Rapporter et diffuser des résultats d'évaluation à grande échelle auprès de partenaires variés

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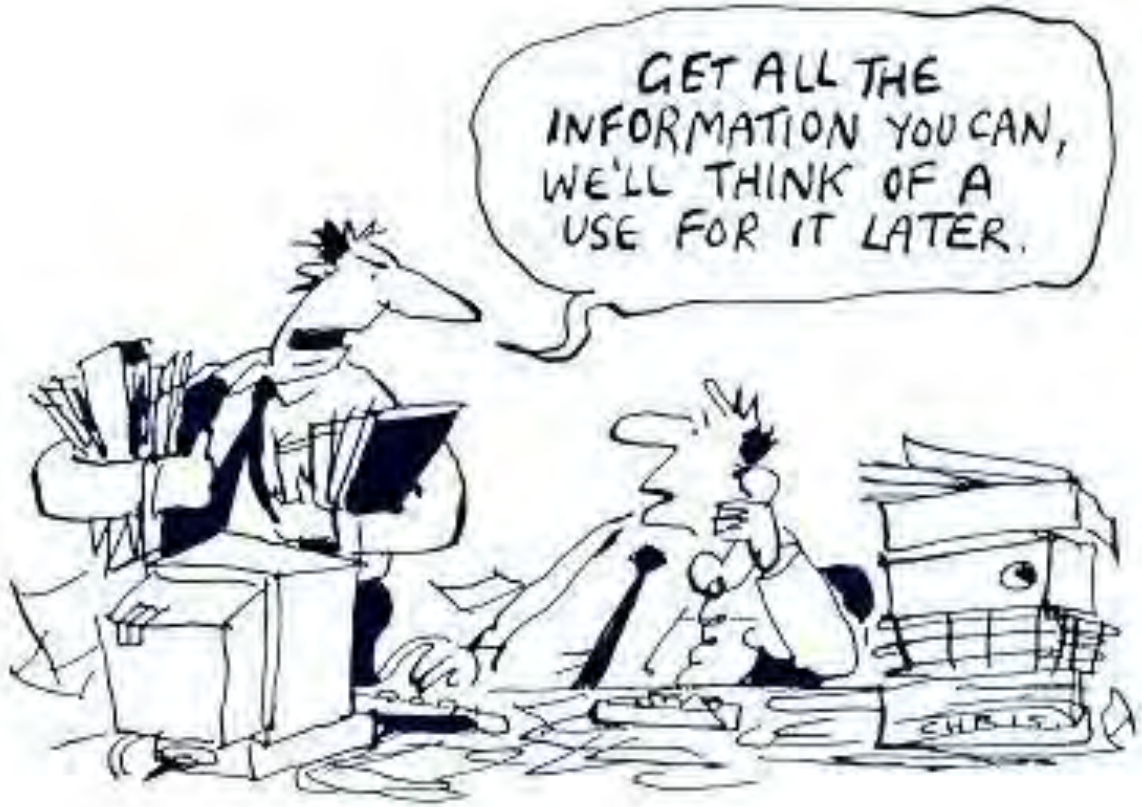
Création du rapport etassociation aux données contextuelles

Creation du rapport

- *Décrire les résultats (cognitifs, attitudes, valeurs, croyances), ex: état actuel, les tendances au cours du temps, avancée de l'apprentissage*
- *Comparer différents groupes d'étudiants, ex: sous-groupe susceptible d'être désavantagé*
- *Explorer les liens entre résultats et contexte ex: l'influence des facteurs socio-économiques*


GET ALL THE INFORMATION YOU CAN, WE'LL THINK OF A USE FOR IT LATER.

Plan d’analyse desdonnées

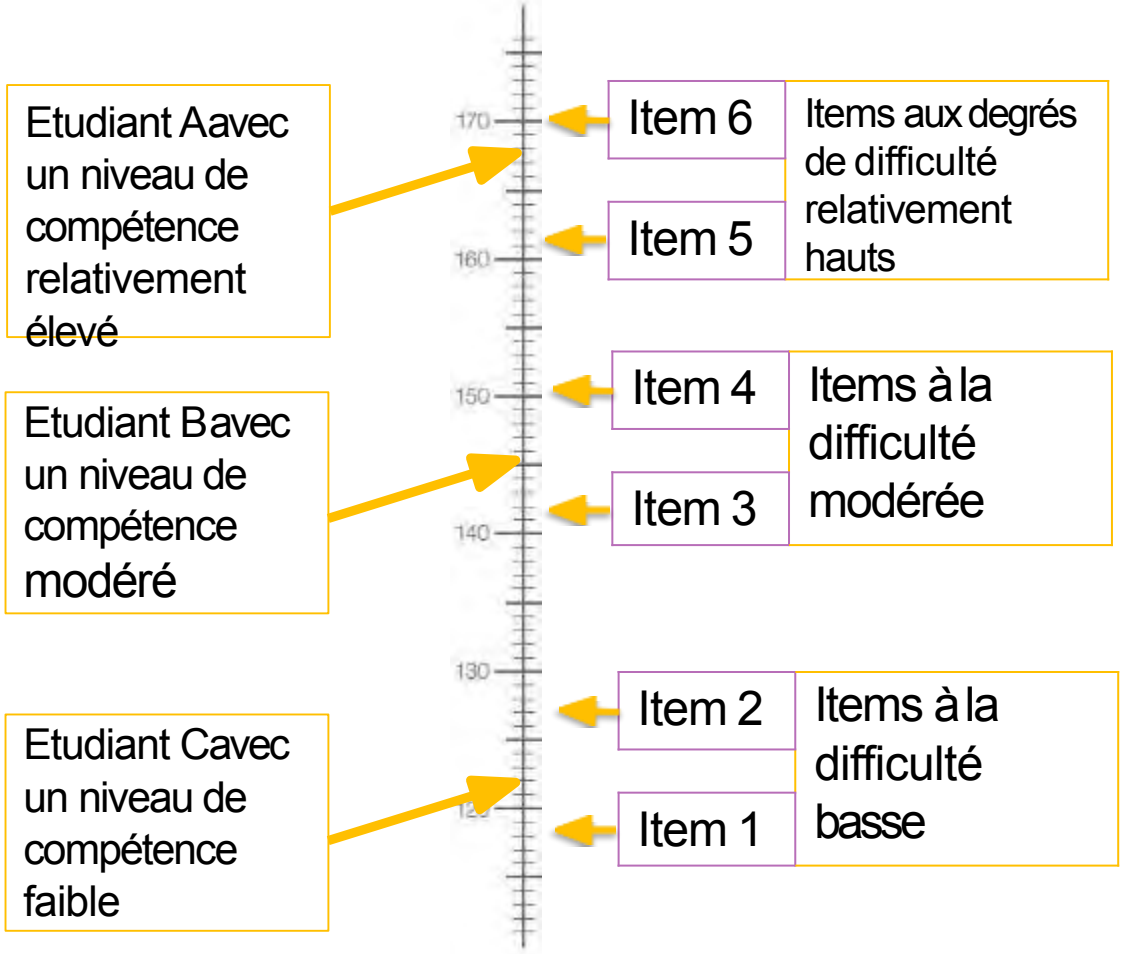
- Description de la politique et des questions de recherche, et description de l’analyse (but et process)
- Fournit des informations sur les types de résultats et/ou messages qui seront possible
- Soutient le développement d’une stratégie de diffusion et un meilleur emploi des données d'évaluation dans les politiques d'éducation et la pratique

