對數碼能力表現的影響相對小。PISA 以社經文化地位所解釋的表現差異百分比，來量度社經背景對數碼表現的影響；香港在此項百分比的數值為 4.9%，小於 OECD 平均值(10.6%)，反映整體而言社經文化地位對學生表現影響不大，無論學生社經背景如何，表現一樣出色。就相同社經背景的學生而言，香港十五歲學生的表現亦比其他許多參與國家和地區的學生較佳(見附錄二)。

10. 香港中學之間的電腦化評估解難成績差距百分比為 36.1%，低於 OECD 平均值(38.3%)。除了校間差異之外，PISA 亦量度國家和地區的學術包容指數和社經包容指數[3]，作為教育系統的「均等」指標。香港的學術包容指數(63.8%)稍微高於 OECD 平均值(61.9%)，社經包容指數(67.7%)則低於 OECD 平均值(75.7%)。

[2] 在 PISA 2012，OECD 的電腦化評估解難平均分為 500 分，電腦化評估數學平均分為 497 分，數碼閱讀平均分為 497 分，而標準差為 100 分。

[3] 學術包容指標的計算方法為學生表現的校間差異除以學生表現的總差異，社經包容指標的計算方法為學生社經文化地位指數的校間差異除以社經文化地位指數的總差異。

電腦化評估解難能力表現

11. 電腦化評估解難能力方面，香港學生在所有百分位數的分數均顯著高於 OECD 學生。就解難能力水平而言，香港學生達到第五級及以上的百分比為 19.3%，高於 OECD 國家的 11.4%；而香港學生未能達到第一級的百分比為 3.3%，低於 OECD 國家的 8.2%。

12. 香港學生在電腦化評估解難所有分量表上的表現均較 OECD 國家出色。在兩個「本質」分量表，與 OECD 平均值比較，香港學生於「固定題」(*static*)和「互動題」(*interactive*)的表現跟預期表現相若[4]。在四個「過程」分量表，即「探索與理解」(*exploring and understanding*)、「表達與演繹」(*representing and formulating*)、「計劃與執行」(*planning and executing*)及「監控與反思」(*monitoring and reflecting*)，香港學生於「探索與理解」方面的表現較預期為佳，但於「計劃與執行」方面的表現較預期遜色。在四個「處境」分量表，香港學生於「科技題」(*technological*)的表現較預期為佳，於「社會題」(*social*)和「個人題」(*personal*)的表現跟預期表現相若。

13. 性別差距方面，香港男生的電腦化評估解難表現顯著高於女生，兩者得分差距為 13 分，高於 OECD 平均值(7 分)。男生的高分者(第五級及以上)百比分(21.8%)高於女生的高分者(16.4%)，此差距只稍微高於 OECD 平均值(3.6%)。而男生的低分者(第二級以下)百比分(9.8%)則低於女生的低分者(11.2%)，此差距跟 OECD 國家的情況相反；在 OECD 國家，男生的低分者百分比較女生的低分者高出 0.1%。

電腦化評估數學能力表現

14. 與 OECD 平均值比較，香港學生在所有百分位數的表現均較 OECD 學生出色。就數學能力水平而言，香港學生達到第五級及以上的百分比為 25.4%，遠高於 OECD 國家的 11.3%；而香港學生於第二級以下的百分比為 7.8%，顯著低於 OECD 國家的 20.0%。

15. 香港男女生在電腦化評估數學能力的表現有顯著差距，男生的分數較女生高 17 分，高於 OECD 平均值(12 分)。男生的高分者(第五級及以上)百比分(30.1%)高於女生的高分者(19.8%)，此差距高於 OECD 平均值(5.0%)，亦高於所有參與國家和地區的性別差距。男生的低分者(第二級以下)百比分則與女生的低分者並無分別(7.8%)，這與 OECD 國家的情況並不相同；在 OECD 國家，女生的低分者百分比(20.8%)稍微高於男生的低分者(19.1%)。

數碼閱讀能力表現

16. 數碼閱讀能力方面，香港學生於 PISA 2012 取得的平均分為 550 分，顯著地高於 PISA 2009 所得的 515 分，此乃由於學生在所有百分位數的表現皆有所進步(除於第 5 百分位數的低分者外)。百分位數愈高，學生的數碼閱讀表現進步愈大。

