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UNESCO INSTITUTE FOR STATISTICS

In-Progress Reflection No. 21 on
Current and Critical Issues in Curriculum, Learning and Assessment

Monitoring Progress towards SDG 4.1: Comparative Analysis of Curriculum and Assessment National Frameworks for Reading

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IBE-UNESCO Director	Dr. Mmantsetsa Marope
Coordination and Production Team	Silvia Montoya, Renato Opertti, Ioanna Siakalli
Author	IBE-UNESCO and UIS
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Open Note of the IBE

The IBE has launched the series In-Progress Reflections on *Current and Critical Issues in Curriculum, Learning and Assessment* to open a communal space for a global conversation, collective production and discussion on those issues of high concern for Member States. It intends to support country efforts in mainstreaming challenging issues within the processes of curriculum renewal and development across different levels, settings and provisions of the education system.

Initially, the focus areas of the In-Progress Reflections series encompass, among others,: (i) Early Childhood Care and Education (ECCE) as a foundation of holistic child development and learning; (ii) Reading and writing in early grades to support the development of essential competencies; (iii) Youth Culture and competencies for Youth in the early 21st century (covering formal, non-formal and informal education); (iv) ICT curricula and inclusive pedagogy contributing to relevant and effective learning outcomes; (v) STEM (Science, Technology, Engineering and Mathematics) curricula to foster sustainable development; (vi) Curriculum for Global Citizenship Education (peace, human rights, sustainable development, values, ethics, multiculturalism, etc.); (vii) Assessment to enhance and support learning opportunities; and (viii) Inclusive education as an over guiding principle of education systems.

The series of reflections covers a wide array of knowledge products, among them: discussion papers, policy briefs, frameworks, guidelines, prototypes, resource packs, learning tools and multimedia resources. These materials are discussed, refined, used and disseminated engaging education and curriculum agencies / institutes, and in particular curriculum developers and specialists, development experts, policy makers, teacher trainers, supervisors, principals, teachers, researchers and other educational stakeholders. In addition, they serve as reference materials for the IBE menu of capacity-development training on curriculum, learning and quality education – namely masters, diplomas, certificates and workshops – to forge policy and technical dialogue involving a diversity of stakeholders and to support sustainable country fieldwork.

Through blogs and e-forums, we encourage the audience to actively interact and bring in diverse perspectives. Effectively, the online space for reflection allows us to stay connected, facilitates exchange between experts from different regions of the world, and truly fosters continuous reflection on the issues concerned. The blog is structured to gather diverse resources, which include tools and documents (as previously mentioned) under specific themes to provide a complex and rich set of materials targeted to the specific needs of Member States. The In-Progress Reflections will capture relevant visions, views and comments shared by the audience, and serve as a key resource to support Member States' efforts in mainstreaming relevant findings and effective practices in national policies, curriculum frameworks and developments and in professional practices.

Dr. Mmantsetsa Marope: Director, International Bureau of Education

Monitoring Progress towards SDG 4.1: Comparative Analysis of Curriculum and Assessment National Frameworks for Reading

Abstract:

Sustainable Development Goal (SDG) Target 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."

This report guides the reader through a comparative analysis of 20 Member States' National Curriculum Frameworks (NCFs) and National Assessment Frameworks (NAFs) for Literacy-Reading, to examine the alignment between intentional learning outcomes and assessed learning outcomes. The report details the study's findings with analyses of NAF and NCF alignment by regions of the world; income classification; education level; and language comparisons to determine if these are contributing factors affecting alignment. The findings emphasise the ambiguity of global understanding around *Metalinguistic Competency* and its integration, or lack thereof, in national frameworks. The report calls for stronger alignment of curriculum and assessment learning outcomes, as well as expanded analysis with additional data sources to support or counter its findings. Lastly, the report provides recommendations for the strengthening of the analysis and development of a robust Global Framework for Literacy-Reading, as national and international bodies monitor progress towards SDG 4.1 - Education 2030.

Keywords: Assessment – Curriculum – Education 2030 – national assessment framework (NAF) – national curriculum framework (NCF) – reading – SDG 4.1

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Background Information

The UNESCO Institute for Statistics (UIS) has the mandate to 'work with partners to develop new indicators, statistical approaches and monitoring tools to better assess progress across the targets related to UNESCO's mandate, working in coordination with the Education 2030 Steering Committee' (UIS, 2017). As the custodian agency for SDG 4.1, the UIS is coordinating the development of methodologies, indicators, and data reporting to achieve the objectives of these agendas. This implies, among others, finding ways to link different assessment results and to report them in a globally comparable way, in order to help Member States to measure progress towards SDG 4 and the Education 2030 agenda.

The UNESCO International Bureau of Education (IBE-UNESCO), as UNESCO's Centre of Excellence in curriculum, learning, assessment and related matters, supports Member States to enhance the effectiveness of student learning by promoting excellence in curriculum design, learning, teaching, and assessment processes. Its overarching aim is to strengthen the capacities of Member States to design, develop, implement and assess curricula that ensure the equity, quality, development-relevance, and resource efficiency of education and learning systems.

UIS and IBE-UNESCO have been working collaboratively to support the monitoring of learning outcomes with regards to SDG 4.1, by finding ways to link them globally in a comparable way. During the first step of this collaboration, the two institutions focused on the skills and content coverage of learning assessment, which '…refers to a wide range of methods and tools used to evaluate, measure and document learning outcomes, learning progress and learning needs and conditions' (UNESCO, 2017). This tool was used to map 115 National Assessment Frameworks (NAFs) from a total of 53 Member States (IBE-UNESCO and UIS, 2017). This mapping exercise provided valuable information about the mathematical content and skills assessed globally at the national level.

Having examined the content area of Mathematics, UIS and IBE-UNESCO conducted a similar research and mapping study in the content area of Literacy – Reading. This resulted in an NAF analysis which focused on 73 English, French, and Spanish-language for Literacy - Reading from 25 Member States. The NAFs covered the three points of measurement of Indicator 4.1.1: (a) grades 2/3; (b) end of primary; and (c) lower secondary. The NAFs were analysed to reveal trends, commonalities and differences in the content assessed in reading (1) globally; (2) by region of the world; (3) by income classification level; (4) by education level; and (5) by language.

The NAF analytical study highlighted the need to further investigate the alignment of curriculum and assessment. The importance of alignment would provide insights and inform Member States not only to develop competency-related indicators within their NCFs, but also to effectively reflect them within their NAFs.

Interested in the link between NAFs and National Curriculum Frameworks (NCFs), UIS and IBE-UNESCO work together towards mapping the content of NAFs and NCFs and the findings of this work is presented in this report, in order to produce cross-nationally comparable indicators for SDG 4.1.1 for Reading:

> *'Target 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*
>
> > *Indicator 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' (UN, 2015).*

Introduction

Upon completing a thorough analysis of 73 National Assessment Frameworks (NAFs) from 25 Member States (IBE-UNESCO and UIS, 2018), it was determined that further analyses should be conducted comparing 20 Member States' National Curriculum Frameworks (NCFs) to their respective NAFs. IBE-UNESCO worked in close consultation with UIS to collect the required documents from a variety of sources, including Member States themselves. A sound effort was made for a fair representation of all regions, income classification levels, education levels and languages in the study. However, the fact that both an NAF and an NCF were needed from a Member State to be included in the study this set significant limitations. Two of the most prominent ones, which informed many of the analyses presented in this report, were the language limitations and small sample size, particularly in regards to the variety of regions represented. Specifically, only documents that were written in English, French, and Spanish were included, and often a regional comparison in this report may only include one Member State representative of the entire region - more emphases are placed on these limitations throughout the report. Moreover, one region of the world is not represented in this study - Central Asia, which was also absent in the initial study as well, due to language limitations (IBE-UNESCO and UIS, 2017).

In summary, (i) language limitations, (ii) availability of both types of nationally-authored documents (NAF and NCF), and (iii) representation of all income levels and regions available, considering language limitations, resulted in a total number of 73 NAFs and NCFs, from a sample of 20 Member States and 7 regions of the world. The 20 Member States whose NAFs' and NCFs' were mapped, analysed, and compared in this study are listed in *Annex 1.* Income classification levels, education levels and language classifications among the 20 Member States are also listed in *Annex 1.*

The aim of this analytical study is to compare English-, French-, and Spanish-language NAFs and NCFs for Literacy - Reading, ranging from Lower Primary to Lower Secondary education to examine the alignment between assessment and curricular outcomes in national frameworks. The underlying inquiry of this study is – **how well, and in which domains, are assessment frameworks aligned with curriculum frameworks for Literacy- Reading; and what findings are most salient within such an inquiry?** This inquiry relied on the mapping and analysis of assessment outcomes and objectives to the presence of learning outcomes and objectives in curriculum, absences in both NCF and NAF were excluded data from the study (*see Methodology section below*).

This report is divided into five major sections, I) the methodology of the study; II) the findings of data analyses by domain, sub-domain and construct levels; III) observations on non-alignment analysis; IV) recommendations for iterative elaboration of the Content Reference List; and V) a conclusion stating the importance of aligned learning outcomes and assessment outcomes in monitoring progress towards SDG 4.1 - Education 2030. The findings in this report are presented based on five levels of analyses of alignment in conformity with the Content Reference List: 1) overall alignment analysis between NAFs and NCFs; (2) analysis by region; (3) analysis by income classification levels; (4) analysis by education level; and (5) analysis by language.