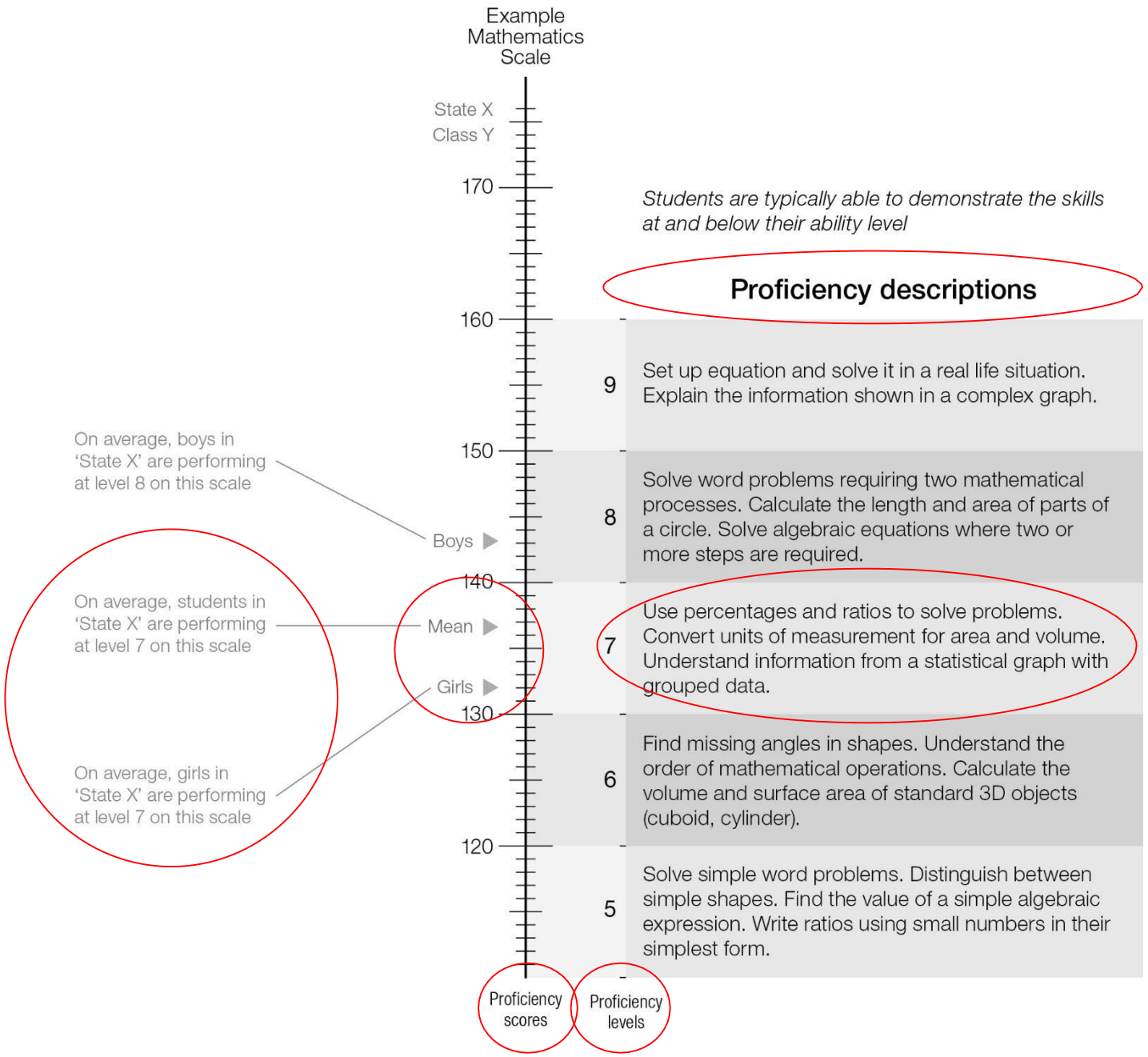
Resultats/

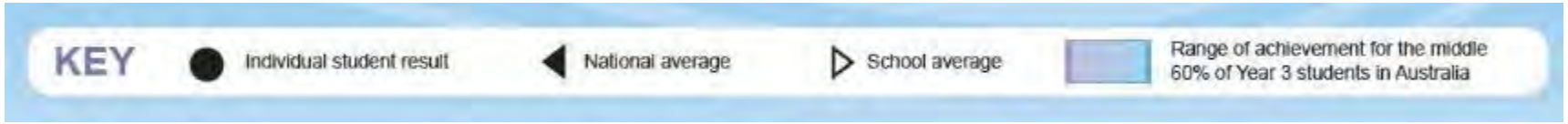
Échelles de compétence,scores et niveaux

