



What is new in PISA 2018?

**What is new in PISA
2018?**

A lot of opportunities for
researchers

Dragica Pavlovic Babic
21. March 2018.

Presentation layout

- Cognitive domains
- Background variables
- Sample
- Test format



Cognitive Cognitive domains domains

Basic study

- Reading: 245 items, 14 30-minutes clusters
 - Trend: 72 items
 - New: 173 items
 - Open response, Human coded: 82 items (33%)
 - Open response, Computer scored: 5 items (2%)
- Math trend: 82 items, 6 30-minutes clusters
 - Open response, Human coded: 21 items (26%)
- Science: 115 items, 6 30-minutes clusters
 - Trend: 39 items
 - New: 76 items
 - Open response, Human coded: 32 items (28%)

Reading literacy: Cognitive processes

Cognitive process	#	%	2018 Frame
Access and retrieve	50	20	Approx. 25%
Integrate and interpret	131	54	Approx. 45%
Reflect and evaluate	64	26	Approx. 30%
Total	245	100	100%

Scientific literacy: Competencies

Scientific competencies	#	%	2018 Frame
Evaluate & design scientific enquiry	30	26	20 - 30%
Explain phenomena scientifically	49	43	40 - 50%
Interpret data & evidence scientifically	36	31	30 - 40%
Total	115	100	100%

New domain (for us): Financial Literacy

Tests 15 year-olds on their knowledge of personal finances and ability to apply it to their financial problems.



Financial literacy: 21 participating countries

Australia	Lithuania
Bulgaria	Latvia
Brazil	Netherlands
Canada	Peru
Chile	Poland
Spain	Portugal
Estonia	Russian Federation
Finland	Serbia
Georgia	Slovak Republic
Indonesia	United States
Italy	

FL: example, level 1,2

NEW DEBIT CARD

Lisa lives in Zedland. She receives this new debit card.

Question 1: NEW DEBIT CARD

The following day, Lisa receives the Personal Identification Number (PIN) for the debit card. What should Lisa do with the PIN?

- A Write the PIN on notepaper and keep this in her wallet.
- B Tell the PIN to her friends.
- C Write the PIN on the back of the card.
- D Memorize the PIN.



FL example 2

BANK ERROR

David banks with ZedBank. He receives this e-mail message.

Dear ZedBank member,
There has been an error on the ZedBank server and your Internet login details have been lost.
As a result, you have no access to Internet banking.
Most importantly your account is no longer secure.
Please click on the link below and follow the instructions to restore access. You will be asked to provide your Internet banking details.

<https://ZedBank.com/>

The ZedBank logo is a rectangular button with a gradient background, transitioning from a darker grey at the top to a lighter grey at the bottom. The text "ZedBank" is written in a black, sans-serif font, centered within the button.

ZedBank

FL example: level 5 (797)

BANK ERROR – QUESTION 1

Which of these statements would be good advice for David?
Circle “Yes” or “No” for each statement.

Statement	Is this statement good advice for David?
Reply to the e-mail message and provide his Internet banking details.	Yes / No
Contact his bank to inquire about the e-mail message.	Yes / No
If the link is the same as his bank’s website address, click on the link and follow the instructions.	Yes / No