Distribution of Frameworks

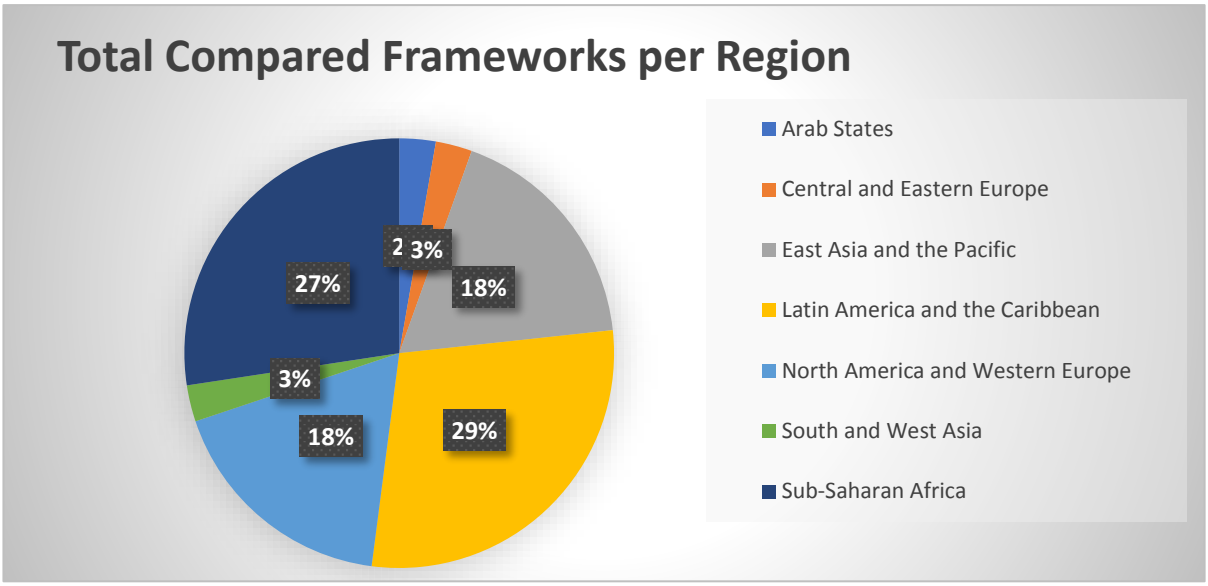

Figure 1: Total compared frameworks per region

Figure 1 - Out of a total of 73 comparable NAFs and NCFs, the distribution by regional classification is as follows: in the Arab States, 2 out of 73 (2%); in Central and Eastern Europe, 2 out of 73 (3%); in East Asia and the Pacific, 13 out of 73 (18%); in Latin America and the Caribbean, 21 out of 73 (29%); in North America and Western Europe, 13 out of 73 (18%); in South and West Asia, 2 out of 73 (3%); in Sub-Saharan Africa, 20 out of 73 (27%). As mentioned earlier, no frameworks were used from Central Asia, due to language limitations.

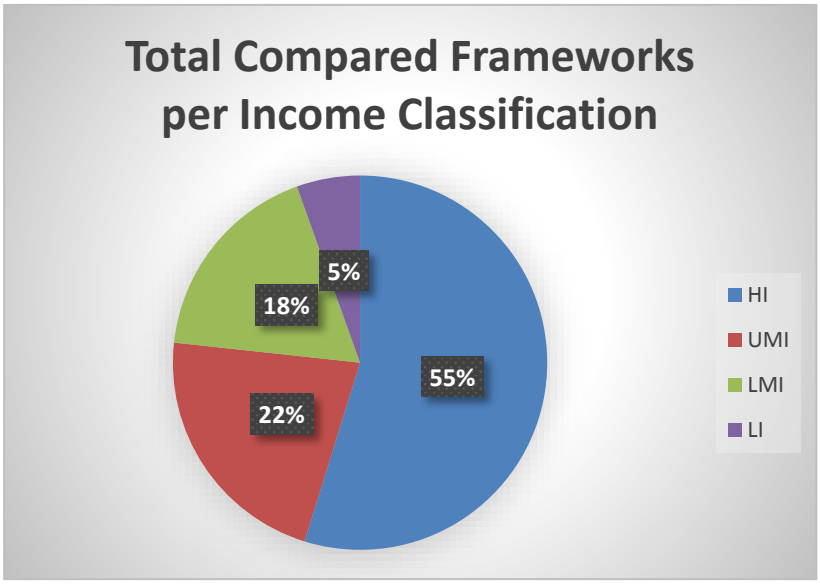

Figure 2: Total compared frameworks per income classification

Figure 2 - With a total of 73 NAFs and NCFs compared, the distribution by income classifications is as follows: in High-Income (HI) Member States, 40 out of 73 (55%); in Upper Middle-Income (UMI) Member States, 16 of out 73 (22%); in Lower Middle-Income Member States, 13 out of 73 (18%); and in Low-Income Member States, 4 out of 73 (5%).

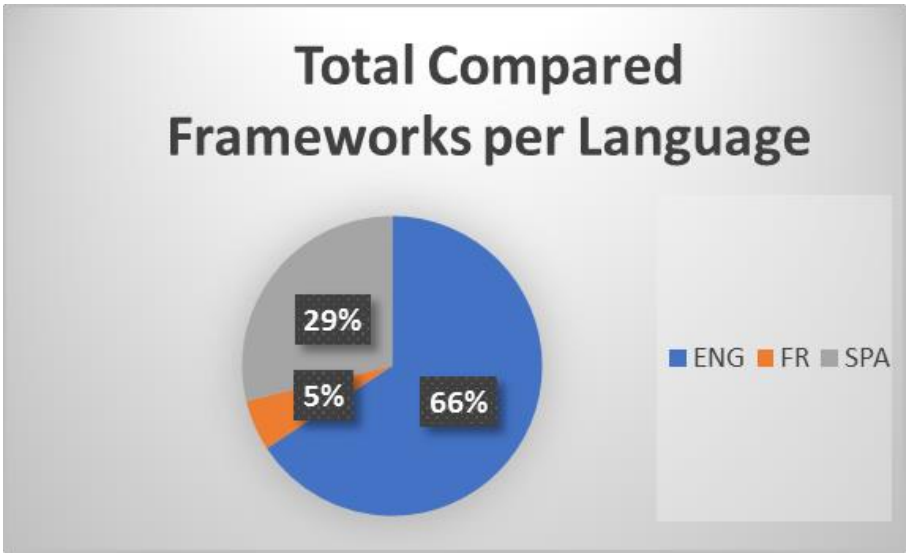

Figure 3: Total compared frameworks per language

Figure 3 - Out of a total 73 NAFs and NCFs, the distribution between the three languages included in this study is as follows; English (ENG) totaled 48 out of 73 (66%); French (FR) 4 out of 73 (5%); and Spanish (SPA) 21 out of 73 (29%) .

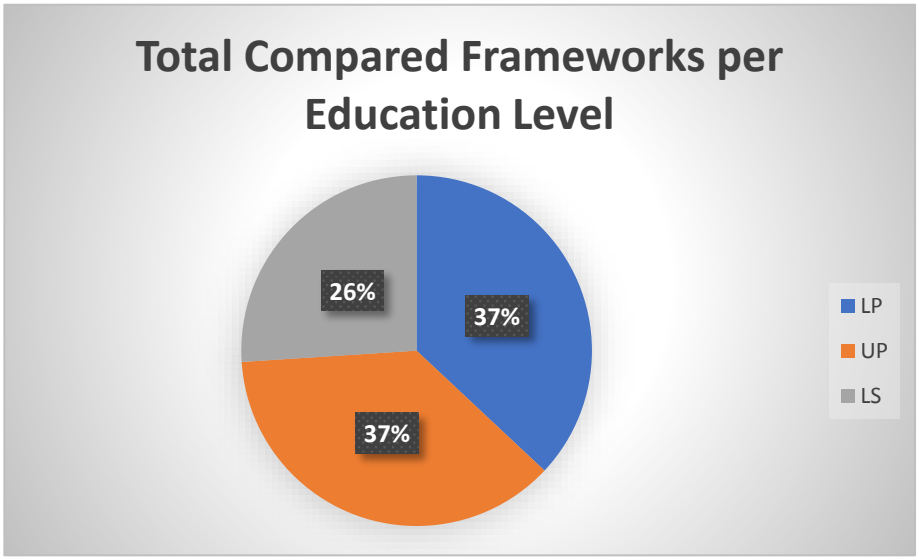

Figure 4: Total compared frameworks per education level

Figure 4 - Again, with a total of 73 NAFs and NCFs, the distribution by education levels is as follows: in Lower Primary (LP), also referred to as "early grades" by the Indicator 4.1.1., 27 out of 73 (37%); in Upper Primary (UP) 27 out of 73 (37%); and in Lower Secondary, 19 out of 73 (26%).

I. Methodology

In accordance with the Content Reference List and Coding Scheme, all 73 NAFs and NCFs were mapped and analysed onto a quantitative database. The data analyses were rigorously conducted to examine the alignment between the presence of learning outcomes and objectives in NAFs and the presence of learning outcomes and objectives in NCFs. Using the line of inquiry of this study as the guide for its methodology, the data were categorised into 'aligned' learning outcomes and 'not aligned' learning outcomes either found in NAFs and/or NCFs. This methodology systematically categorised in what outcomes and objectives NAFs and NCFs were aligned, in accordance to the descriptors within the Coding Scheme, by domain, sub-domain, construct and sub-construct levels.

Mapping and analysing alignment:

The following categories and their descriptors inform the methodology used to guide the data analysis.

Aligned: NAF and NCF criteria - referring to domains, sub-domains, constructs and sub-constructs as they conform to the Content Reference List and Coding Scheme - are present in both NAFs and NCFs, marked in the database with a value of 1.

Not Aligned: NAF and NCF criteria are not aligned as per conformity to the Content Reference List and Coding Scheme. Either:

- NAF criterion is absent (value of 0) and NCF criterion is present (value of 1)
- NAF criterion is present (value of 1) and NCF criterion is absent (value of 0)

Excluded: NAF and NCF criteria are absent in both NAFs and NCFs (value of 0).