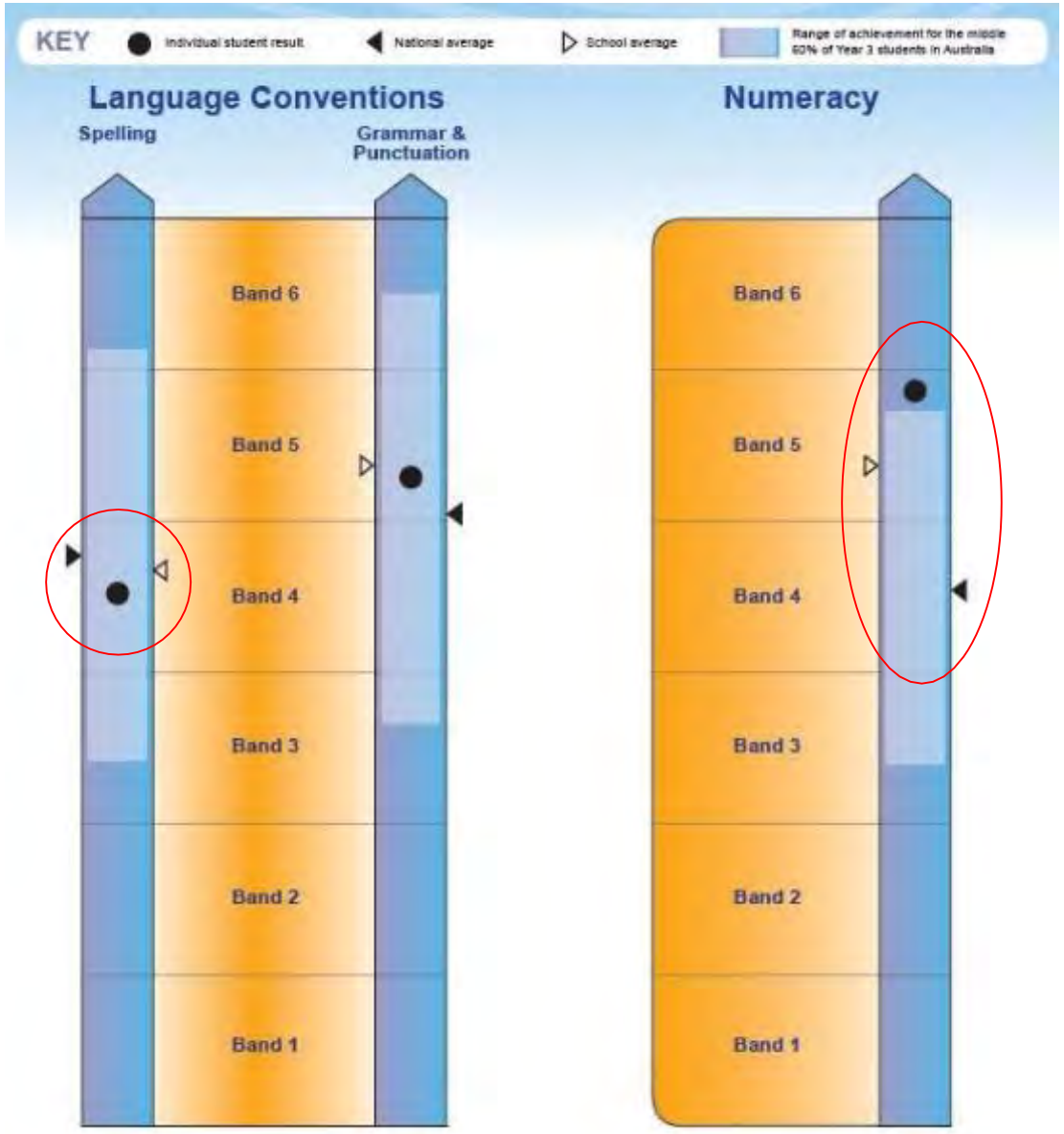
- Dans les évaluations à grande échelle qui sont basées sur la théorie des réponses aux items (IRT ou TRI), les échelles numériques (échelles de compétences) sont développées pour les domaines de l’apprentissage.
- Ces échelles peuvent être utilisées pour décrire à quelle étape de leur apprentissage les étudiants se situent, et pour mesurer les progrès de l’apprentissage au cours du temps.
- Un chiffre ou un score de compétence faible sur l'échelle indique une compétence faible.
- Les scores de compétence sont souvent groupés en niveaux de compétence.

