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Are claims that the GCSE is a white elephant red herrings?

A report from the Research Division,
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Cambridge Assessment is in the process of carrying out a desk-based exercise investigating the existence, function and timing of high-stakes assessment within education systems across many jurisdictions. This evidence will be written up and reported publicly when it is complete. **The evidence produced will be used, in part, to rebut such claims as “England should follow the example of other high performing jurisdictions”, because it is clear that other jurisdictions use assessments in a similar way as we do.** They may not occur at exactly the same age point, nor be assessed in an identical way, but similarities may nevertheless be observed.

Information is being sourced from major international comparative websites and documents including: the Eurydice website; the Classbase website (USA); the Nuffic website (The Netherlands) and the UCAS international qualifications publication. Wherever possible, information is triangulated from several of these sources. Ministry websites and other sources, such as published research articles, are used in addition to verify information. The information extracted from the various comparative websites and from Ministry websites and other resources has been obtained in good faith, but its pedigree can be clouded. All the major comparative databases are managed by reputable organisations, but nothing is known of the many individuals who upload the detailed information into those databases; translation issues occasionally blur the detail of the explanations, and often the system does not quite fit into pre-set categories of description. As a result, some ambiguity in interpretation can occur.

To the critics who suggest that England follow the lead of high performing jurisdictions (HPJs), it should be pointed out that a vast array of different approaches are apparently successfully maintained. Leaving aside the difficulty of simply adapting other jurisdictions’ systems, there is no single lead to follow.

The information obtained in pursuit of this investigation is transient in nature, and can only exist as a snapshot in time. Jurisdictions are continuously seeking to change their system, and there is an ongoing exercise in updating the comparator websites. At least two of the jurisdictions’ details were updated during the course of our investigations.

Defining and identifying HPJs within this report has proved challenging. There are many jurisdictions which may be considered HPJs – too many to realistically be included. At Cambridge Assessment we have developed a new definition for the **highest** performing jurisdictions as described on page four of this report. This definition has resulted in a list of seven jurisdictions (Hong Kong, Singapore, Finland, Australia, Japan, Chinese Taipei and South Korea).

Assessment practices at the end of lower secondary schooling vary across these seven highest performing jurisdictions. Four of these have some form of formal examination at the end of lower secondary schooling, one uses formal teacher assessments, and the other two do not have any formal assessments at this point. Details about the assessment practices in the seven jurisdictions are described briefly on page six of this report.

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Which are the current highest performing jurisdictions (H*PJs)?

Explanation

Jurisdictions which appear at the upper positions of comparative rankings exercises are known as high performing jurisdictions (HPJs). The number of HPJs grows with the number of comparisons in existence, but it is probable that more than 20 jurisdictions might reasonably be given the title, following performance in one or other of the comparisons.

It is becoming increasingly difficult to identify a smaller number of the highest performing jurisdictions, owing to the abundance of comparisons from which to choose. For the purposes of Cambridge Assessment's current research into different education systems worldwide, the following definition is proposed.

Definition

An H*PJ is identified by its appearance in one of the top 20 positions of at least six of the following seven recent comparisons: TIMSS 2011 8th Grade Science; TIMSS 2011 8th Grade Maths; PIRLS 2011 Reading; PISA 2012 Reading; PISA 2012 Maths; PISA 2012 Science; Pearson Index of Cognitive Skills and Educational Attainment 2014.

There are two limitations to this definition: firstly, not all jurisdictions participate in every comparison, so absence from a top 20 position may be due to this fact alone, which might seem unfair. Secondly, if many of the comparisons are influenced by the same over-riding factors (for example, congruence of testing style to jurisdiction educational culture) then it would be expected that the same jurisdictions re-appear. Nevertheless, these limitations aside, this seems a reasonable pragmatic approach to obtaining a manageable list of the highest performers.

H*PJs

Application of the definition above results in the following list of H*PJs:

Hong Kong, Singapore, Finland, Chinese Taipei, Australia, Japan, South Korea.

As shown in the table in Figure 1.

- No attempt has been made to change jurisdiction names in this table; they are retained in the form in which they appear in each comparison. Thus, 'Korea, Rep.' and 'South Korea' each appear, but are treated as the same jurisdiction.
- In some instances a country is listed in one comparison (e.g. UK in PISA (Science) 2012) whilst jurisdictions within that country are listed in another (e.g. England and Northern Ireland in PIRLS 2011 Reading). In these instances, the count is made separately for each; i.e., England receives a count of three, the UK receives a count of two, and Northern Ireland receives a count of one. They are not combined together into a single count of five for the UK.
- In some cases the specific order of jurisdictions within a particular comparison will differ from other published sources. This occurs where multiple jurisdictions have equal ranking, so the specific order in which they appear in the table is determined by other methods. As we are making no attempt to use the specific rankings in this exercise, and are merely counting the number of occurrences of that jurisdiction in the table, this is immaterial.