A third categorisation of the data results occurred, however, as this study was intended to assess the alignment between assessment and curriculum national frameworks, rather than the robustness of curriculum and assessment in relation to the criteria that were examined. Instances where there was an absence of a criterion from both the curriculum and assessment have been excluded from the analysis. The reason for such exclusions is that the inclusion of data points, where curriculum and assessment were aligned in their *absence,* would bias conformity upwards. While it could be possible that components captured by the criteria were *intentionally* excluded by the authors of the framework, thus implying alignment, it would seem that such instances would be significantly less present than those of unintentional exclusion, and without being able to discern the intention of the authors of each framework within the scope of this study, it would be impossible to determine.

The authors of this study applied best practices in analytical research methodology with full transparency, while safeguarding the integrity and intent of national bodies' curricular and assessment approaches reflected in their national frameworks. Lastly, the methodology will be further reiterated and continuously detailed at relevant segments of this report to ease reading.

1. National Assessment Frameworks and National Curriculum Frameworks

Readers are welcome to view *Annex 1* for the list of NAFs, NCFs and all their specifics, such as grade levels, income classification, language, region, authors, year, and document title for their reference.

2. Coding Scheme

The development of the Coding Scheme that would be used for this analysis was assigned to a team of consultants appointed by UIS. These researchers and practitioners from the Departamento de Neurocognición and Departamento de Educación at the Universidad Católica del Uruguay undertook several hours of background research and laid the foundation for the development of a comprehensive coding scheme, taking into account the various mechanisms that uphold learning of reading in education systems around the globe. The researchers put considerable time and thought into the

organization and labeling of such structures that would be used to encompass the purposes of many education systems around the globe, and they did not complete this task without numerous iterations and evidence supported through background research. Their background paper (Cuadro, Palombo and Ruiz, 2018) provides significant explanations as to why each of the below descriptions and structures are arranged and named what they are. An excerpt from the paper states:

> *Firstly, we [the Coding Scheme creators] defined and codified a set of domains and constructs that refer to processes, knowledge and skills involved in learning how to read. Secondly, we confronted that coding, by analysing differences and similarities with the study made of three national curricula for each of the language roots at three different stages of formal schooling. With this analysis, we revised the code, in such a way that it would allow for the inclusion of all of the competencies and contents presented in the curricula without losing the cognitive model behind it. The resulting framework allows mapping other diverse national curricula and national assessments related to reading.* (Cuadro, Palombo and Ruiz, 2018, p. 8)

The initial structure of the Coding Scheme derived from a sample number of comprehensive curriculum frameworks of three language roots (English, French, and Spanish). The development team worked closely with UIS to test the Coding Scheme with subsequent Literacy – Reading NAFs in the three languages. Once these were mapped, necessary adjustments were made, expanding and reforming the structure in order to ensure that the majority of Literacy – Reading NAF objectives would eventually be represented by the content included within the Coding Scheme. At the same time, the mapping of such NAFs allowed for the observation and identification of similarities and differences among the content assessed among regions of the world, income classification levels, language of production of NAFs (again, English, French and Spanish), and education levels.

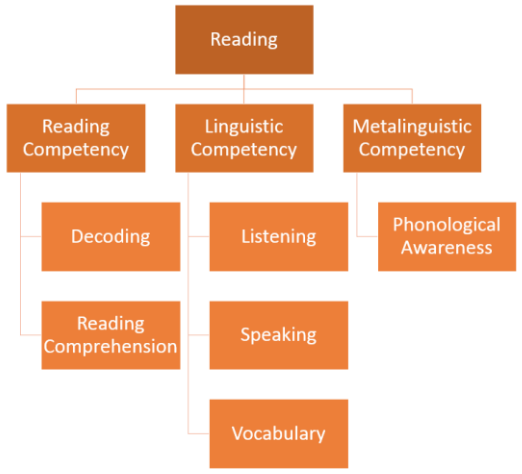

Diagram 1: Reading Coding Scheme: domains and sub-domains

The Coding Scheme is broken down into four main levels of categorisation for the placement of objectives of Member States' Literacy – Reading national frameworks, called Domains, Sub-domains, Constructs, and Sub-constructs. Each of these levels subsequently provides varying levels of detail to map objectives. For example, the competencies listed on the Coding Scheme serve the purpose of organizing the domains, the levels of categorization most broad and general, but by which many national frameworks are structured. It is important to note that because there is such a variety of national frameworks collected for this study, it is impossible to include the terminology that would be used by all national frameworks. Therefore, determinations were made in the mapping process that placed synonymous concepts and terms within the terminology of the Coding Scheme.

The remaining six sheets of the Coding Scheme are broken down by these three domains respectively: *Reading Competency*, *Linguistic Competency*, and *Metalinguistic Competency*. One sheet in the Excel database is designated for each of these categories. Apart from explaining the domains themselves, each sheet provides information that further deconstructs the various levels of information that should be analysed. This includes sub domains, constructs, and sub-constructs within each domain, following the structure of how objectives would eventually be mapped. For example, within the *Reading Competency* domain, the Coding Scheme breaks down the two sub-domains found within this umbrella

domain: *Decoding* and *Reading Comprehension.* This was the first point of reference for the coders, who were tasked with mapping the national frameworks' objectives onto the databases. This first break down of domains served as the foundation for mapping, allowing them to initially find the sub-domain in which a particular objective from a national framework would best fit.

Next, each sub-domain on the Coding Scheme is then broken down into constructs and their descriptions: *Identify, Retrieve, Interpret, Reflect* and *Metacognition*, respectively, within the *Reading Comprehension* sub-domain. This sub-domain fits within the *Reading Competency* domain and serves as just one example for the organisation of the elements of the Coding Scheme. These subsequent categories provided the second level of information in order for the coders to find the best fit for an objective and place it within the proper domain of the Content Reference List- Quantitative Database.

Finally, in what is most evidently the most comprehensive portion of the Coding Scheme, each construct is further divided into sub-constructs with explicit descriptions of what should be included in an objective in order to be mapped properly. It is important to note again that these terms were not always explicitly found verbatim within a country's national framework. Therefore, discretion was used by the coders to understand synonymous terms and concepts, trying to remain true to the integrity of the national framework and capture the underlying meaning of an objective, when not explicitly stated on the Coding Scheme. Nevertheless, following the same example above, and further breaking down the *Identify* construct, for example, the sub-constructs contained in this category are as follows: *Different types of text; Parts of a text; Connectors, signs, symbols, time and space indicators; Parts of a sentence; Types of sentences; Abbreviations, contractions, compound words, etc.; Purpose for reading;* and *Others*. These categories and their descriptions in the Coding Scheme provided the final level of organisation for coders to properly map each NAF objective.

3. Quantitative Database

The contents of NAFs' and NCFs' domains, sub-domains, constructs and sub-constructs were mapped into one quantitative database to allow for valid and meticulous comparative analyses at multiple levels. The database denotes the presence or absence, with a value of 1 or 0, of a certain criterion in each NAF and NCF. Once mapped, the database analysed instances of alignment between criteria to identify where in an NCF corresponding assessment criteria were present, essentially where both NAFs and NCFs contained values of 1 for a given criterion. The categorisation of 'aligned', 'not aligned' and 'excluded' data provided the basis for identifying which criterion, in accordance with the Content Reference List, was aligned and thus present in both a Member State's NAF and NCF documents. Categorising 'aligned' criteria provided the data results into which further analyses were conducted, such as by regional and income classification. Similarly, the database categorised and analysed instances of non-alignment between corresponding NAF and NCF criteria at the domain or sub-domain levels. In cases where an entire category - either domain or sub-domain - did not exist, a value of 0 was assigned across that category in the database. This process was consistent throughout the mapping of the 73 NAFs and NCFs.

Within the quantitative database, several mapping decisions had to be made to denote the presence of alignment between NAFs and NCFs, at each category level as mentioned in the Methodology section of this report. Nonetheless, the quantitative database analysed the relationship between assessment and curriculum frameworks, by categorising 'aligned' or 'not aligned', as well as extracted findings which were then interpreted. Any discrepancies, commonalities or emerging insights within the underlying inquiry of this study are expounded upon below.

The following analyses aim to identify instances of alignment between the curricular (intentional) and assessment (measured) criteria for Literacy- Reading.

II. Findings of the Study

Data analysis allowed for comparisons to be drawn in two category levels of the Coding Scheme – domain and sub-domain. In the presence of curriculum criteria (NCF), the findings illustrate the percentage of alignment with which assessment criteria (NAF) was existent, in conformity with the Coding Scheme. The single greatest limitation in this study was the size of the sample of comparable NAFs and NCFs. Before viewing the findings, it must be noted that due to the relative sample size used in this comparative analysis, the findings must be interpreted with careful attention and reasonable consideration before drawing invalid conclusions. It must also be noted that, in light of this limitation, no regional or income-related generalisations are to be made from the results of the analysis of this study. Therefore, in this section, the findings will be interpreted to best point out these instances and to reflect the aim and intent of this study. For example, the Member States are shown in Annex *1* as classified by region; however, one must note that the region of Central and Eastern Europe was solely represented by Estonia. Moreover, and equally as important to note, is that the information in the quantitative database was analysed for quantity and presence of criteria, not quality. Therefore, the data presented does not necessarily represent rigour of curricular or assessment objectives, nor does it always capture the nuances present in pedagogy that are integral to curriculum. It also does not represent a way to standardise information across content areas. It is important, when interpreting the results of these analyses, that careful consideration be given to these prominent limitations. Furthermore, due to the sample size of this study, all conclusions drawn in the following sections of this report will only consider the data we have collected, and thus, these conclusions cannot serve as generalizations for entire regions, income classification levels, languages, or grade levels. The conclusions drawn are based on the analyses conducted with the sample size collected and cannot be translated to wider generalisations outside the scope of this study.