Exemple Echelle
Mathematique




Example Mathematics Scale
State X
Class Y
170
160
150
140
130
120
Boys
Mean
Girls
On average, boys in 'State X' are performing at level 8 on this scale
On average, students in 'State X' are performing at level 7 on this scale
On average, girls in 'State X' are performing at level 7 on this scale
Students are typically able to demonstrate the skills at and below their ability level
Proficiency descriptions
9
Set up equation and solve it in a real life situation. Explain the information shown in a complex graph.
8
Solve word problems requiring two mathematical processes. Calculate the length and area of parts of a circle. Solve algebraic equations where two or more steps are required.
7
Use percentages and ratios to solve problems. Convert units of measurement for area and volume. Understand information from a statistical graph with grouped data.
6
Find missing angles in shapes. Understand the order of mathematical operations. Calculate the volume and surface area of standard 3D objects (cuboid, cylinder).
5
Solve simple word problems. Distinguish between simple shapes. Find the value of a simple algebraic expression. Write ratios using small numbers in their simplest form.
Proficiency scores
Proficiency levels





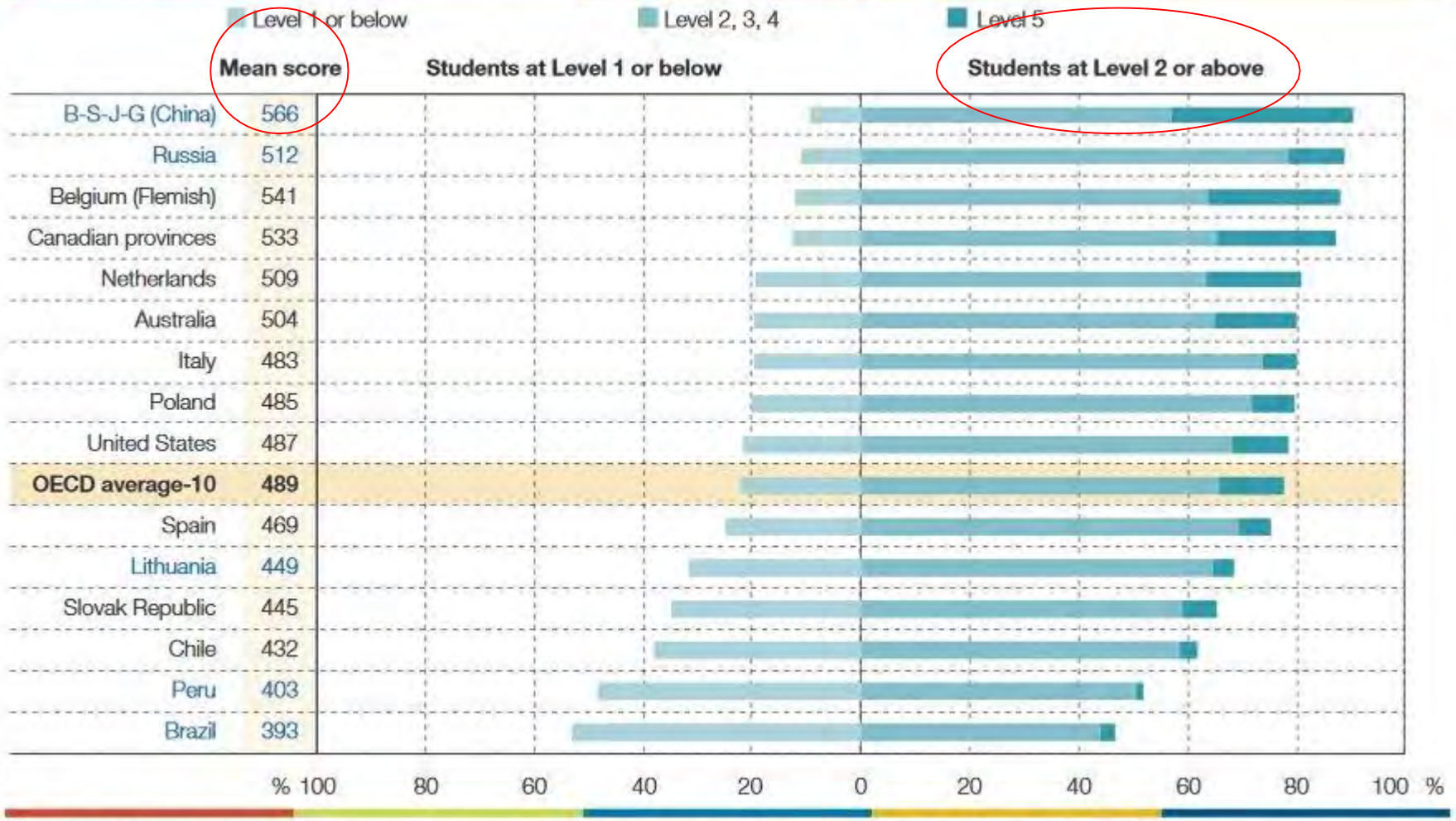
https://www.nap.edu.au/_resources/2014_Example_Year_3_NAPLAN_report_with_school_average.pdf

Façons de rendre comptedes résultats

- Par moyennes et répartitions
- Par rapport aux standards de performance nationaux ou internationaux
- Par domaines d’apprentissage, sous-domaines ou item par item
- Par sous-groupes d'étudiants (ex: genre, origine socio-économique, langue parlée)
- Par rapport à d’autres variables

Forster, 2001

Percentage of students at each level of proficiency in financial literacy



Countries and economies are ranked in descending order of the percentage of students who perform at or above Level 2.
Source: OECD, PISA 2015 Database, Table IV.3.2.