[4] 預期表現指相對於其他分量表，OECD 國家在某個分量表上答對題目的機會率。學生表現勝於(或遜於)預期表現表示該國家或地區在該分量表上答對題目的相對機會率顯著大於(或小於)OECD 平均值。

17. 香港女生的數碼閱讀表現顯著較男生為佳，兩者得分的差距為 19 分，低於 OECD 平均值(26 分)。女生的高分者(第五級及以上)百分比(22.9%)高於男生的高分者(19.5%)，此差距稍微高於 OECD 平均值(2.7%)；而男生的低分者(第二級以下)百分比(9.3%)則高於女生的低分者(5.5%)，此差距低於 OECD 平均值(8.2%)。

家長參與、資源投放與觀感

18. 在家長參與方面，家長對學校質素的觀感與子女的電腦化評估解難、電腦化評估數學及數碼閱讀表現呈最大的正相關。家庭為本參與方面，家長與子女關懷性的溝通，與子女的數碼閱讀表現呈顯著的正相關；但家長協助子女學習數學，則與子女的電腦化評估解難、電腦化評估數學及數碼閱讀表現呈顯著的負相關。此外，家長在學校的參與跟學生的電腦化評估數學和數碼閱讀表現呈顯著的負相關，這結果與筆試的結果一致。

19. 家長的資源投放方面，資訊科技資源對學生的電腦化評估數學表現有顯著和正面的影響，而文化資源對電腦化評估解難表現亦有顯著和正面的影響，但教育資源則對電腦化評估解難表現有負面的影響。

啟示及建議

給教育政策制訂者

20. 在PISA 2012，香港學生在電腦化評估解難、電腦化評估數學及數碼閱讀皆有出色的表現。電腦化評估結果顯示，香港的教育系統給學生提供了優質而均等的教育機會，在有效發展學生的數碼能力同時，不會犧牲弱勢學生的學習機會，此結果與筆試的結果一致。至於學術包容度及社經包容度方面，香港教育系統的學術包容度稍微高於 OECD 國家，社經包容度則低於 OECD 國家。相比起一些東亞國家和地區，例如韓國和新加坡，香港教育系統的學術包容度和社經包容度亦有所不及。香港現行的綜合教育政策，即把派位組別由五個減至三個，或許有助減低學校之間的學能分隔；然而，直接資助計劃(DSS)政策有可能導致高收入家庭轉離公營學校體制，從而增加學校之間的社經分隔。進一步分析宜探討學校之間學能分隔和社經分隔的成因以及改善方法。

21. 家長參與有助子女學習，做法值得加以推廣。家長在家裏與子女關懷性的溝通，有助提升子女的能力表現，這結果與歷屆 PISA 的結果一致；但學校為本的參與和學生能力表現持續呈負面的相關。家長參與對支援青少年的全人發展有著重要的角色，當局宜促進尚未發揮作用的家長參與。此外，當局亦宜確保不同背景的學生均有足夠的教育、文化和資訊科技資源以供學習之用。

22. 香港男生在電腦化評估數學和解難方面的表現較女生優勝，數碼閱讀方面的表現則落後於女生。與筆試相比，數碼閱讀表現的性別差距較小，電腦化評估數學表現的性別差距則較大。這可能顯示在數碼情景下，男生能挽回在閱讀方面的弱勢，而女生在數學方面則更為落後。進一步研究宜探討如何充分利用數碼媒體來培養男生的閱讀習慣，以及如何協助女生在數碼情景下解難和處理數學問題。

給教育工作者及家長

23. PISA 2012 除了評估學生的數碼能力，亦探討學生對於解難的態度。研究結果顯示，香港學生對解難的堅持不懈(*perseverance*)程度高於 OECD 平均值，但對解難的開放態度(*openness*)則遠低於 OECD 平均值。此兩種態度均與電腦化評估解難、電腦化評估數學及數碼閱讀表現呈顯著的正相關。儘管香港學生的數碼表現名列前茅，但上述結果反映學生對於解難的態度仍有待改善。

24. 香港學生在校內和校外使用電腦和資訊通訊科技的情況少於 OECD 國家。有趣的是，學生在校外使用電腦，無論是為課業或消閒，均與電腦化評估解難、電腦化評估數學及數碼閱讀表現呈正相關；但學生在校內使用電腦，則與其電腦化評估表現呈負相關。這可能是由於須在校內使用電腦的學生主要來自弱勢背景，在家裏未有資訊通訊設備；其次的原因可能是隨著急速發展的數碼科技，PISA 問卷現時尚未探討一些足以影響學生表現的校內的資訊通訊科技活動。