1. Analysis of NAF and NCF Alignment: An Overall Look

It is important to first understand the distribution of the content areas across all 73 NAFs and NCFs when they were compared, regardless of region, income-classification level, education level, or language. This provides an overall look, which will elucidate insights as well as frame the other four levels of subsequent analyses.

Domain level

Figure 5, below, shows a breakdown, by percent, of the alignment of NAFs and NCFs per domain. The Coding Scheme, as described above, contains a total of three domains: *Reading Competency, Linguistic Competency and Metalinguistic Competency.* (Definitions of each can be seen in Annex 6)

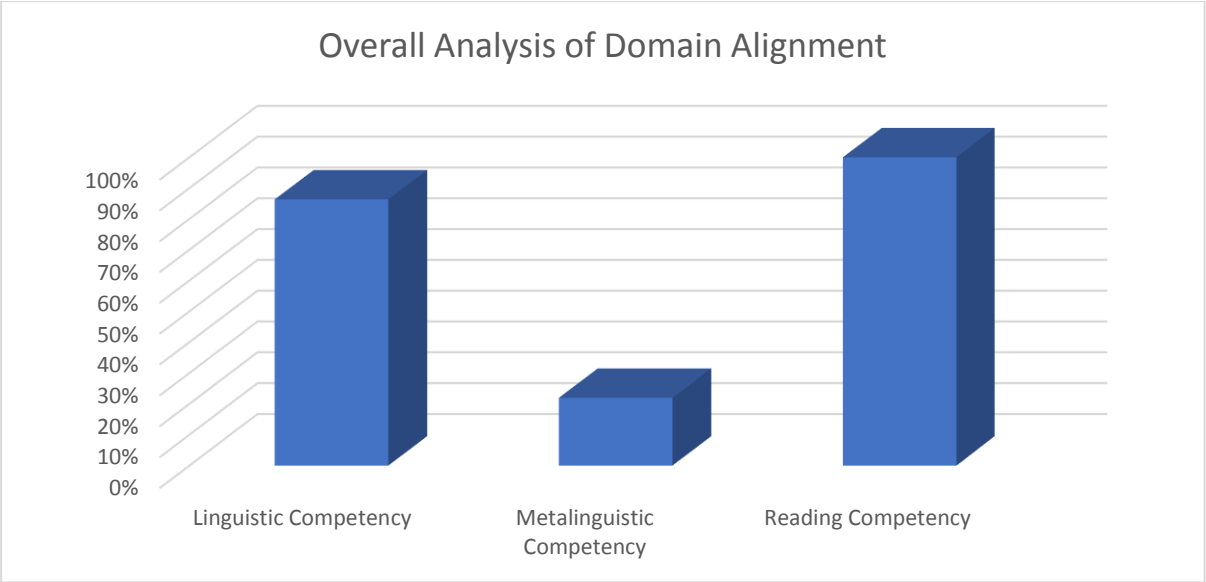

Figure 5: Overall Analysis of Domain Alignment

Figure 5 illustrates the findings from the overall analysis of domain alignment, with *Linguistic Competency* aligned in 63 out of 73 (86%) frameworks; *Metalinguistic Competency* aligned in 16 out of 73 (22%) frameworks; and *Reading Competency* aligned in 73 out of 73 (100%) frameworks. This reveals that the domain with the highest percentage of alignment between assessment (NAF) and curriculum (NCF) frameworks is *Reading Competency* and the lowest percentage of alignment is found in *Metalinguistic Competency*. The finding of such a low percentage of alignment in *Metalinguistic Competency* is a commonality that will be highlighted throughout all levels of analyses in this report, and its possible explanations will be presented in each section. However, this report interprets findings from the observable data set in this study and does not make any generalisations or assumptions based on causation. Interestingly, the findings here are similar to the findings of the overall analysis of domain alignment found when simply looking at the 73 NAFs (IBE-UNESCO and UIS, 2018) analysed even when not compared to the NCFs as this report indicates.

Sub-domain level

Figure 6, below, shows a breakdown, by percent, of the alignment of NAFs and NCFs per sub-domain groups. There is a total of six sub-domains denoted in the Content Reference List: *Decoding* (within the *Reading Competency* domain), *Listening* (within the *Linguistic Competency* domain), *Phonological Awareness* (within the *Metalinguistic Competency* domain), *Reading Comprehension* (within the *Reading Competency* domain), *Speaking* (within the *Linguistic Competency* domain) and *Vocabulary* (within the *Linguistic Competency* domain).

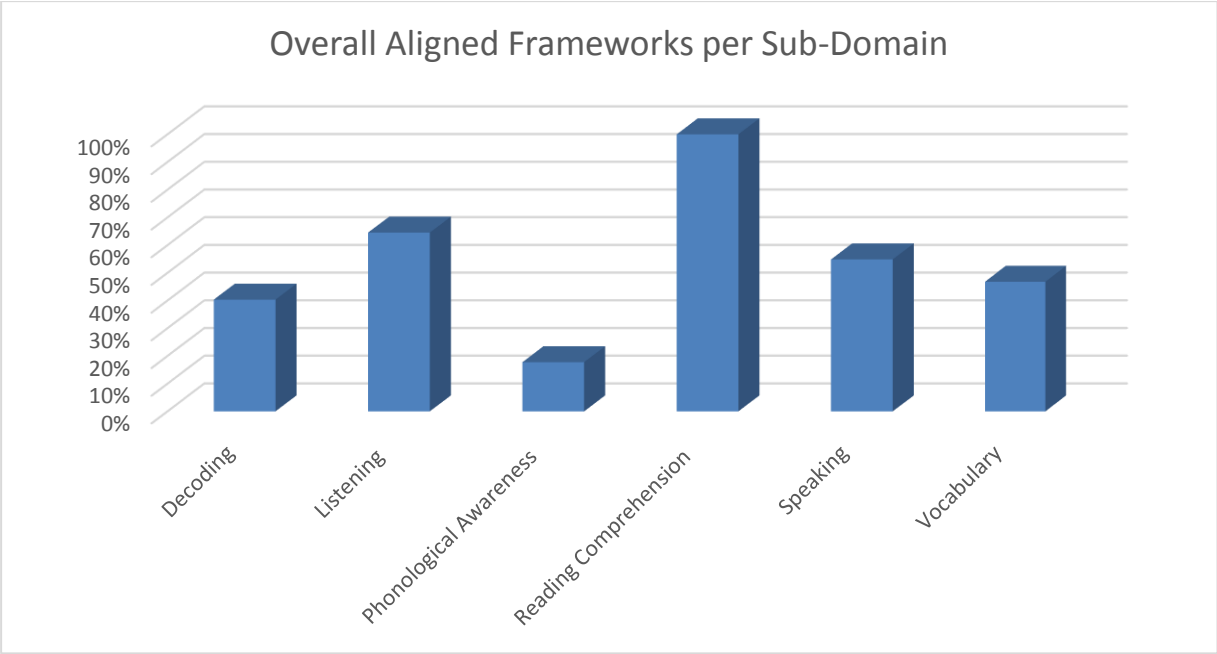

Figure 6: Overall analysis of alignment: by Sub-domain

An overall analysis of sub-domain alignment, in *Figure 6*, indicates that *Decoding* is aligned in 25 out of 73 (34%) frameworks; *Listening* is aligned in 48 out of 73 (66%) frameworks; *Phonological Awareness* is aligned in 16 out of 73 (22%) frameworks; *Reading Comprehension* is aligned in 73 out of 73 (100%) frameworks; *Speaking* is aligned in 39 out of 73 (53%) frameworks; and *Vocabulary* is aligned in 29 out of 73 (40%) frameworks. When viewing the percentages of alignment among the sub-domains, and all other content area categories, one must keep in mind that this study analyses the instances of alignment between NAF and NCF content areas, as per the Content Reference List. As such, when viewing a sub-domain such as *Decoding* – which is aligned in 34% of frameworks- this means that the majority of frameworks compared in this study did not align (with a 1 and 1 value presence, see Methodology). Therefore, in the scope of an alignment analysis contained within this study, a higher the percentage is favourable to alignment. As stated in the Introduction, this study analyses the alignment between nationally-authored assessment and curricular frameworks with the aim of identifying whether alignment occurs and in which domains it does so. As such, when viewing *Figure 6*, the higher percentages of alignment occur in the sub-domains of *Listening*, *Reading Comprehension* and *Speaking*, all over 50% aligned and all within the highly aligned domains – *Reading Competency (100%)* and *Linguistic Competency (86%).*

Construct level

Figure 7, below, shows a breakdown of, by percent, the alignment of NAFs and NCFs per construct groups. Please note that there is a total of 20 constructs. (definitions of each, and other terms can be found in the Glossary in *Annex 7*)