https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

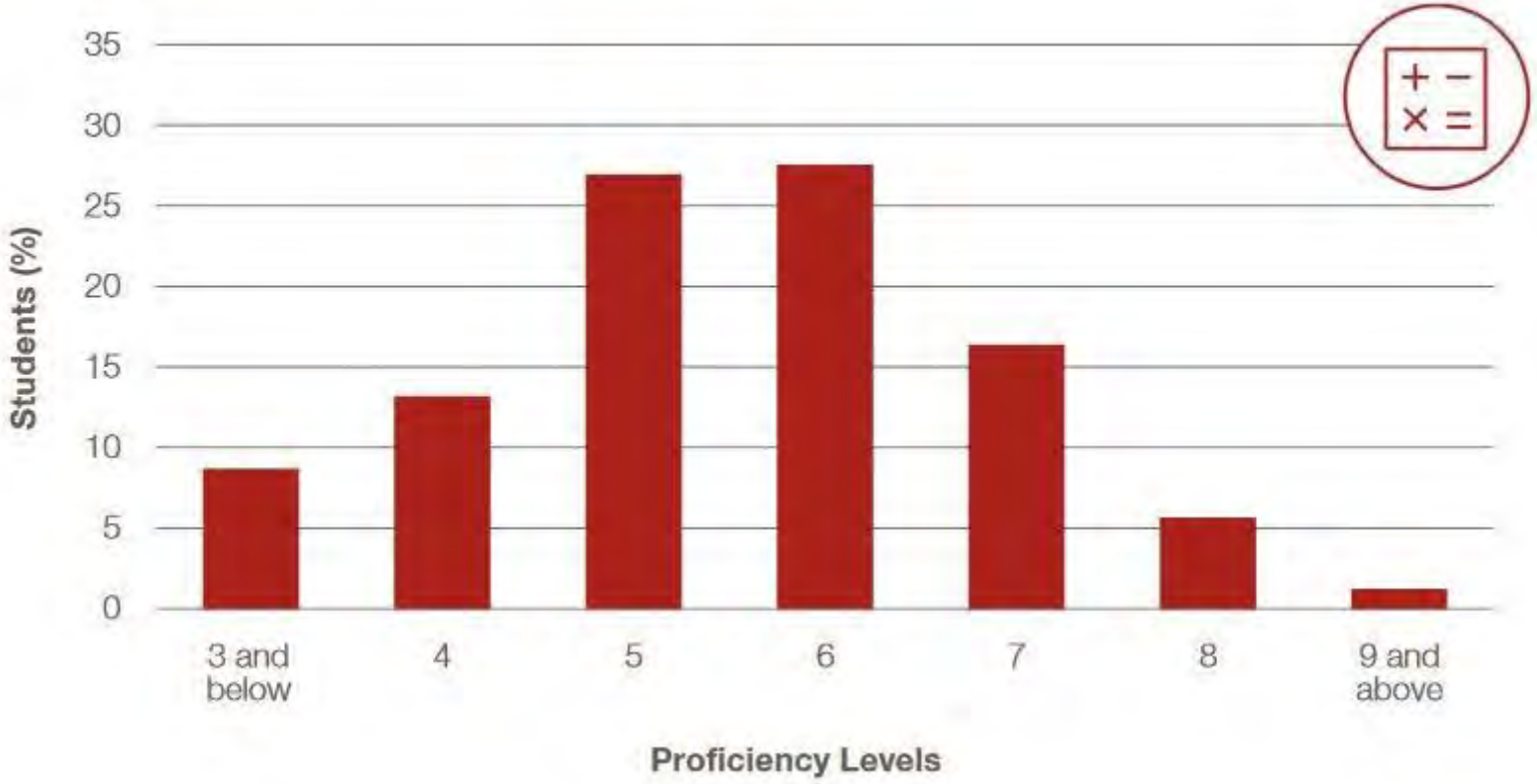
Snapshot of performance in science, reading and mathematics

Countries/economies with a mean performance/share of top performers **above** the OECD average Countries/economies with a share of low achievers **below** the OECD average
Countries/economies with a mean performance/share of top performers/share of low achievers not significantly different from the OECD average
Countries/economies with a mean performance/share of top performers **below** the OECD average Countries/economies with a share of low achievers **above** the OECD average

	Science		Reading		Mathematics		Science, reading and mathematics	
	Mean score in PISA 2015	Average three-year trend	Mean score in PISA 2015	Average three-year trend	Mean score in PISA 2015	Average three-year trend	Share of top performers in at least one subject (Level 5 or 6)	Share of low achievers in all three subjects (below Level 2)
	Mean	Score dif.	Mean	Score dif.	Mean	Score dif.	%	%
OECD average	493	-1	493	-1	490	-1	15.3	13.0
Singapore	556	7	535	5	564	1	39.1	4.8
Japan	538	3	516	-2	532	1	25.8	5.6
Estonia	534	2	519	9	520	2	20.4	4.7
Chinese Taipei	532	0	497	1	542	0	29.9	8.3
Finland	531	-11	526	-5	511	-10	21.4	6.3
Macao (China)	529	6	509	11	544	5	23.9	3.5
Canada	528	-2	527	1	516	-4	22.7	5.9
Viet Nam	525	-4	487	-21	495	-17	12.0	4.5
Hong Kong (China)	523	-5	527	-3	548	1	29.3	4.5

https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

Exhibit 3: Distribution of Class 3 mathematical proficiency



https://research.acer.edu.au/cgi/viewcontent.cgi?article=1017&context=mteg

Level and examples	Proficiency description
Level 6 (178 to less than 194) eg Game (audio) Pencil Place Value 2 (audio) Class 3 students at this level: 28%	Students at this level can typically use the four arithmetic operations to solve problems with numbers up to 100 using support materials, and using spatial reasoning, mental methods or written algorithms. They can use place value to recognise the structure used to say, label, write, decompose and compose, and order multi-digit whole numbers, including numbers containing zero. Students are able to sequence events in time; recognise names and features of common two-dimensional shapes; identify the symmetry properties of familiar objects; and identify simple rotations. They can compare data presented in simple pictographs and column graphs.
Level 5 (162 to less than 178) eg Birds on a Roof (audio) Class 3 students at this level: 27%	Students at this level can typically solve addition and subtraction problems with numbers up to 20 in different ways (such as using support materials and mental strategies). They can use place value to say, label and write multi-digit whole numbers, and they can recognise half of a shaded area shown in a diagram. Students can read time from an analogue clock to the hour; compare the mass of objects; and can compare objects in relation to a single attribute (such as longest, full, empty, shortest). They can compare, match and classify common two-dimensional shapes, and can use simple positional language in familiar situations. They can retrieve information from a simple graph or tally chart to identify the number in a specified category.

