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UIS-PISA Framework Alignment: Methodology and Results

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This paper aims to explain the methodology, and present the results, of an alignment process between two educational standard frameworks:

- 1) the UNESCO Reading Global Framework and
- 2) the reading portion of the PISA 2015 Assessment and Analytical Framework

The purpose of this alignment is to determine the suitability of the PISA 2015 Assessment and Analytical Framework to serve as a global metric for SDG 4, Indicator 4.1.1.

4.1: By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex.

Framework comparison

Beginning in 2000, the Programme for International Student Assessment (PISA) test, has been given to grade 8 students every three years. The content of the PISA assessment is based on the PISA 2015 Draft Reading Literacy Framework (P-15). This framework continues the description and illustration of the PISA assessment as set out in the 2009 Framework, when reading was re-examined and updated for use as the major domain in that cycle. Since 2009 the reading competency has been defined as follows:

Reading literacy is understanding, using, reflecting on and engaging with written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.

The Draft Reading Literacy Framework has two main considerations, on the one hand, to ensure broad coverage of what students read and their purpose for reading both inside and outside school. On the other hand, to organize the domain to represent a range of difficulty.

P-15 is built on three major task characteristics: *situation* – the range of broad contexts or purposes for which reading takes place; *text* – the range of material that is read; and *aspect* – the cognitive approach that determines how readers engage with a text.

Based on these three characteristics, four categories for *situation* are defined: personal, public, occupational and educational. Regarding *text*, two categories are considered Text format: continuous, non-continuous, mixed and multiple and Text type: description, narration, exposition, argumentation, instruction and transaction. In reference to the *aspect* characteristic refers to the mental strategies, approaches or purposes that readers use when faced with different texts. Its categories are the following: 'access and retrieve' which corresponds to the retrieving information tasks, 'integrate and interpret' which correspond to forming a broad understanding and developing an interpretation tasks. Finally, 'reflect and evaluate' that include reflecting on the content and the form of a text.

These mental strategies and purposes used by readers are common to many reading comprehension models and are presented in the Reading Global Framework. They are

conceived as interrelated and interdependent. The reader's level of proficiency in the different aspects will vary according to their level of reading acquisition.

Table 1 shows the main characteristics for assessing reading in P-15 and their respective categories. These range in their degree of difficulty.

Table 1. PISA 2015 Assessment and Analytical Framework—task characteristics and categories

Task characteristics	Categories
Situation	Personal
	Educational
	Occupational
	Public
Text format	Continuous
	Non-continuous
	Mixed
	Multiple
Text type	Description
	Narration
	Exposition
	Argumentation
	Instruction
	Transaction
Aspect	Access and retrieve
	Integrate and Interpret
	Reflect and evaluate

As stated previously, the P-15 is targeted specifically at grade 8 students. This differs with UNESCO Global Framework for reading (GF) in two aspects. Firstly, the GF was designed to consider students from the beginning of primary school up to the end of low secondary school, establishing the development of the reading competency for both educational cycles.

Moreover, the GF includes three domains: reading competency, linguistic competency and metalinguistic competency. These competencies are defined by six sub domains, which correspond to the processes involved in each of them. The sub domains are divided into 21 constructs with 90 sub constructs that define the contents and skills involved.

Table 2 shows the GF's structure including domains, sub domains and constructs.

Table 2. Global Framework for Reading—domains, sub domains and constructs

Competencies	Sub domains	Constructs
Reading	Decoding	Alphabetic principle
		Precision
		Fluency
	Comprehension	Identify

		Retrieve
		Interpret
		Reflect
		Metacognition
		Motivation and disposition
Linguistic	Listening	Retrieve
		Interpret
		Reflect
	Speaking	Form
		Content
		Use
	Vocabulary	Acquire new words
Recognize		
Metalinguistic	Phonological awareness	Distinguish
		Blend
		Generate words from
		Segment

Methodology for framework alignment

Firstly, the level on both frameworks at which the comparison was going to be made was established. Considering the level required for making effective comparisons, the reference was chosen at the most specific and granular level from each framework. In the case of the GF it was the sub constructs, and for P-15 was tasks and processes.

Being P-15 an assessment framework its description is broad compared to the exhaustive description of the GF. This is a relevant consideration given that the P-15 tasks and processes cover a broad array of the GF's sub constructs.

Insomuch as the GF describes multiple knowledge and skills involved in reading for a broad range of educational grades, this was used to establish the comparison.

Based on this, the aim was to compare each of the skills defined in P-15 to the GF considering the descriptors that are involved in those skills. Therefore, establishing the level of overlap between both frameworks regarding the cognitive processes involved. Both frameworks are considered as aligned when the skills and sub constructs being compared include the same cognitive process or very similar ones. Given that the GF is more specific, a one to one correspondence is not possible, thus any skill from the P-15 will include more than one sub construct defined by the GF.

Finally, it is important to consider that P-15's aim is to assess the purposes and processes involved in reading comprehension. Therefore the level of alignment will be studied regarding the reading comprehension sub domain from the GF. The decoding sub domain is assumed as accomplished at the educational level that P-15 is designed for, which is expected according to the scientific literature on the area. The linguistic and metalinguistic competencies included in the GF are also assumed as achieved in grade 8 students.

Summary of alignment results

The results from the alignment assessment show that a total of 22 sub constructs (43%) from the GF's Reading comprehension sub domain align with one or more tasks and processes from P-15. The alignment is found in the sub constructs related to the cognitive processes involved in reading comprehension (identify, retrieve, interpret, reflect), assuming as achieved decoding as well as the linguistic and metalinguistic competencies. There were no tasks or processes found in P-15 that referred to the motivation and disposition nor the metacognition construct. This may be explained by the difficulty it could represent to include these for this type of assessment.

Table 3 shows the alignment results between both frameworks including the amount of sub constructs from the GF that were considered by P-15 tasks and processes.

Table 3 Summary of alignment results by Global Framework domain

Global Framework Domain	Global Framework Sub-domain	Global Framework Construct	Sub constructs involved in P-15's tasks and processes /Total Number of Sub constructs
Reading competency	Reading Comprehension	Identify	4/7
		Retrieve	5/5
		Interpret	7/11
		Reflect	6/10
		Metacognition	0/3
		Motivation and disposition	0/3

Conclusions

The results from the alignment process between the GF and P-15 show that the processes and skills defined by P-15 can be found in the GF. Corresponding all of these to sub constructs belonging to the reading comprehension sub domain. As stated before, this is expected given that the P-15 assessment is designed for grade 8 students, while the GF covers from grade 2 to grade 9.

The fact that this assessment is designed for 15 year-olds, restricts its possibility of considering other processes, skills and contents that are suitable to be assessed in other educational levels, mainly in the first ones. This impacts the purposes of the 4.1.1 indicator from the SDG 4.