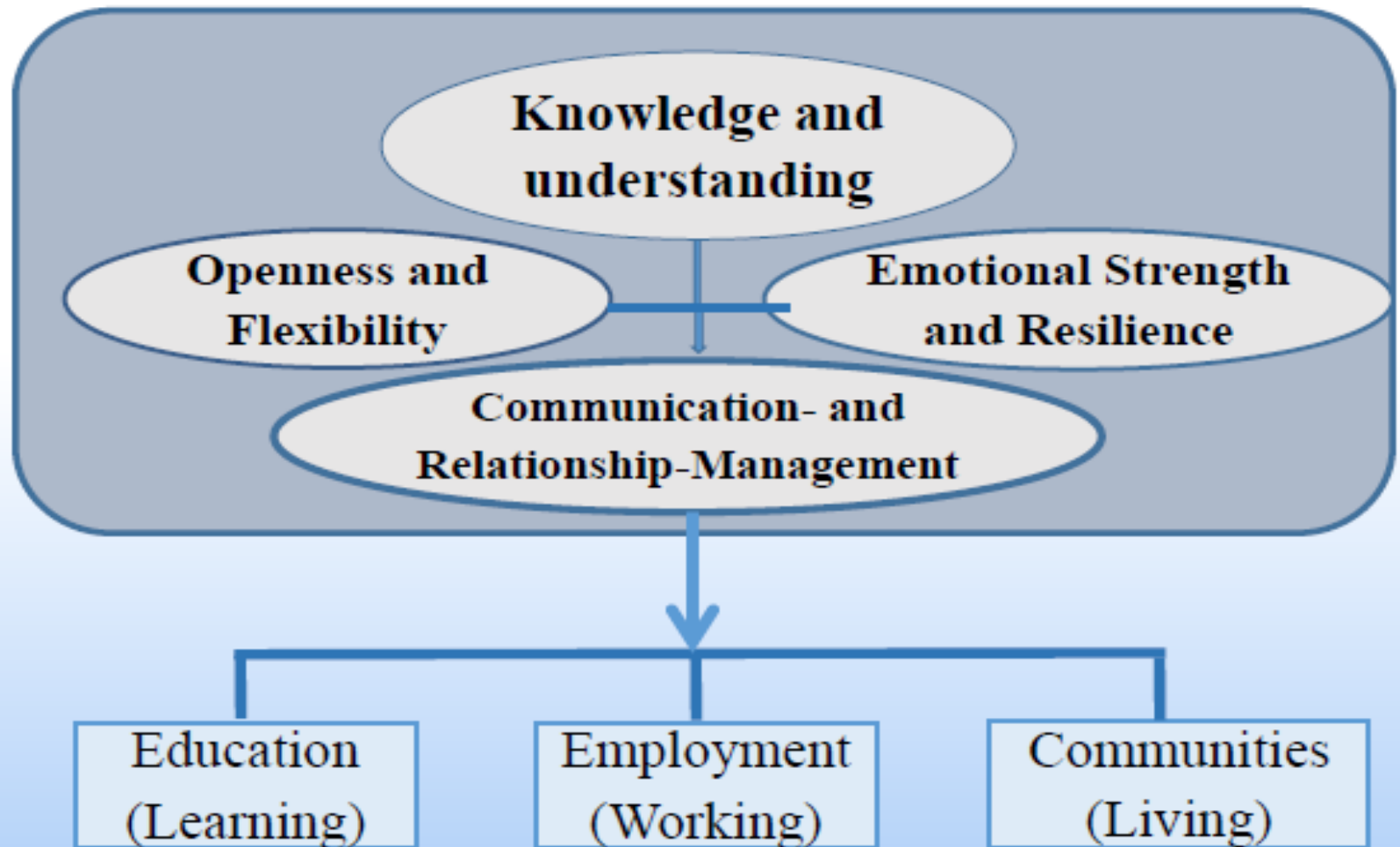
FL: some impressions

- Fear, complete avoidance and lack of trust:
 - Interacting at internet
 - Banking, loans
- Who is responsible for these attitudes? Life experience? Adults?

New domain: Global Competence

- The capacity of individuals to engage in different value systems, the capacity of individuals to make sound judgements... Can you deal with uncertainty? Can you deal with ambiguity?
- **Draft definition:** Global Competence is the capability and disposition to act and interact appropriately and effectively, both individually and collaboratively, when participating in an interconnected, interdependent and diverse world.

Global competence: Dimensions and Contexts



Do we really need GC?

- Well-conceptualized?
- Well-differentiated in relation to related concepts?
- Well-operationalized for measurement needs?