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1017&context=mteg

Exhibit 22: Bales of Cotton

This is one bale of cotton. 

Some bales are stacked on a truck.

How many bales are there on the truck?

A. 10

B. 11

C. 12

D. 16

Key: C

Difficulty: 181 (Level 6)

The item *Bales of Cotton* was one of the easiest items used in the Class 6 assessment. It presents a visual image of a collection of stacked cuboids. Bales of cotton may not be familiar to all students, but certainly stacks of regular-shaped cuboids do occur very frequently in different contexts (for example, stacks of bricks, or children's blocks, or apartment buildings). Solving this problem involves spatial reasoning to interpret the graphic image, and devising a counting strategy to calculate $3 \times 2 \times 2$ (or its equivalent).

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1000&context=mteg

Suggestions for teaching

Bales of Cotton (Exhibit 22) provides an opportunity to explore different counting and calculation strategies in a simple practical context, which could be explored and extended to different numbers and types of regularly shaped objects. Start by asking students how they solved the problem. Possibilities could include direct counting (for example counting 6 bales on the top layer, and adding another 6 because there are two layers, or counting 4 bales at the back, and adding another 2 lots for the other layers, or counting 6 bales seen on the side, and doubling this), or seeing the three-dimensional multiplicative array involved.

This task involves recognising one of the symbolic mathematical expressions that could be used to represent these numbers. It could be a starting point for discussing different possible counting methods, and from there to explore different but equivalent symbolic expressions (for example 6 + 6 is equivalent to 4 + 4 + 4; 3 x 2 x 2 is equivalent to 2 x 3 x 2; 6 x 2 is equivalent to 4 x 3). In a further step, the task could be used to encourage students to move from a strategy that involves additive reasoning to a strategy that involves multiplicative thinking.

- Fournit l'opportunité d'explorer différentes stratégies de comptage et de calcul dans un contexte simple qui pourrait être étendu à différent nombres et types d'objets de forme régulière.

- Ex: Demander aux étudiants comment ils compléteraient la tâche, en comptant directement, additionnant ou multipliant
- Discuter les différentes méthodes pour compter, et explorer les expressions symboliques équivalentes

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1000&context=mteg

Façons de rendre comptedes tendances

- Changements dans les moyennes et la répartition
- Changements dans le pourcentage de niveaux de compétence et dans le pourcentage d'étudiants au-dessus ou en dessous des repères de niveau
- Changements dans les performances des sous-groupes d'étudiants (y compris la croissance relative de ces sous-groupes)

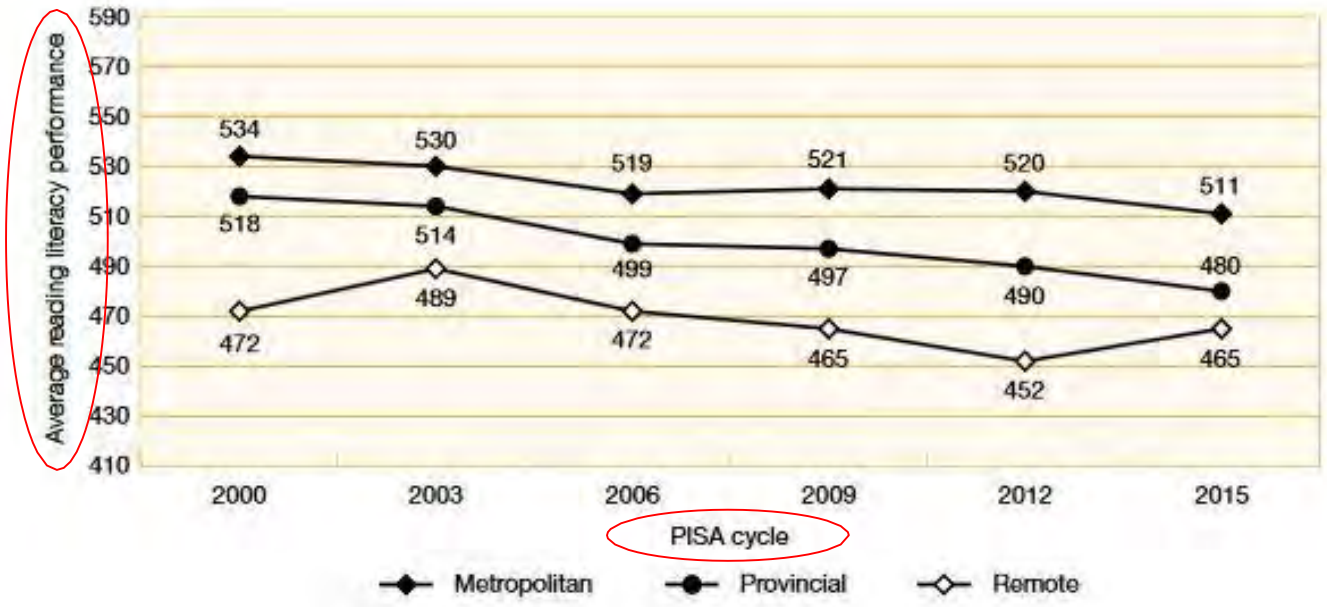
Forster, 2001

TABLE 3.2 Mean financial literacy performance for 2012 and 2015, and differences between 2012 and 2015, by country and sex