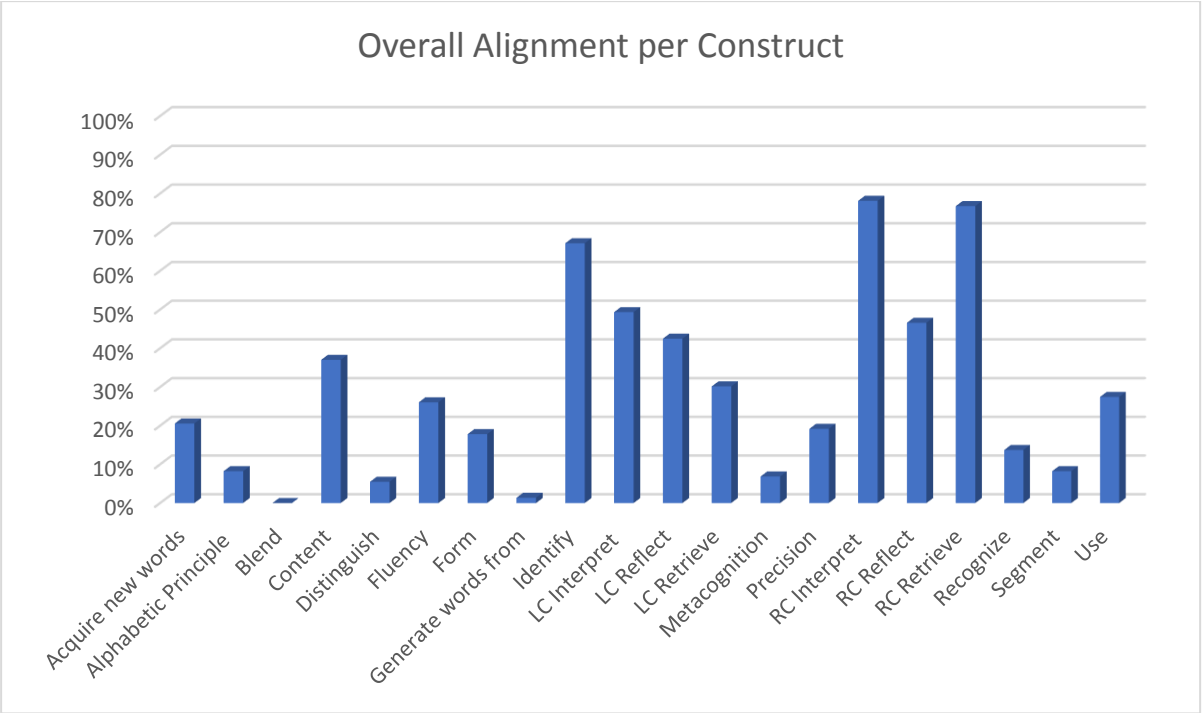

Figure 7: Overall alignment per Construct

To see which of the above constructs belong to which sub-domain and domains, please view the Coding Scheme. For clarity, the abbreviations "RC" and "LC" have been listed before the constructs *Interpret, Reflect,* and *Retrieve* in the figure above. This is because in the Content Reference List contains these three constructs in both the *Reading Comprehension* sub-domain (and therefore the *Reading Competency- RC-* domain) and the *Listening* sub-domain (and therefore the *Linguistic Competency- LC-* domain). The notations included in the figure above are to clearly indicate the alignment of these constructs within their respective sub-domains and domains.

Figure 7 denotes the distribution of alignment between NAF and NCFs among the 20 constructs in the Content Reference List. Their alignment percentages are distributed as follows: *Acquire new words* was present in both NCFs and comparable NAF frameworks 15 out of 73 (21%) times; *Alphabetic Principle,* 6 out of 73 (8%); *Blend,* 0 out of 73 (0%); *Content,* 27 out of 73 (37%); *Distinguish,* 4 out of 73 (5%); *Fluency,* 19 out of 73 (26%); *Form,* 13 out of 73 (18%); *Generate new words,* 1 out of 73 (1%); *Identify,* 49 out of 73 (67%); *Interpret,* (contained in *Linguistic Competency*) 36 out of 73 (49%); *Reflect* (contained in *Linguistic Competency*), 31 out of 73 (42%); *Retrieve* (contained in *Linguistic Competency*), 22 out of 73 (30%); *Metacognition,* 5 out of 73 (7%); *Precision,* 14 out of 73 (19%); *Interpret* (contained in *Reading Competency*), 57 out of 73 (78%); *Reflect* (contained in *Reading Competency*), 34 out of 73 (47%); *Retrieve* (contained in *Reading Competency*), 56 out of 73 (77%); *Recognize,* 10 out of 73 (14%); *Segment,* 6 out of 73 (8%); and *Use,* 20 out of 73 (27%).

Figure 7 highlights a prominent commonality found throughout this study. There are significantly low levels of alignment in the domain *Metalinguistic Competency*, of which the sub-domain *Phonological Awareness* and the following constructs *Distinguish, Blend, Generate words from,* and *Segment* belong.

Another commonality highlighted throughout this study and captured at the construct level analysis above is the higher percentage of alignment in all sub-domains and constructs belonging to the *Reading Competency* domain. Also, strongly aligned is the domain of *Linguistic Competency,* of which the sub-domains *Listening*, *Speaking*, and *Vocabulary* belong, as well as the constructs *Retrieve, Interpret, Reflect, Form, Content, Use, Acquire new words, and Recognise*. This is evidenced by the higher percentage shown, which confirms that the majority of the Member States who authored both their NCF and NAF, and which were analysed within the scope of this study, value the inclusion of

linguistic content. This is shown in what they teach and how they teach reading as well as in what they assess and how they assess reading.

Sub-Construct level

Figure 8 below shows a breakdown, by percent, of the alignment of NAFs and NCFs per sub-construct. There is a total of 107 sub-constructs listed and detailed in the Content Reference List.

It offers a closer look at the alignment between NAFs and NCFs according to the 107 sub-constructs in the Coding Scheme. The range of alignment among the sub-constructs is quite substantial, with some appearing to be highly aligned and others in the 0-5% interval. However, keeping in mind that *Figure 8's* Y axis only reaches 50%, of which none of the sub-constructs have an alignment percentage higher than 45%, it can be concluded that the majority of sub-constructs are not aligned in NAFs and NCFs. Possible explanations for this will be presented at the other four levels of analyses in this report. Furthermore, as data visualisation is challenging with a large number of sub-constructs, the remaining analyses of this report will only include construct analyses into particular disparities or commonalities found at the domain and sub-domain levels.

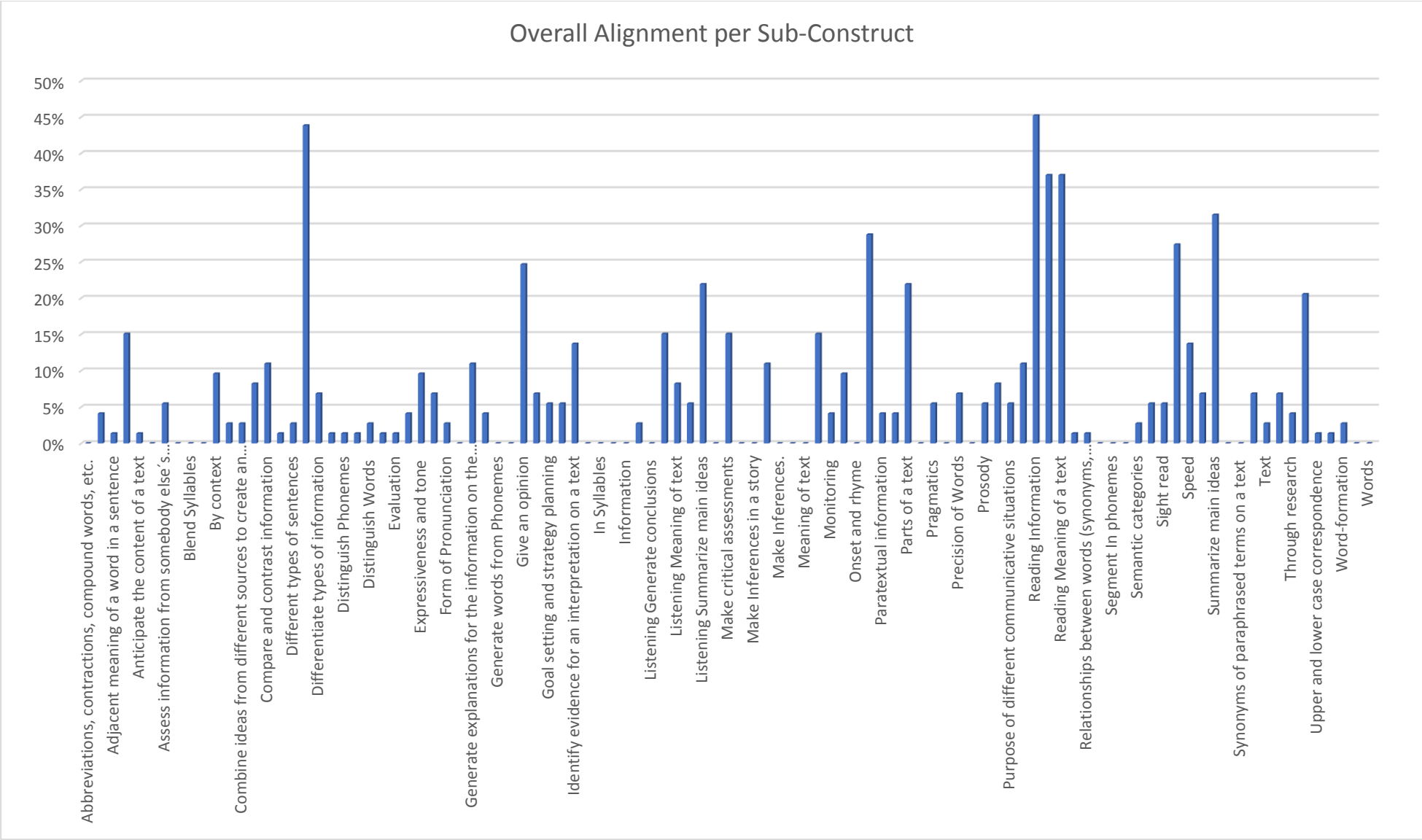

Figure 8: ***Overall alignment per sub-construct*** *(Note: Y axis is at 50% to facilitate easier data visualisation in this figure.)*

2. Analysis of NAF and NCF Alignment: Classification by Region

Data analysis by regional classification provides a global overview; however, there are regional limitations of this study. For example, Qatar is the only Member State to represent the Arab States in this analysis, Estonia is the only Member State from Central and Eastern Europe, and India is the only Member State classified under South and West Asia. The regional distribution highlighted in this section must be viewed considering this limitation, as initial interpretation of the findings presented below may be skewed. Moreover, this analysis only includes frameworks that have been constructed in three languages (English, French, and Spanish). Therefore, in many circumstances, it was difficult to find Member States within these underrepresented regions that authored their frameworks in English, French or Spanish. In order to gather a more significant portion of comparable frameworks from these underrepresented regions, this study would need to be expanded to include Arabic- and Russian-language frameworks, among others. Furthermore, it is imperative to note that the methodology employed throughout this study hinged on the fact that NAFs were understood to be nationally authored frameworks, and not international or regional assessment frameworks, even if, in some cases, Member States may use these in place of a national framework. With these three additional aforementioned limitations, it is clear that all regions are represented sufficiently or equitably for this study. Important to remember is that due to the sample size of this study, all conclusions drawn in this report have only considered the data collected, and thus, these conclusions cannot serve as generalisations for entire regions, income classification levels, languages, or grade levels. The conclusions drawn are based on the analyses conducted with the sample size collected and cannot be translated to wider generalisations outside the scope of this study.