25. 未來的研究宜探討一些國家和地區如何在校內善用資訊通訊科技，並如何設計課堂的資訊通訊科技活動來提升學生的學習效能。政府、學校及社區在硬件方面的資源投放，在應用資訊科技教育方面來說已經踏出了成功的第一步；未來的重點應放在課堂教學上，即如何支援課程革新及更有效地在課堂上使用電腦，達致更佳的教學效果。教育工作者宜制訂具體的研究和發展策略，汲取其他國家和地區成功的經驗(如 "Finnable 2020"[5])，分析在何種學校情景、學習環境及教學過程下，資訊通訊科技能最有效地提升學生的學習效能、解難技巧和整體能力，促進學生在數碼世界的自主學習。

給未來研究的啟示

26. PISA 2012 的電腦化評估提供了有關學生數碼能力表現的資料，也提供了各種背景因素的資料，包括學生的移民身份、數碼表現的性別差距、對於解難的態度、參與各種網上活動的情況等。這些主題都值得進一步研究，未來也應探討各項個人、家庭和學校因素對學習成效的相對影響。

27. 香港學生的數碼表現優異，但對於解難的開放態度偏低，值得進一步進行研究。鑑於對解難的開放態度與數碼表現有正相關，對個人日常生活亦尤其重要，我們建議展開縱向調查和行動研究，了解如何協助學生培養開放的態度來解決複雜的新問題。

28. 家長的校本參與和學生數碼表現呈負相關，情況與筆試的結果相若，顯示不理想的情況仍然持續。過去十年，家校溝通和家長參與的性質仍未有顯著的改善，有需要作進一步研究來改善問題。