	Male							Females						
	2012		2015		2012–2015			2012		2015		2012–2015		
Country	Mean score	SE	Mean score	SE	Score diff.		SE	Mean score	SE	Mean score	SE	Score diff.		SE
Australia	**524**	**3.3**	**498**	**2.7**	**-27**	**▼**	**6.8**	**528**	**2.4**	**510**	**2.1**	**-18**	**▼**	**6.2**
Belgium	547	4.7	541	3.8	-6		8.1	536	4.8	541	4.3	5		8.4
Italy	470	3.1	489	3.9	19	▲	7.3	462	2.2	478	4.0	16	▲	7.0
Poland	512	4.7	478	3.6	-34	▼	8.0	508	4.2	493	3.2	-15	▼	7.5
Russian Federation	487	4.5	510	4.2	23	▲	8.1	486	4.2	514	3.3	28	▲	7.6
Slovak Republic	469	5.8	433	4.9	-36	▼	9.3	472	6.2	458	5.6	-14		9.9
Spain	487	4.3	464	3.7	-23	▼	7.8	481	4.3	474	4.1	-8		8.0
United States	492	6.3	488	4.4	-4		9.3	491	6.0	487	4.1	-5		9.0
OECD average	**500**	**1.8**	**484**	**1.5**	**-16**	**▼**	**5.8**	**497**	**1.7**	**491**	**1.5**	**-6**		**5.8**

Notes: The symbols indicate whether the change in performance was significantly higher (▲) or signifcantly lower (▼).
Only countries that participated in PISA 2012 and 2015 have been included.
The OECD average has been computed using only those countries which participated in both 2012 and 2015.

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1028&context=ozpisa



Provincial	Difference between years				
	2012	2009	2006	2003	2000
2015	–10	–17 ▼	–19 ▼	–34 ▼	–38 ▼
2012		–7	–9	–24 ▼	–28 ▼
2009			–2	–17 ▼	–21 ▼
2006				–15 ▼	–18 ▼
2003					–3

Note: read across the table row to determine whether the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1023&context=ozpisa

Associations entre performance et contexte

Pourquoi collecter des donnéessur le contexte?

- Pour examiner et décrire les associations avec la performance (différences entre sous-groupes, relations et effets sur la performance)
- Pour décrire et contrôler l'important impact de la scolarité, en plus des performances (ex: attitudes, valeurs, comportements)
- Pour contrôler les process, la pratique et les ressources

Différences dans la répartitiondes performances entresous-groupes

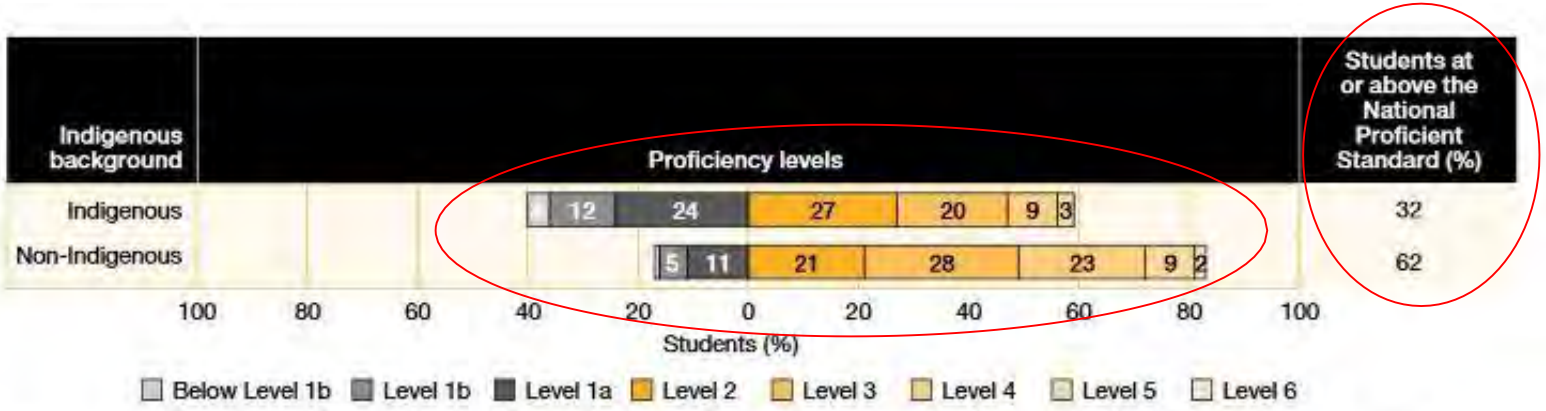


FIGURE 4.17 Percentage of students across the reading literacy proficiency scale, by Indigenous background

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1023&context=ozpisa

Différence des moyennesentre sous-groupes

Jurisdiction	Females Avg. score	Females SE	Males Avg. score	Males SE
QLD	510	4.2	504	4.2
WA	521	3.7	520	5.4
NSW	508	3.7	508	4.0
TAS	482	5.8	485	6.5
ACT	525	5.2	529	5.2
SA	506	4.6	510	5.2
VIC	507	3.6	518	4.5
NT	479	7.1	499	9.4