Nonetheless, out of the 20 Member States included in this study, 1 (5%) is from the Arab States, 1 (5%) is from Central and Eastern Europe, 4 (20%) are from East Asia and the Pacific, 4 (20%) from Latin America and the Caribbean, 5 (25%) from North America and Western Europe (of which Canada's provinces of Ontario and Quebec are referred to as two separate Member States given their provincially mandated, authored and unique frameworks), 1 (5%) from South and West Asia, and 4 (20%) from Sub-Saharan Africa. There were no NCFs collected from Central Asia, and therefore, this region has been omitted from the study. The distribution of total compared frameworks by percentage can be viewed in *Figure 1*. A complete view of the Member States classified by region is offered in Annex 1.

Domain level

Figure 9, below, shows a breakdown, by percent, of NAFs and NCFs alignment by region of the world per domain.

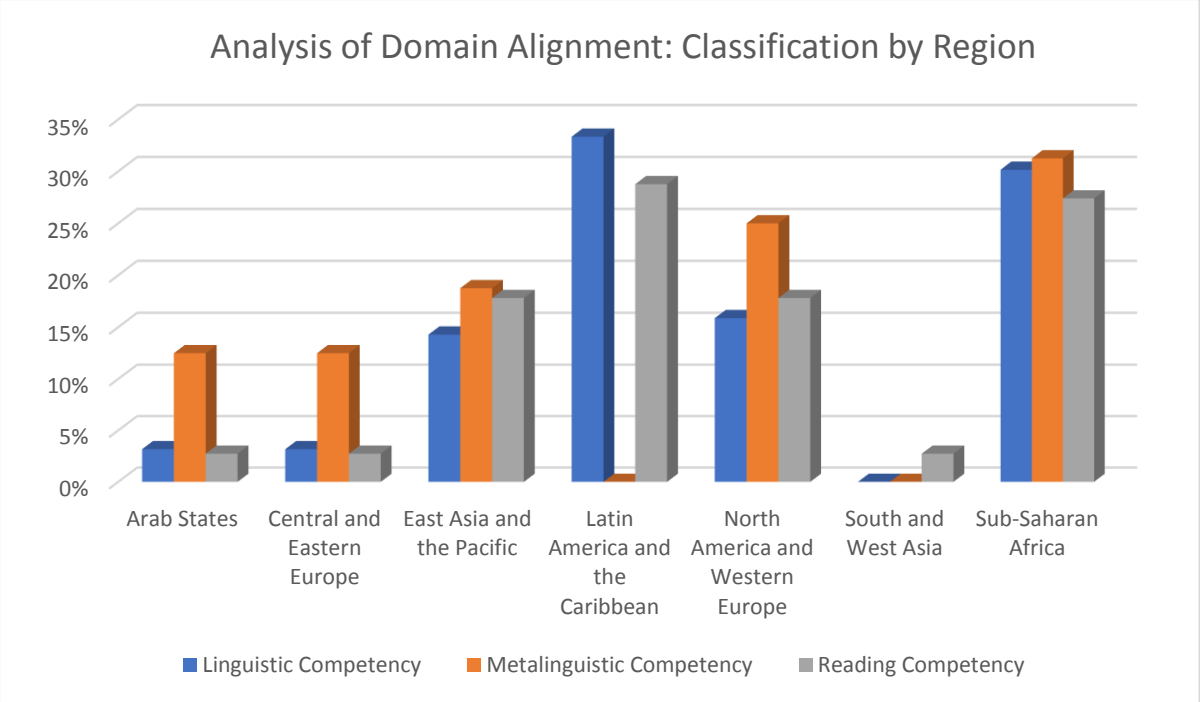

Figure 9: Analysis of Domain Alignment: Classification by Region

Figure 9 illustrates the domain alignment by region of the world included in the scope of this study. Within the alignment of domains, the distribution of alignment among the seven regions can be seen along the X axis, with columns for each domain. To best understand the regional distribution of alignment, one must remember that this analysis examines the data mapped as "aligned" and therefore, does not included the data which was "not aligned" or "excluded" (see Methodology). As such, all figures in this report will capture and present the total percentages of alignment for each analysis to ease the data interpretation for readers and focus on the occurrences of alignment exclusively as is stated in the line of inquiry of this study. (see Introduction)

The data within this study was analysed by total number of national frameworks, from which it was cut by region and other classifications. This was done as to conserve the integrity and best represent the comprehensiveness of each Member States in their design and development of both NAFs and NCFs. In other words, if a country included multiple national frameworks, reflective of national context and educational approach, then all frameworks were included in the sample size of this study – as each framework contained unique datasets on domain, sub-domains etc. If a country has a larger number of frameworks, this is included in the dataset as a representative of such the country and cannot be excluded. Additionally, if a country has a lower number of frameworks then this considered a valid representation and included as such in the analysis. However, readers are encouraged to view this table below, also located in Annex 1, Table 1.1 which details the number of frameworks within each region. For readers' ease, the distribution is as follows:

	Arab States (1)	**Central Asia (0)**	**Central and Eastern Europe (1)**	**East Asia and the Pacific (4)**	**Latin American and Western Europe (5)**	**North America and Western Europe (5)**	**South and West Asia (1)**	**Sub-Saharan Africa (3)**
Member State	Qatar		Estonia	Australia Hong Kong Micronesia New Zealand	Chile Honduras Mexico Peru	Ontario-Canada Quebec-Canada England France Ireland	India	Mauritius Seychelles South Africa
Total # of Frameworks	2	0	2	13	21	13	2	20

Within the 73 aligned out of 73 frameworks for *Reading Competency* – Arab States has 2 out of 73 (3%) aligned frameworks; Central and Eastern Europe has 2 out of 73 (3%) aligned frameworks; East Asia and the Pacific has 13 out of 73 (18%) aligned frameworks; Latin America and the Caribbean has 21 out of 73 (29%) aligned frameworks; North America and Western Europe has 13 out of 73 (18%) aligned frameworks; South and West Asia has 2 out of 73 (3%) aligned frameworks; Sub-Saharan Africa has 20 out of 73 (27%) aligned frameworks.

These percentages illustrate that *Reading Competency* is the highest aligned domain across the regions, and is the only domain aligned in South and West Asia (represented by India). Within the region of Latin America and Caribbean, this domain is the highest aligned with 29%, however, when one views this percentage in terms of non-alignment (and 'excluded data') this finding is not particularly encouraging in terms of alignment. In *Figure 9*, there is no domain with a higher percentage than 35%, and thus results indicate relatively low percentages of alignment across the domains and speaks to a struggling representation of the relationship between assessment and curriculum reflected in national frameworks. This is a salient finding which will become apparent as it weaves throughout the findings on alignment in this report. Stretching beyond the scope of this study, questions can be asked as to why alignment is denoted so poorly in general and what are the causes and implications?

Within the 63 aligned out of 73 frameworks for *Linguistic Competency* - Arab States has 2 out of 63 (3%) aligned frameworks; Central and Eastern Europe has 2 out of 63 (3%) aligned frameworks; East Asia and the Pacific has 9 out of 63 (14%) aligned frameworks; Latin America and the Caribbean has 21 out of 63 (33%); North America and Western Europe has 10 out of 63 (33%); South and West Asia has 0 out of 63 (0%); Sub-Saharan Africa has 19 out of 63 (30%). Out of the 86% alignment in *Linguistic Competency*, these percentages indicate the distribution in each region and division of this percentage of alignment in this domain. The findings extracted from these values indicate that this domain is prominently aligned in Latin America and the Caribbean and Sub-Saharan Africa – possibly explained by a regional emphasis on oral communication skills, found in NAFs and NCFs as well as evident in socio-linguistic traditions and practices in each region. Across the array of regions, South and West Asia is the only region (represented by India) that does not include this domain, along with the following domain – *Metalinguistic Competency*. Although the sample size is needing expansion within this region, by viewing *Figure 9* one may be particularly surprised by the low percentage of domain alignment in South and West Asia. How is assessment and curriculum viewed, valued and included in this region and is it best represented in a NAF and NCF, or do other data sources exist which can shed light on this region's approach to the relationship between assessment and curriculum.