GC: 32 participating countries

Albania	Croatia	Panama
Australia	Indonesia	Peru
Bulgaria	Israel	Philippines
Brunei Darussalam	Japan	United Kingdom (Scotland)
Canada	Kazakhstan	Russian Federation
Chile	Korea	Singapore
Colombia	Lithuania	Serbia
Costa Rica	Latvia	Slovak Republic
Spain	Morocco	Chinese Taipei
Greece	Malta	Thailand
Hong Kong (China)	Malaysia	

A faint, light blue world map is visible in the background of the slide, centered behind the text.

Background variables

Background variables

Student Q: standard set of variables

- Demographic
- Socio, economic and cultural wealth
- Student-teacher relationship
- Teaching methods
- School climate
- Motivation for school learning
- Focus on mother tongue classes

Standard Qs

- ICT
- Educational career
- School
 - Resources, human and materials
 - Decision making, including financial decision
 - Participative processes
 - Assessment, including reporting to parents

New Qs

- Financial Literacy
- Global Competence
 - Global developments/challenges/trends:
 - The student's engagement with others about global events/issues (e.g. chat online)
 - Extent of exposure to/awareness of global developments/challenges/trends (e.g. via news, other media)
 - Migration/movement of student:
 - The student's own background; the student's experience living abroad
 - The possibility of the student working/studying abroad in the future
 - Demographics in his/her community from other countries/cultures
 - Student interaction with or exposure to people from other countries/cultures; student's travel experience
 - Student's degree of curiosity/ motivation to travel
- Well-being

Students' well-being

refers to psychological, cognitive, social and physical functioning that students need to live happy and fulfilling life

- The evaluation of the students' well-being must be sensitive to both their actual of present states and achievements

Wb: Math class

WB166

How did you feel the last time you attended a mathematics class at school?

(Please select one response in each row.)

	Not at all	A little	Quite a bit	Extremely
Bored	WB166Q01HA01 <input type="radio"/>	WB166Q01HA02 <input type="radio"/>	WB166Q01HA03 <input type="radio"/>	WB166Q01HA04 <input type="radio"/>
Challenged	WB166Q02HA01 <input type="radio"/>	WB166Q02HA02 <input type="radio"/>	WB166Q02HA03 <input type="radio"/>	WB166Q02HA04 <input type="radio"/>
Nervous or tense	WB166Q03HA01 <input type="radio"/>	WB166Q03HA02 <input type="radio"/>	WB166Q03HA03 <input type="radio"/>	WB166Q03HA04 <input type="radio"/>
Motivated or inspired	WB166Q04HA01 <input type="radio"/>	WB166Q04HA02 <input type="radio"/>	WB166Q04HA03 <input type="radio"/>	WB166Q04HA04 <input type="radio"/>

Wb: Homework

WB177

How did you feel the last time you did your homework/studied for school?

(Please select one response in each row.)

	Not at all	A little	Quite a bit	Extremely
Bored	WB177Q01HA01 <input type="radio"/>	WB177Q01HA02 <input type="radio"/>	WB177Q01HA03 <input type="radio"/>	WB177Q01HA04 <input type="radio"/>
Challenged	WB177Q02HA01 <input type="radio"/>	WB177Q02HA02 <input type="radio"/>	WB177Q02HA03 <input type="radio"/>	WB177Q02HA04 <input type="radio"/>
Nervous or tense	WB177Q03HA01 <input type="radio"/>	WB177Q03HA02 <input type="radio"/>	WB177Q03HA03 <input type="radio"/>	WB177Q03HA04 <input type="radio"/>
Motivated or inspired	WB177Q04HA01 <input type="radio"/>	WB177Q04HA02 <input type="radio"/>	WB177Q04HA03 <input type="radio"/>	WB177Q04HA04 <input type="radio"/>

Wb: Break

WB171

Now think of the last time you had a break between classes at school. How did you feel?

(Please select one response in each row.)