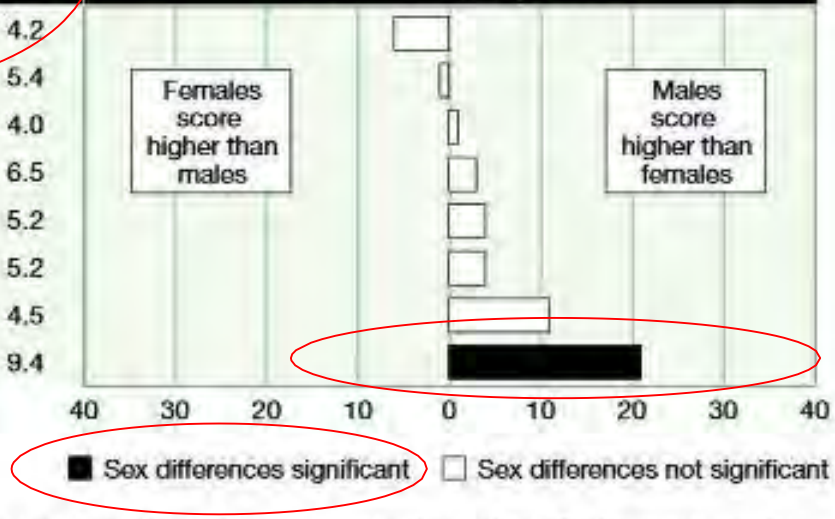


FIGURE 2.39 Average scores and differences in students' performance on the scientific literacy scale, by jurisdiction and sex

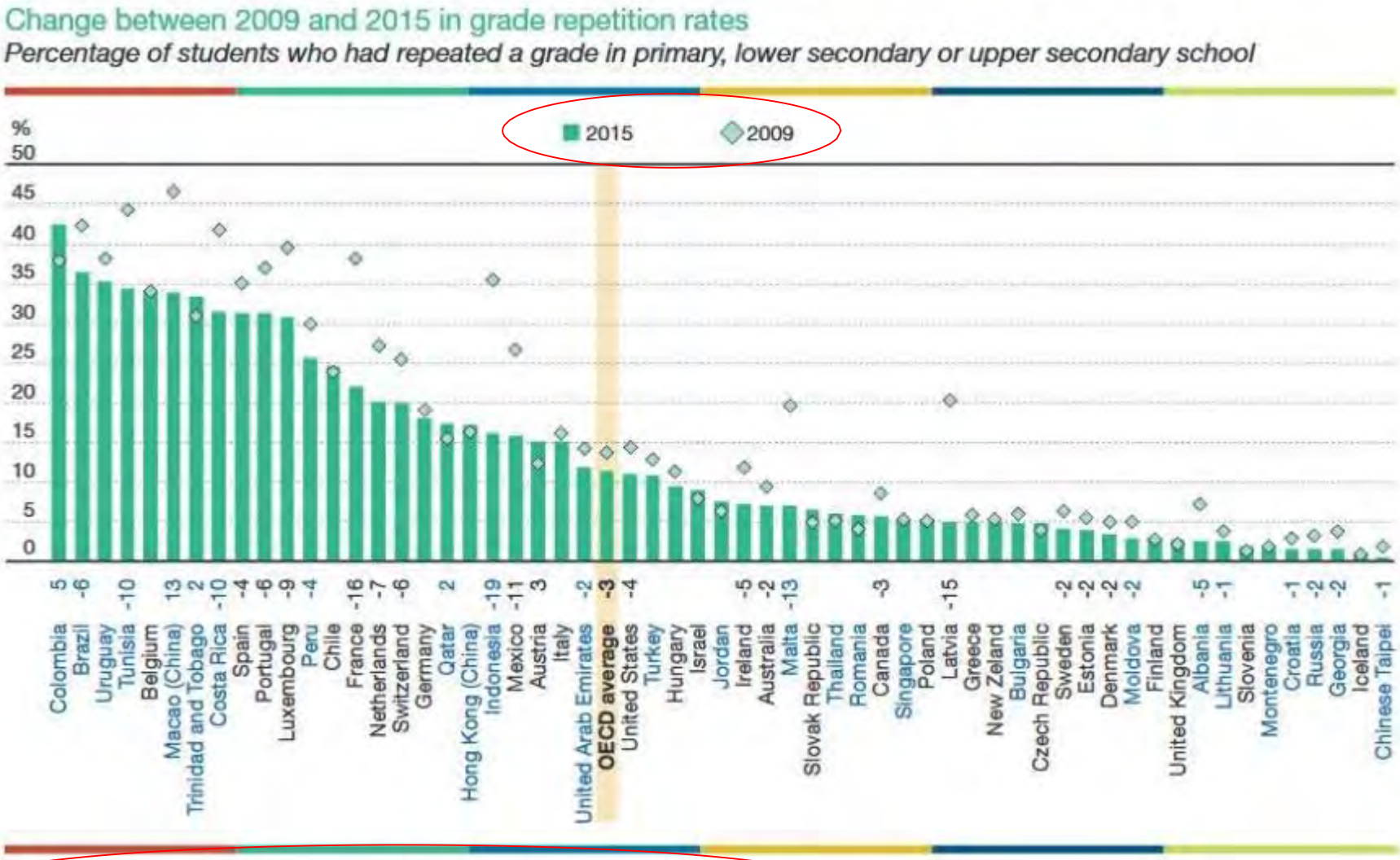
https://research.acer.edu.au/cgi/viewcontent.cgi?article=1023&context=ozpisa

Différences entre sous-groupes

A greater proportion of girls than boys performed in the highest writing proficiency levels. The highest level, Level 10, comprises more than three times as many girls as boys: 14% of girls but only 4% of boys.

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1002&context=mteg

Différences au cours du temps



Notes: Statistically significant differences are shown next to the country/economy name.

https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf

Relations et effets

- *Corrélation:* étendue de la relation linéaire entre deux variables
- *Analyse de la régression:* technique de modélisation prédictive pour anticiper une variable de résultat , employant une ou plusieurs variables explicatives
- *Analyse à plusieurs niveaux* (modèle linéaire hiérarchique): potentiel effet de regroupement dans un échantillon complexe (ex: étudiants au sein d’une classe, au sein de l'école)