Lastly, within the 16 aligned out of 73 frameworks for *Metalinguistic Competency* - Arab States has 2 out of 16 (13%) aligned frameworks; Central and Eastern Europe has 2 out of 16 (13%) aligned frameworks; East Asia and the Pacific has 3 out of 16 (19%) aligned frameworks; Latin America and the Caribbean has 0 out of 16 (0%); North America and Western Europe has 4 out of 16 (25%); South and West Asia has 0 out of 16 (0%); Sub-Saharan Africa has 5 out of 16 (31%). Out of the 22% alignment in *Metalinguistic Competency*, these percentages indicate the distribution in each region and division of this alignment in this domain. These values provide the most dispersed distribution of domain alignment by regions and merits further exploration and expansion in any analysis moving forward. Knowing the phases of language acquisition, as detailed in the background paper authored by the developers of the Coding Scheme used in this study and report (Cuadro, Palombo and Ruiz, 2018), it is most perplexing when one views this domain higher aligned than the other two in the regions of Arab States and Central and Eastern Europe. How are these two regions (represented both by one Member State) reflecting a higher alignment in this domain than in the other two, closely inter-connected, domains? These two regions have identical alignment percentages, do these values indicate a relationship between regional commonalities within these domains? Furthermore, it is salient how the

region of Latin America and the Caribbean does not include this domain in either its NAFs or NCFs. In this region, how are content areas such as syllables, rhymes, phonemes and blending of, and furthermore metacognition, taught in the curriculum and then assessed? In the following sub-domain and construct level analyses by regions, a closer look into these content areas will be conducted - are they included and mapped in the domain – *Reading Competency* in the sub-domain – *Decoding*? (see Coding Scheme for categorisation of sub-domains and constructs in each group). At the domain-level analysis, the data findings appear quite confounding when following the natural phases of language acquisition, as *Metalinguistic Competency* is a foundational phase. Overall, the values of domain alignment across the regions show an overview of which domains are aligned according to regions, though, it must be reiterated that the percentages are lower than 35% alignment which calls for a look into non-alignment. Where and what is occurring within assessment and curriculum within the other 65%? Explorations into non-alignment are provided in a later section of this report, following the alignment analysis. Non-alignment analyses are a paramount step in the pursuit of mapping, understanding, and monitoring the relationship between assessment and curricula.

Sub-domain level

An even more nuanced understanding of the results can be seen when looking at a breakdown of the data by sub-domains for each region. *Figure 10*, below, shows a breakdown, by percent, of alignment per sub-domain.

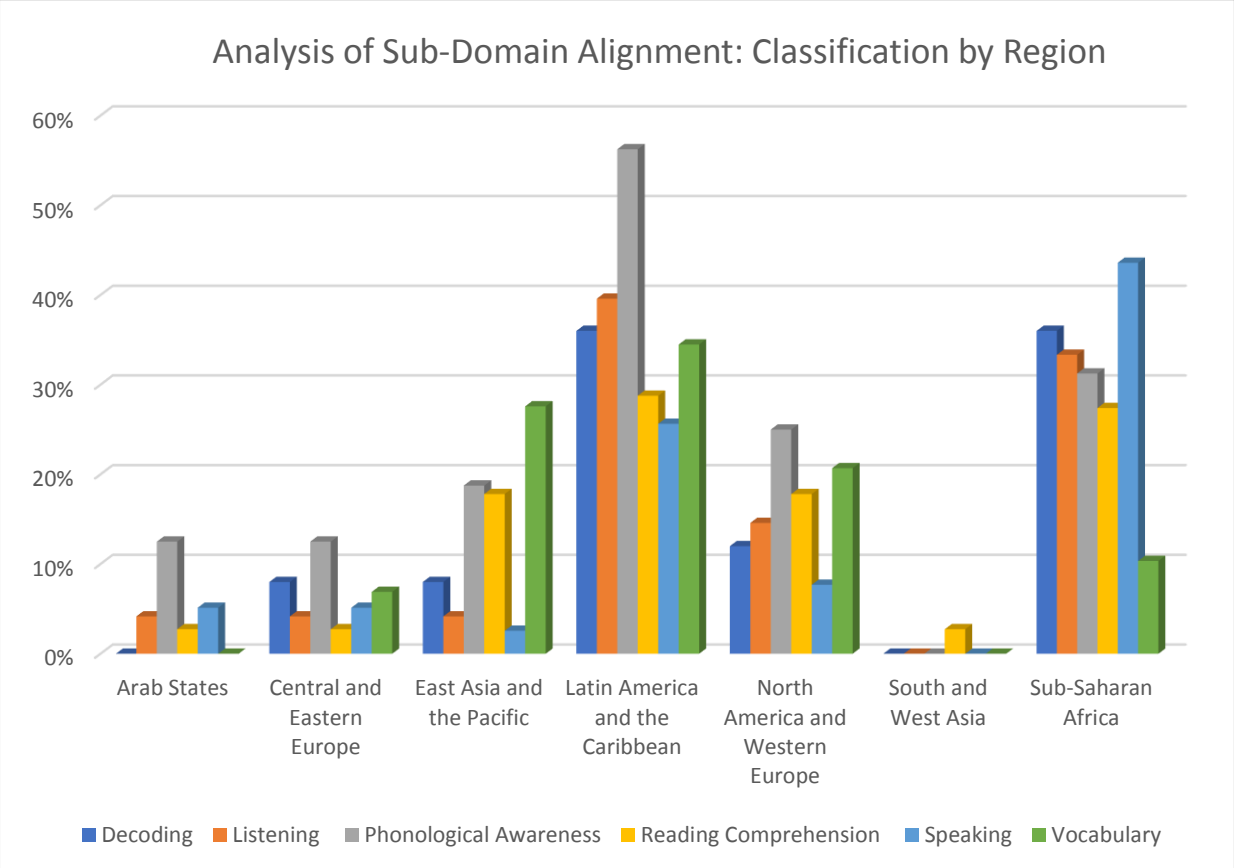

Figure 10: Analysis of Sub-domain Alignment: Classification by Region

Figure 10 displays the regional distribution of aligned frameworks by sub-domains. Out of the total number of frameworks aligned by sub-domain, the distribution by region is as follows: *Decoding* - Arab States represents 0 out of the 25 (0%) aligned frameworks; Central and Eastern Europe represents 2 out of the 25 aligned frameworks (8%); East Asia and the Pacific represents 2 out of 25 (8%) aligned frameworks; Latin America and the Caribbean represents 9 out of the 25 (36%) aligned frameworks; North America and Western Europe represents 3 out of the 25 (12%) aligned frameworks; South and West Asia represents 0 out of the 25 (0%) aligned frameworks; and Sub-Saharan Africa represents 9 out of the 25 (36%) aligned frameworks. The two regions which have identical percentages of alignment in this sub-domain, *Decoding*, are Latin America and the Caribbean and Sub-Saharan Africa, with 36% of their compared frameworks aligned.

Listening - Arab States represents 2 out of the 48 (4%) aligned frameworks; Central and Eastern Europe represents 2 out of the 48 (4%) aligned frameworks; East Asia and the Pacific represents 2 out of the 48 (4%) aligned frameworks; Latin America and the Caribbean represents 19 out of the 48 (40%) aligned frameworks; North America and Western Europe represents 7 out of the 48 (15%) aligned frameworks; South and West Asia represents 0 out of the 48 (0%) aligned frameworks; and Sub-Saharan Africa represents 16 out of the 48 (33%) aligned frameworks. Again, the two regions which have the highest percentages of alignment in this sub-domain, *Listening*, are Latin America and the Caribbean and Sub-Saharan Africa.

Phonological Awareness - Arab States represents 2 out of 16 (13%) aligned frameworks; Central and Eastern Europe represents 2 out of 16 (13%) aligned frameworks; East Asia and the Pacific represents 3 out of 16 (19%) aligned frameworks; Latin America and the Caribbean represents 9 out of 16 (0%) aligned frameworks; North America and Western Europe represents 4 out of 16 (25%) aligned frameworks; South and West Asia represents 0 out of 16 (0%) aligned frameworks; and Sub-Saharan Africa represents 5 out of 16 (31%) aligned frameworks. Within this sub-domain, which belongs to the critically under-aligned domain of *Metalinguistic Competency*, North America and Western Europe and Sub-Saharan Africa are the only two regions (of out the seven analysed for this report), which have an alignment higher than 20%. More profound findings regarding alignment may appear in the education level analysis in this report, as this sub-domain is foundational in the development of Literacy-Reading per grade.

Reading Comprehension - Arab States represents 2 out of 73 (3%) aligned frameworks; Central and Eastern Europe represents 2 out of 73 (3%) aligned frameworks; East Asia and the Pacific represents 13 out of 73 (18%) aligned frameworks; Latin America and the Caribbean represents 21 out of 73 (29%) aligned frameworks; North America and Western Europe represents 13 out of 73 (18%) aligned frameworks; South and West Asia represents 2 out of 73 (3%) aligned frameworks; and Sub-Saharan Africa represents 20 out of 73 (27%) aligned frameworks. The alignment with the highest percentages are presented in two regions, Latin America and the Caribbean and Sub-Saharan Africa. This is a commonality found in the regional analysis thus far as these two regions appear to be some of the highest aligned in this sample size. It is important to remember the limitations of this study, and the effects that has had on revealing lower percentages of alignment between Member States' NAFs and NCFs, regardless of region. That being understood, Latin America and the Caribbean, as well as Sub-Saharan Africa, do show the highest amount of alignment in the *Reading Comprehension* sub-domain.

Speaking - Arab States represents 2 out of 39 (5%) aligned frameworks; Central and Eastern Europe represents 2 out of 39 (5%) aligned frameworks; East Asia and the Pacific represents 1 out of 39 (3%) aligned frameworks; Latin America and the Caribbean represents 10 out of 39 (26%) aligned frameworks; North America and Western Europe represents 3 out of 39 (8%) aligned frameworks; South and West Asia represents 0 out of 39 (0%) aligned frameworks; and Sub-Saharan Africa represents 17 out of 39 (44%) aligned frameworks. The region with the highest percentage of alignment in its compared frameworks in the sub-domain of *Speaking* is Sub-Saharan Africa. Possible reasons for this stronger percentage of alignment may be the national emphasis placed on speaking

skills in curricula and assessment frameworks due to this region's rich oral-historical traditions. Multiple supportive data sources would need to be analysed before such a statement be ultimately confirmed, however.