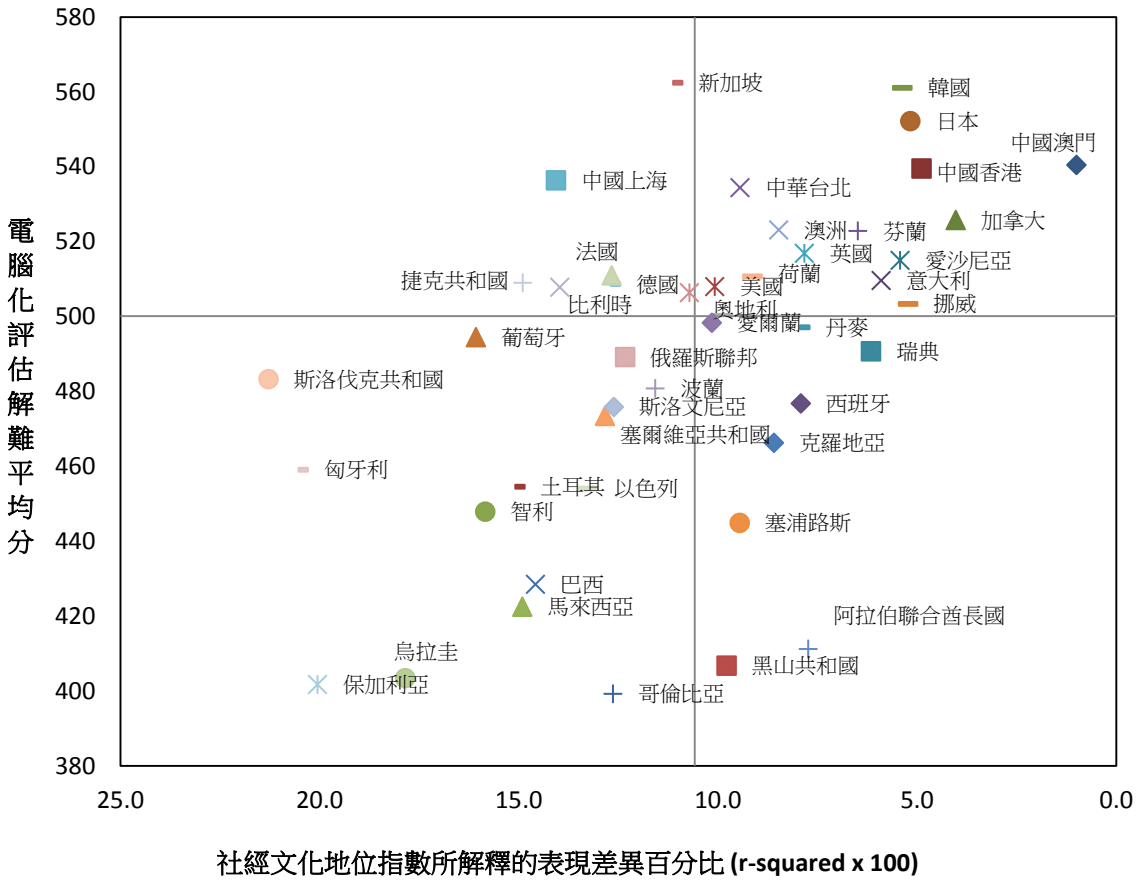
[5] 詳情可參閱網址：http://www.finnable.fi/

附錄一　十五歲學生在 PISA 2012 電腦化評估解難、電腦化評估數學和數碼閱讀的能力表現

電腦化評估解難			電腦化評估數學			數碼閱讀		
國家/地區	平均值	標準誤差	國家/地區	平均值	標準誤差	國家/地區	平均值	標準誤差
新加坡	562	(1.2)	新加坡	566	(1.3)	新加坡	567	(1.2)
韓國	561	(4.3)	中國上海	562	(3.4)	韓國	555	(3.6)
日本	552	(3.1)	韓國	553	(4.5)	**中國香港**	**550**	**(3.6)**
中國澳門	540	(1.0)	**中國香港**	**550**	**(3.4)**	日本	545	(3.3)
中國香港	**540**	**(3.9)**	中國澳門	543	(1.1)	加拿大	532	(2.3)
中國上海	536	(3.3)	日本	539	(3.3)	中國上海	531	(3.7)
中華台北	534	(2.9)	中華台北	537	(2.8)	愛沙尼亞	523	(2.8)
加拿大	526	(2.4)	加拿大	523	(2.2)	澳洲	521	(1.7)
澳洲	523	(1.9)	愛沙尼亞	516	(2.2)	愛爾蘭	520	(3.0)
芬蘭	523	(2.3)	比利時	512	(2.5)	中華台北	519	(3.0)
英國	517	(4.2)	德國	509	(3.3)	中國澳門	515	(0.9)
愛沙尼亞	515	(2.5)	法國	508	(3.3)	美國	511	(4.5)
法國	511	(3.4)	澳洲	508	(1.6)	法國	511	(3.6)
荷蘭	511	(4.4)	奧地利	507	(3.5)	意大利	504	(4.3)
意大利	510	(4.0)	意大利	499	(4.2)	比利時	502	(2.6)
捷克共和國	509	(3.1)	美國	498	(4.1)	挪威	500	(3.5)
德國	509	(3.6)	挪威	498	(2.8)	瑞典	498	(3.4)
美國	508	(3.9)	斯洛伐克共和國	497	(3.5)	丹麥	495	(2.9)
比利時	508	(2.5)	丹麥	496	(2.7)	德國	494	(4.0)
奧地利	506	(3.6)	愛爾蘭	493	(2.9)	葡萄牙	486	(4.4)
挪威	503	(3.3)	瑞典	490	(2.9)	奧地利	480	(3.9)
愛爾蘭	498	(3.2)	俄羅斯聯邦	489	(2.6)	波蘭	477	(4.5)
丹麥	497	(2.9)	波蘭	489	(4.0)	斯洛伐克共和國	474	(3.5)
葡萄牙	494	(3.6)	葡萄牙	489	(3.1)	斯洛文尼亞	471	(1.3)
瑞典	491	(2.9)	斯洛文尼亞	487	(1.2)	西班牙	466	(3.9)
俄羅斯聯邦	489	(3.4)	西班牙	475	(3.2)	俄羅斯聯邦	466	(3.9)
斯洛伐克共和國	483	(3.6)	匈牙利	470	(3.9)	以色列	461	(5.1)
波蘭	481	(4.4)	以色列	447	(5.6)	智利	452	(3.6)
西班牙	477	(4.1)	阿拉伯聯合酋長國	434	(2.2)	匈牙利	450	(4.4)
斯洛文尼亞	476	(1.5)	智利	432	(3.3)	巴西	436	(4.9)
塞爾維亞共和國	473	(3.1)	巴西	421	(4.7)	阿拉伯聯合酋長國	407	(3.3)
克羅地亞	466	(3.9)	哥倫比亞	397	(3.2)	哥倫比亞	396	(4.0)
匈牙利	459	(4.0)	*OECD 平均值*	*497*	*(0.7)*	*OECD 平均值*	497	(0.6)
土耳其	454	(4.0)						
以色列	454	(5.5)						
智利	448	(3.7)						
塞浦路斯	445	(1.4)						
巴西	428	(4.7)						
馬來西亞	422	(3.5)						
阿拉伯聯合酋長國	411	(2.8)						
黑山共和國	407	(1.2)						
烏拉圭	403	(3.5)						
保加利亞	402	(5.1)						
哥倫比亞	399	(3.5)						
OECD 平均值	*500*	*(0.7)*						