	Not at all	A little	Quite a bit	Extremely
Happy	WB171Q01HA01 <input type="radio"/>	WB171Q01HA02 <input type="radio"/>	WB171Q01HA03 <input type="radio"/>	WB171Q01HA04 <input type="radio"/>
Lonely	WB171Q02HA01 <input type="radio"/>	WB171Q02HA02 <input type="radio"/>	WB171Q02HA03 <input type="radio"/>	WB171Q02HA04 <input type="radio"/>
Nervous or tense	WB171Q03HA01 <input type="radio"/>	WB171Q03HA02 <input type="radio"/>	WB171Q03HA03 <input type="radio"/>	WB171Q03HA04 <input type="radio"/>
Full of energy	WB171Q04HA01 <input type="radio"/>	WB171Q04HA02 <input type="radio"/>	WB171Q04HA03 <input type="radio"/>	WB171Q04HA04 <input type="radio"/>

Wb: Physical activities

Outside of school, during the past 7 days, on how many days did you engage in the following physical activities?

(Please select one response from the drop-down menus to answer the question.)

Moderate physical activities for a total of at least 60 minutes per day (e.g. walking, climbing stairs, riding a bike to school, <country-specific>)

WB032Q01NA01

Select... 


- Moderate physical activities for a total of at least 60 minutes per day (e.g. walking, climbing stairs, riding a bike to school, <country-specific>) (WB032Q01NA01)

Select...

0 days
1 day
2 days
3 days
4 days
5 days
6 days
7 days

Vigorous physical activities for at least 20 minutes per day that made you sweat and breathe hard (e.g. running, cycling, aerobics, soccer, skating, <country-specific>)

WB032Q02NA01

Select... 

- Vigorous physical activities for at least 20 minutes per day that made you sweat and breathe hard (e.g. running, cycling, aerobics, soccer, skating, <country-specific>) (WB032Q02NA01)

Select...

0 days
1 day
2 days
3 days
4 days
5 days
6 days
7 days

Wb: overall

WB178

The following questions refer to your day yesterday.

(Please select one response in each row.)

	Yes	No
Overall, did you feel that you accomplished something yesterday?	WB178Q01HA01 <input type="radio"/>	WB178Q01HA02 <input type="radio"/>
Were you treated with respect all day yesterday?	WB178Q02HA01 <input type="radio"/>	WB178Q02HA02 <input type="radio"/>
Did you smile or laugh a lot yesterday?	WB178Q03HA01 <input type="radio"/>	WB178Q03HA02 <input type="radio"/>
Did you learn or do something interesting yesterday?	WB178Q04HA01 <input type="radio"/>	WB178Q04HA02 <input type="radio"/>
Did you have enough energy to get things done yesterday?	WB178Q05HA01 <input type="radio"/>	WB178Q05HA02 <input type="radio"/>
Overall, are you satisfied with how you spent your time yesterday?	WB178Q06HA01 <input type="radio"/>	WB178Q06HA02 <input type="radio"/>
Was yesterday a typical day?	WB178Q07HA01 <input type="radio"/>	WB178Q07HA02 <input type="radio"/>



School sample
School sample
Students sample

Structure

- Regions (5)
- School type / programme (10)
- Language of instruction

School sample

- Max size:
 - 176 secondary schools
 - 40 primary

Student sample

- 53 students per school
- Max size: 9300
- Participating rate: 88%

A faint, light blue world map is visible in the background of the slide, centered behind the text.