Figure 1: Ranked positions of jurisdictions in seven recent comparisons

	TIMSS 2011 (8 th Grade) Science	TIMSS 2011 (8 th Grade) Maths	PIRLS 2011 Reading	PISA (Reading) 2012	PISA (Maths) 2012	PISA (Science) 2012	Pearson Index of Cognitive Skills and Educational Attainment 2014 ¹
1	Singapore	Korea, Rep.	Hong Kong	Shanghai – China	Shanghai – China	Shanghai – China	South Korea
2	Chinese Taipei	Singapore	Russian Fed.	Hong Kong – China	Singapore	Hong Kong	Japan
3	Korea, Rep.	Chinese Taipei	Finland	Singapore	Hong Kong – China	Singapore	Singapore
4	Japan	Hong Kong – China	Singapore	Japan	Chinese Taipei	Japan	Hong Kong
5	Finland	Japan	Northern Ireland	Korea	Korea	Finland	Finland
6	Slovenia	Russian Fed.	United States	Finland	Macao – China	Estonia	United Kingdom
7	Russian Fed.	Israel	Denmark	Ireland	Japan	Korea	Canada
8	Hong Kong	Finland	Croatia	Chinese Taipei	Liechtenstein	Vietnam	Netherlands
9	England	United States	Chinese Taipei	Canada	Switzerland	Poland	Ireland
10	United States	England	Ireland, Rep.	Poland	Netherlands	Canada	Poland
11	Hungary	Hungary	England	Estonia	Estonia	Liechtenstein	Denmark
12	Australia	Australia	Canada	Liechtenstein	Finland	Germany	Germany
13	Israel	Slovenia	Netherlands	New Zealand	Canada	Chinese Taipei	Russia
14	Lithuania	Lithuania	Czech Rep.	Australia	Poland	Ireland	United States
15	New Zealand	Italy	Sweden	Netherlands	Belgium	Netherlands	Australia
16	Sweden	New Zealand	Italy	Belgium	Germany	Australia	New Zealand
17	Italy	Kazakhstan	Germany	Switzerland	Vietnam	Macao – China	Israel
18	Ukraine	Sweden	Israel	Macao – China	Austria	New Zealand	Belgium
19	Norway	Ukraine	Portugal	Vietnam	Australia	Switzerland	Czech Rep.
20	Kazakhstan	Norway	Hungary	Germany	= Ireland	= United Kingdom	Switzerland
					= Slovenia	= Slovenia	

 Appears in all seven top 20s: Hong Kong, Singapore, Finland	 Appears in five of the top 20s
 Appears in six of the top 20s: Chinese Taipei, Australia, Japan, South Korea	 Appears in four of the top 20s
	 Appears in three of the top 20s
	 Appears in two of the top 20s
	 Appears in one of the top 20s

1 The Pearson Index is not entirely independent from all of the other comparisons charted here as it is a 'basket' comparison which draws partly from the PISA, TIMSS and PIRLS scores and partly from literacy and graduation rates.

Description of assessment practices in the seven highest performing jurisdictions (H*PJs)

Japanese students undertake a compulsory curriculum in lower secondary education, comprising Japanese, Mathematics, Social Studies, Science, Fine Arts, Foreign Languages, Health and Physical Education, Moral Education, Industrial Arts and Homemaking. In the third year of lower secondary (age 15) they are formally assessed by national examination in Mathematics and Japanese. Their schoolwork across other subjects is formally assessed by teachers in order to be awarded the *Chugakko Sotsugyo Shomeisho* (Lower Secondary School Leaving Certificate).

Singaporean students typically take between six and 10 subject examinations at either O Level (after five years of secondary schooling) or N Level (after four years). Singapore is currently seeking to make their system more flexible, more diverse and provide a more broad-based education than previously.

South Korean students must attend school between the ages of six and 18 years. They start upper secondary education at the age of 15, prior to which they sit the *Jung Hakgyo Chorupchung* (Junior High School diploma). There is also an Upper High school entrance examination.

In **Chinese Taipei**, students attend junior high school for three years (grades 7–9, also known as 'intermediate education'). They have been required to complete final examinations since 2001 (the Junior High School Students' Basic Competence Test (BCT, 國民中學學生基本學力). The test has five components: English, mathematics, Chinese, natural sciences (i.e. physics, chemistry, biology, health education and earth science) and social sciences (history, geography, civics and ethics, and 'Understanding Taiwan'). Students who pass the BCT are awarded the junior high school diploma (中學畢業證書), which also represents the end of compulsory education. The government currently has plans to rescind the BCT and instead use a certification examination to evaluate the overall performance of the student.

Finnish students in grades 7–9 are mainly taught by specialist subject teachers. All student assessment is carried out by the relevant teacher. Students are selected for upper secondary using their final assessment of basic education. This assessment must be nationally comparable and it must treat students equally. The national core curriculum includes the descriptions of good performance (grade "good" or 8) in all common subjects. A student whose performance has been accepted (at least grade 5) in all the assessed subjects moves on to the next grade. The certificate for completion of the basic education syllabus is given to a student who has completed the entire syllabus of basic education.

Secondary education in **Australia** lasts five or six years depending on the state or territory, and follows either seven or six years of primary school, depending on the location. Secondary school starts in Year 6 or Year 7, and consists of two stages: secondary school, finishing with Year 10, and senior secondary school, made up of Year 11 and Year 12. The subjects taken in the first two years are general in nature and compulsory for all students. Whilst all students in Australia take the Naplan test in Year 9, this has not been considered equivalent to GCSE within this project as it does not mark the end of an educational stage, nor is it used as an entry requirement for further education or employment. Naplan results are used by schools to focus their teaching, and by governments to monitor educational outcomes.

Hong Kong has recently shifted from the British model of education to a model more similar to that of the US. Now, students will attend six years of primary school and an additional six years of secondary school. Under the new system, there will be no gateway tests at the end of lower secondary school.



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