註：有顏色部分顯示該國家/地區與香港有顯著分別。

附錄二　不同國家和地區學生的電腦化評估解難表現與社經文化背景影響的關係



註：PISA 2012 之社會經濟文化地位指數由三個家庭背景相關變數衍生出來，包括家長教育程度、家長職業類別、家庭所擁有的教育資源數量及種類。

Acknowledgement

Aberdeen Technical School

Assembly of God Hebron Secondary School

Baptist Wing Lung Secondary School

Belilios Public School

Buddhist Fat Ho Memorial College

Buddhist Ho Nam Kam College

Buddhist Hung Sean Chau Memorial College

Buddhist Tai Hung College

Buddhist Wai Yan Memorial College

Buddhist Wong Wan Tin College

Caritas St. Joseph Secondary School

Caritas Yuen Long Chan Chun Ha Secondary School

Carmel Holy Word Secondary School

Carmel School Association - ELSA High School

Chan Sui Ki (La Salle) College

Cheung Chau Government Secondary School

Cheung Chuk Shan College

Cheung Sha Wan Catholic Secondary School

China Holiness College

Ching Chung Hau Po Woon Secondary School

Chong Gene Hang College

Christian & Missionary Alliance Sun Kei Secondary School

Christian Alliance S W Chan Memorial College

Christian Nationals' Evangelism Commission Lau Wing Sang Secondary School

Clementi Secondary School

CMA Choi Cheung Kok Secondary School

Cognitio College (Hong Kong)

Cumberland Presbyterian Church Yao Dao Secondary School

Daughters of Mary Help of Christians Siu Ming Catholic Secondary School

Delia Memorial School (Hip Wo)

Diocesan Boys' School

ELCHK Lutheran Secondary School

ELCHK Yuen Long Lutheran College

Elegantia College (Sponsored by Education Convergence)

Evangel College

Fukien Secondary School

Fukien Secondary School (Siu Sai Wan)

Fung Kai Liu Man Shek Tong Secondary School

G.T. (Ellen Yeung) College

General Chamber of Commerce and Industry of The Tung Kun District Lau Pak Lok Secondary School

Gertrude Simon Lutheran College

Helen Liang Memorial Secondary School (Shatin)

Heung To Middle School

HHCKLA Buddhist Leung Chik Wai College

HHCKLA Buddhist Ma Kam Chan Memorial English Secondary School

Ho Dao College (Sponsored by Sik Sik Yuen)

Ho Lap College (Sponsored by the Sik Sik Yuen)

Holy Family Canossian College

Hong Kong Baptist University Affiliated School Wong Kam Fai Secondary and Primary School

Hong Kong Taoist Association The Yuen Yuen Institute No.2 Secondary School

Hotung Secondary School

Immaculate Heart of Mary College

Jockey Club Ti-I College

Kau Yan College

Kiangsu-Chekiang College (Kwai Chung)

Kiangsu-Chekiang College (Shatin)

King Ling College

Kit Sam Lam Bing Yim Secondary School

Ko Lui Secondary School

Kowloon Technical School

Kowloon Tong School (Secondary Section)

Kwok Tak Seng Catholic Secondary School

Kwun Tong Maryknoll College

La Salle College

Law Ting Pong Secondary School

Lee Kau Yan Memorial School

Leung Shek Chee College

Ling Liang Church E Wun Secondary School

Liu Po Shan Memorial College

Lock Tao Secondary School

Lok Sin Tong Wong Chung Ming Secondary School

Lok Sin Tong Yu Kan Hing Secondary School

Lung Kong World Federation School Limited Lau Wong Fat Secondary School

Ma Kam Ming Charitable Foundation Ma Chan Duen Hey Memorial College

Madam Lau Kam Lung Secondary School of Miu Fat Buddhist Monastery

Man Kiu College

Maryknoll Convent School (Secondary Section)