Test format

interactive use of technology

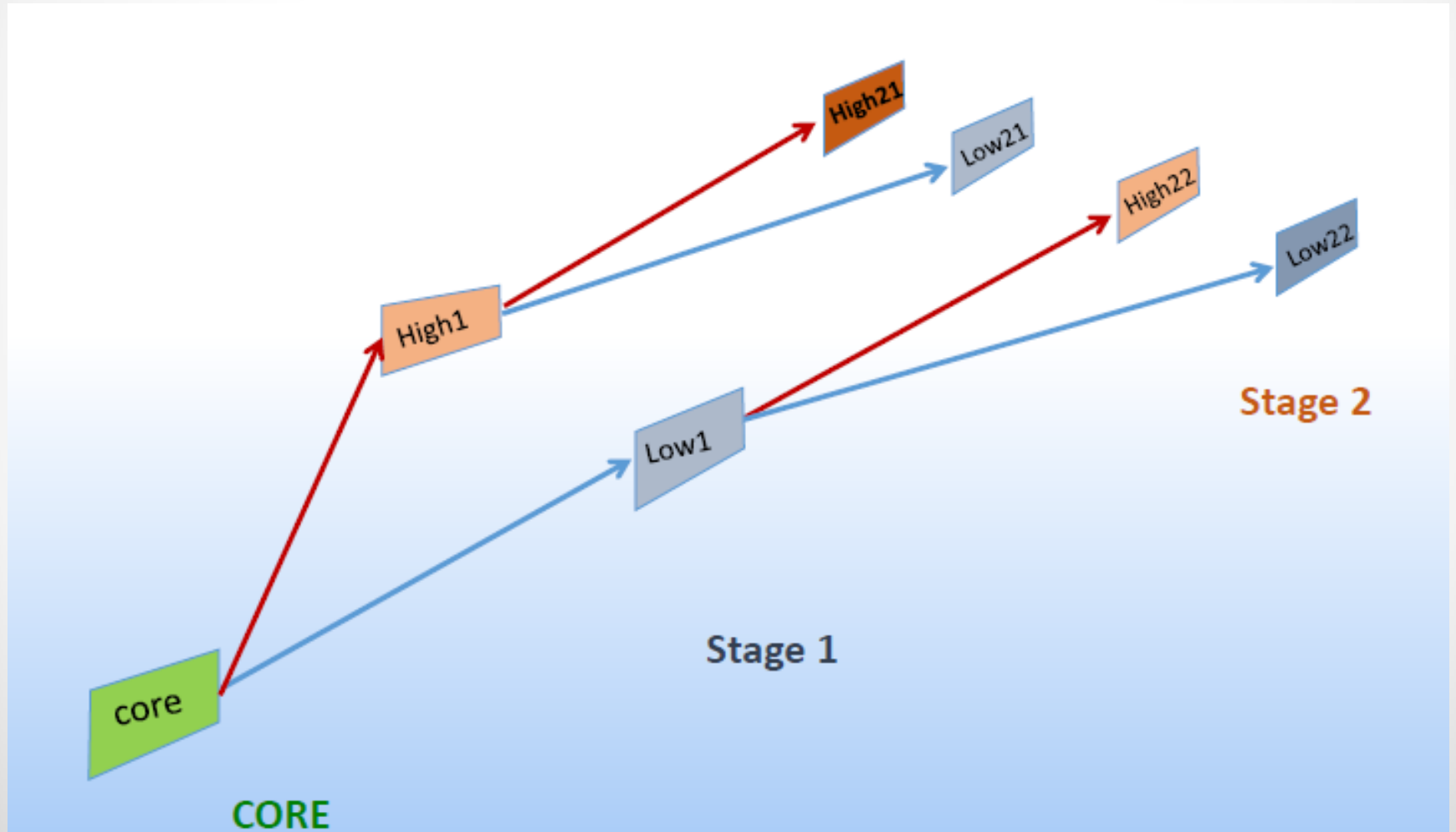
Test format

log files

adaptive testing

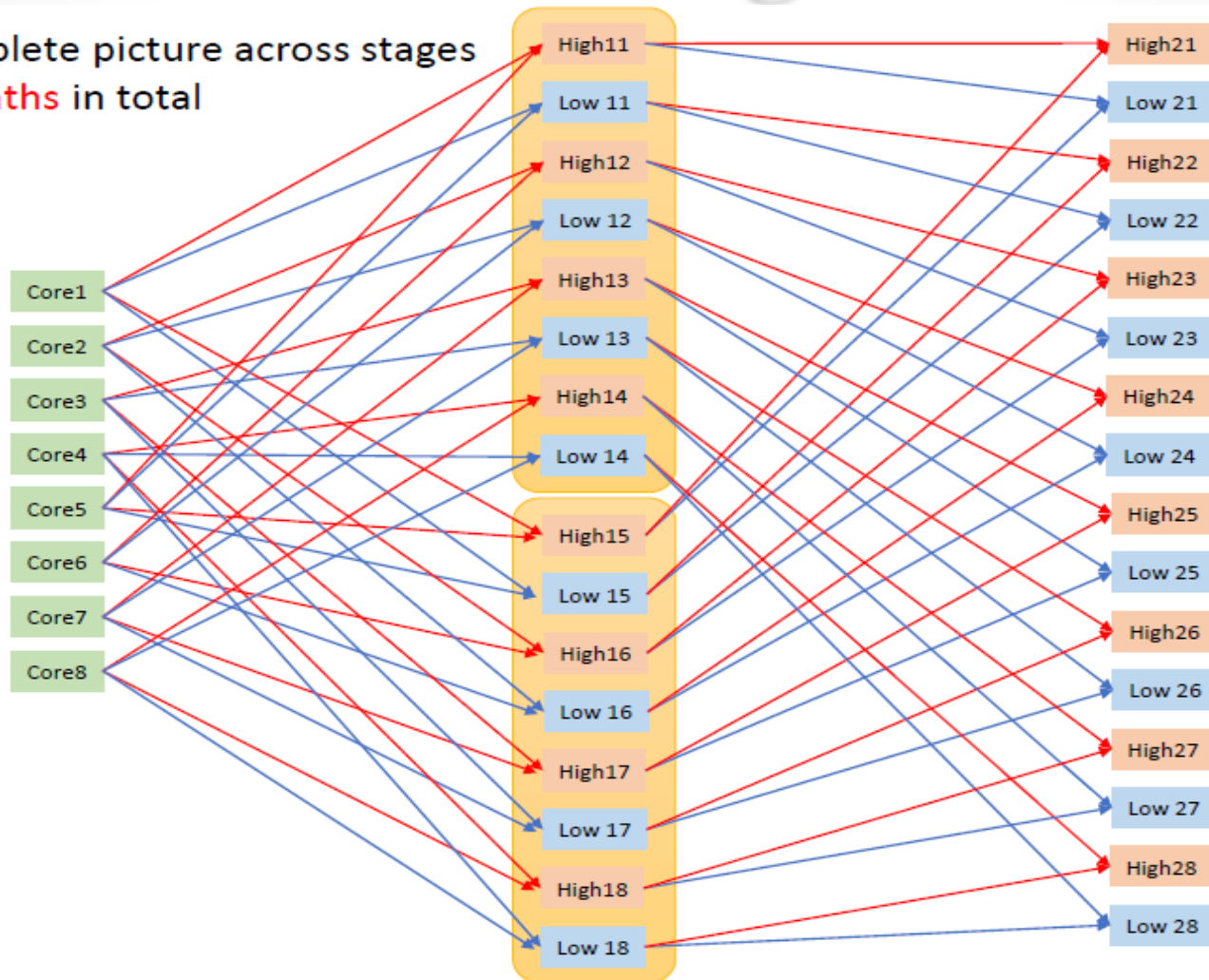
Interactive use of technology

Multistage adaptive testing



Multistage adaptive testing

Complete picture across stages
64 paths in total

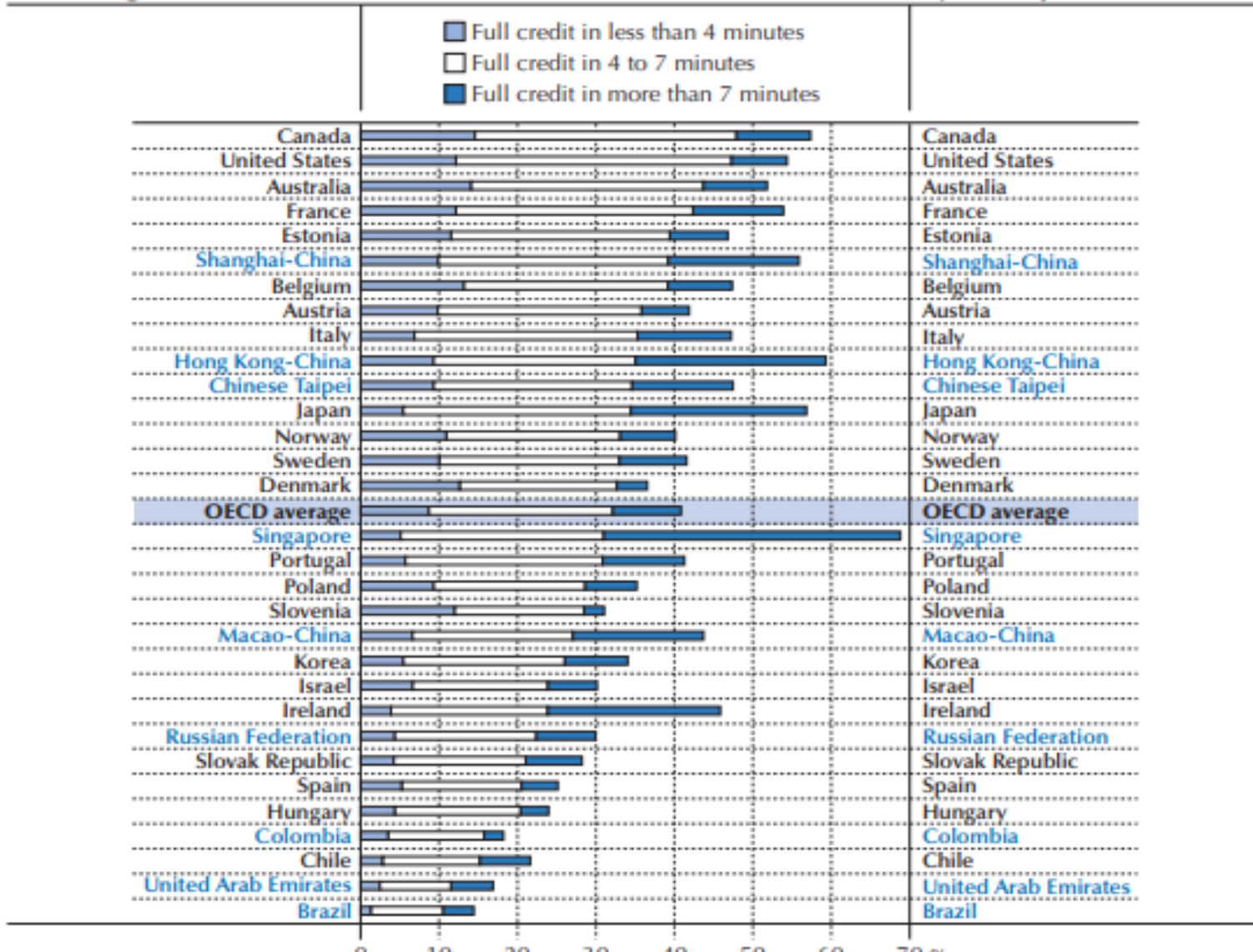


Log files

- for computer tested reading items
- Information that could be extracted:
 - Variable “time” corresponds to the time when the event was written to the log file. This is measured in seconds, and initialised to “0” at the start of the test session.
 - Variables “event”, “event_value” and “event_detail”, together, can be used to describe the activity of students or the system during the test. In digital reading files, “event” can take only six values: “START_ITEM”, “END_ITEM”, “click” or “dblclick” (for clicks/double clicks on the browser space or answer space), “change” and “focus”.

Time spent on the task

Percentage of students who succeed on Task 3 in the unit SERAING, by time spent on the task



So,

a lot of new opportunities for researchers,
teachers, policy makers...

Thank you for your attention