Mu Kuang English School

Munsang College

Munsang College (Hong Kong Island)

New Asia Middle School

Ning Po No.2 College

NLSI Peace Evangelical Secondary School

NTHYK Yuen Long District Secondary School

Our Lady of the Rosary College

Pak Kau College

Po Chiu Catholic Secondary School

Po Kok Secondary School

Po Leung Kuk Laws Foundation College

Po Leung Kuk Lee Shing Pik College

Po Leung Kuk Lo Kit Sing (1983) College

Po Leung Kuk Ma Kam Ming College

Pok Oi Hospital Tang Pui King Memorial College

Pooi To Middle School

Pui Kiu Middle School

Pui Shing Catholic Secondary School

Pui Tak Canossian College

Pui Ying Secondary School

Qualied College

Queen Elizabeth School Old Students' Association Tong Kwok Wah Secondary School

Raimondi College

Rhenish Church Pang Hok-Ko Memorial College

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S.K.H. Lam Kau Mow Secondary School

S.K.H. Lam Woo Memorial Secondary School

S.K.H. Li Fook Hing Secondary School

S.K.H. Li Ping Secondary School

S.K.H. Lui Ming Choi Secondary School

S.K.H. St. Benedict's School

S.K.H. St. Mary's Church Mok Hing Yiu College

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Sha Tin Government Secondary School

Sha Tin Methodist College

Shatin Pui Ying College

Shau Kei Wan Government Secondary School

Sheung Shui Government Secondary School

Shi Hui Wen Secondary School

Shun Lee Catholic Secondary School

Shun Tak Fraternal Association Leung Kau Kui College

Shun Tak Fraternal Association Seaward Woo College

Shun Tak Fraternal Association Yung Yau College

Shung Tak Catholic English College

Sing Yin Secondary School

South Tuen Mun Government Secondary School

St Stephen's Girls' College

St. Antonius Girls' College

St. Catharine's School For Girls, Kwun Tong

St. Clare's Girls' School

St. Francis Xavier's School, Tsuen Wan

St. Joseph's College

St. Louis School

St. Mark's School

St. Paul's College

St. Paul's School (Lam Tin)

St. Stephen's Church College

St. Teresa Secondary School

Stewards Pooi Tun Secondary School

Tak Sun Secondary School

The Association of Directors & Former Directors of Pok Oi Hospital Ltd. Leung Sing Tak College

The Bishop Hall Jubilee School

The Chinese Foundation Secondary School

The Church of Christ in China Chuen Yuen College

The Church of Christ in China Fong Yun Wah Secondary School

The Church of Christ in China Fung Leung Kit Memorial Secondary School

The Church of Christ in China Kei Long College

The Church of Christ in China Kei To Secondary School

The Church of Christ in China Kwei Wah Shan College

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The Church of Christ in China Yenching College

The Hong Kong Chinese Christian Churches Union Logos Academy

The Hong Kong Sze Yap Commercial & Industrial Association Wong Tai Shan Memorial College

The Hong Kong Taoist Association Ching Chung Secondary School

The Jockey Club Eduyoung College

The Methodist Church Hong Kong Wesley College

The Yuen Yuen Institute MFBM Nei Ming Chan Lui Chung Tak Memorial College

Tin Shui Wai Government Secondary School

Tin Shui Wai Methodist College

Tseung Kwan O Government Secondary School

Tsuen Wan Government Secondary School

Tsung Tsin Christian Academy

Tsung Tsin College

Tuen Mun Catholic Secondary School

Tung Chung Catholic School

Tung Wah Group of Hospitals Kap Yan Directors' College

Tung Wah Group of Hospitals Li Ka Shing College

Tung Wah Group of Hospitals Lo Kon Ting Memorial College

Tung Wah Group of Hospitals Lui Yun Choy Memorial College

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Tung Wah Group of Hospitals Sun Hoi Directors' College

Tung Wah Group of Hospitals Yau Tze Tin Memorial College

Tung Wah Group of Hospitals Yow Kam Yuen College

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Valtorta College

Victoria Shanghai Academy

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Wai Kiu College

Wong Shiu Chi Secondary School

Yan Oi Tong Chan Wong Suk Fong Memorial Secondary School

Yan Oi Tong Tin Ka Ping Secondary School

Ying Wa College

Yu Chun Keung Memorial College

Yuen Long Merchants Association Secondary School

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