Vocabulary - Arab States represents 0 out of 29 (0%) aligned frameworks; Central and Eastern Europe represents 2 out of 29 (7%) aligned frameworks; East Asia and the Pacific represents 8 out of 29 (26%) aligned frameworks; Latin America and the Caribbean represents 10 out of 29 (34%) aligned frameworks; North America and Western Europe represents 6 out of 29 (21%) aligned frameworks; South and West Asia represents 0 out of 29 (0%) aligned frameworks; and Sub-Saharan Africa represents 3 out of 29 (10%) aligned frameworks. Latin America and the Caribbean appears to be the highest region with alignment in this sub-domain. There are many potential factors that could play into this alignment. One such possibility was noted in IBE-UNESCO's NAF analysis report in Literacy-Reading, which can serve as an accompaniment to this report (IBE-UNESCO and UIS, 2018). Member States within Latin America and the Caribbean placed an elevated level of emphasis on vocabulary words assessed through dictation. Because of this significance, Member States' NCFs included these standards to be taught in preparation for the assessments.

Construct Level

Further examination into the aforementioned analysis, by domain and sub-domain, can be seen when looking at a breakdown by construct for each region. *Figure 11*, below, shows a breakdown, by percent, of alignment per construct. Notice, again, that there is a total of 20 constructs.

The regional distribution of construct level alignment, as depicted in the chart above, shows many outstanding findings.

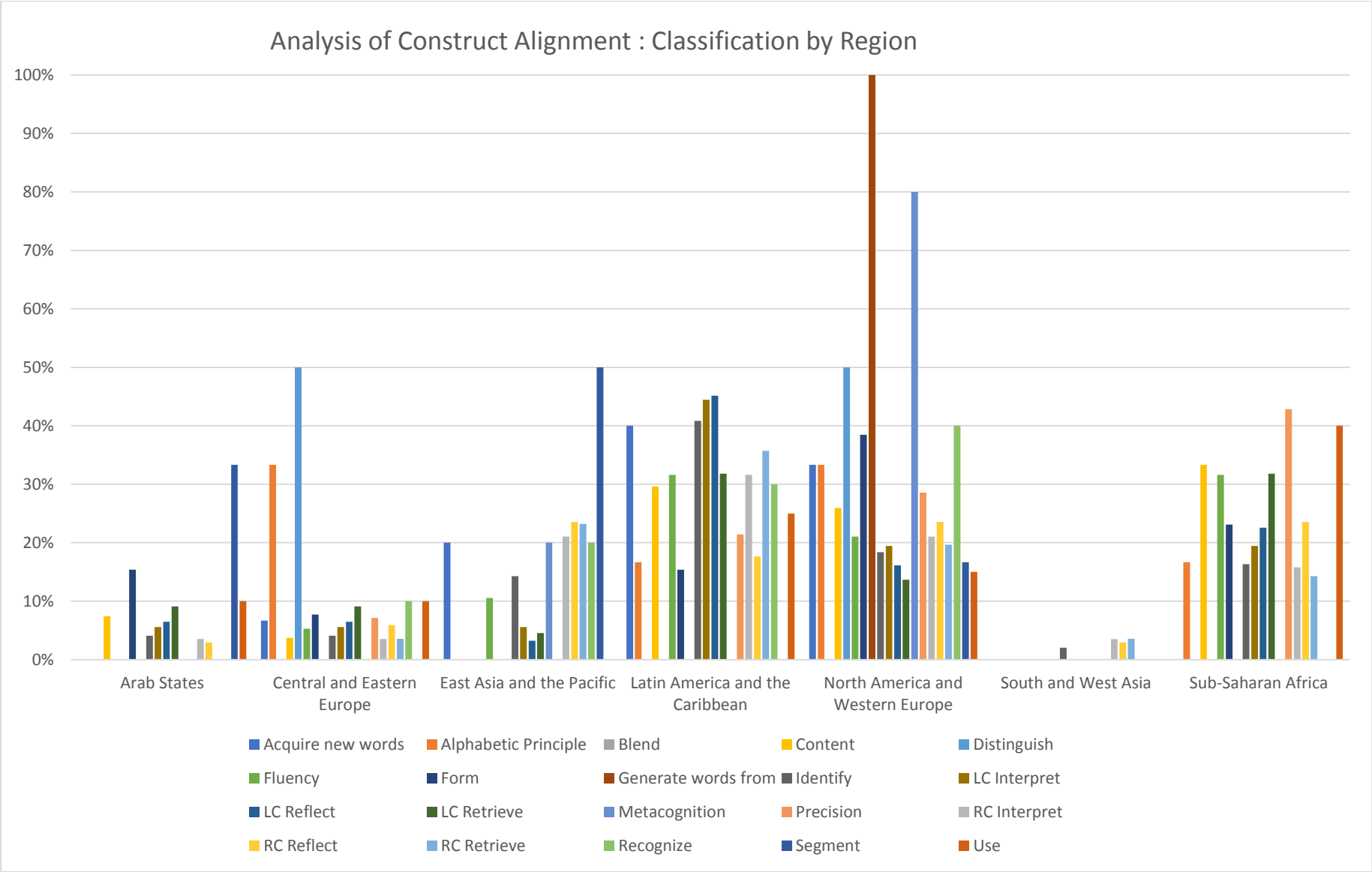

Figure 11: Analysis of Construct Alignment: Classification by Region

Arab States' compared NAF and NCF frameworks aligned at the construct level very few times, with over half of the constructs not being aligned at all in this region. Understanding, as stated previously as a significant limitation of this analyses, that only Qatar is included in this region, it is statistically imperative to mention that the Arab States are not fully represented to its potential. The one construct, *Segment,* which belongs within the *Metalinguistic Competency* domain, was aligned in this region in 2 out of 6 (33%) aligned frameworks. Interesting to note is that this was the highest percentage of alignment in the construct level for this region, and, conversely, it belongs within the lowest aligned domain (*Metalinguistic Competency*).

The region of Central and Eastern Europe, represented solely by Estonia in the sample analysed in this study, also presents low to zero percentages of alignment at the construct levels. To better capture alignment within this region, a sample size of frameworks reaching beyond one Member State would need to be conducted. Due to the language limitations (only using English, French, and Spanish frameworks) and/or only nationally-authored frameworks provided to IBE-UNESCO for this study, the available frameworks were limited from this region.

In East Asia and the Pacific, the highest percentage of alignment was found in the construct *Segment* (belonging to the *Metalinguistic Competency* domain) with 3 out of 6 (50%) aligned frameworks from this region. The second highest alignment from this region was the construct *Retrieve* (belonging to the *Reading Competency* domain) with 13 out of 56 (23%) aligned frameworks. Although perplexing that the construct *Segment* is, yet again, one of the highest aligned constructs from another region, it belongs to the lowest aligned domain, *Metalinguistic Competency*. It is noted that this construct appears to be one of the only ones with alignment percentages and could be statistically accounting for its domain's percentage as a whole.

Latin America and the Caribbean's alignment at the construct levels are higher than the three aforementioned regions'. The three highest percentages of alignment from this region were found in 1) the construct - *Reflect* (corresponding to *Listening* sub-domain) with 14 out of 31 (45%) aligned frameworks; 2) the second highest was *Interpret* (part of *Listening* sub-domain) with 16 out of 36 (44%) aligned frameworks; 3) the third highest aligned was found in the construct *Acquire new words* (part of the Vocabulary sub-domain) with 6 out of 15 (40%) aligned frameworks. These three findings indicate an emphasis placed on *Listening* for meaning as well as being able to construct critical thinking based on oral communications, supposedly with an ample base of vocabulary, as these skills appear to be both reflected in this region's NAFs and NCFs.

North America and Western Europe's alignment percentages in the construct levels appear to be well distributed among all 20 constructs with alignment occurring within each construct (except for *Blend,* which has zero percent alignment as a construct in general). The two highest alignment percentages were found in first, the construct - *Metacognition* (part of the *Reading Comprehension* sub-domain) with 4 out of 5 (80%) aligned frameworks. The second was in the construct *Distinguish* (corresponding to *Phonological Awareness* sub-domain) with 2 out of the 4 (50%) aligned frameworks. This finding is concurrent with the domain analysis by regions which displayed that North America and Western Europe was the region with the highest alignment in the domain of *Metalinguistic Competency*. These two salient findings indicate a seemingly strong regional understanding and inclusion of Meta-skills in what learners are taught and what they are assessed.

South and West Asia, only represented by India within the scope of this study, had the lowest percentages of alignment at the construct level from all seven regions. Only 4 out of 20 constructs (*Identify*, *Retrieve*, *Interpret*, *Reflect* – in *Reading Comprehension*), displayed any alignment; and this manifests an emphasised value placed in NCFs and NAFs in Reading Comprehension in India. It has been determined that to best understand alignment between NAFs and NCFs within this region, beyond India, a larger sample size would need to be analysed.

In the region of Sub-Saharan Africa, the two highest percentages of alignment were found at the construct *Precision* (part of the *Decoding* sub-domain) with 6 out of the 14 (43%) aligned frameworks. The alignment at the construct *Precision* indicates that the Member States within this region seemingly value and include a learner's ability to read text aloud in precision. The second highest alignment was found in the construct *Use* (corresponding to the *Speaking* sub-domain) with 8 out of the 20 (40%) aligned frameworks. This alignment between Sub-Saharan Africa's NAFs and NCFs in this construct displays an emphasis on the ability to use oral communication with *Coherence, Prosody* and *Pragmatics* in order to communicate a message clearly and correctly.

All of the analyses within the regional classifications would benefit from additional socio/cultural and historical analyses to provide the multi-faceted nuances most probable within each region.

3. Analysis of Alignment: Classification by Income

The classification of the 20 Member States by income, (see *Annex 1)* in *Low-Income*, *Lower Middle-Income*, *Upper Middle-Income*, and *High-Income* countries (World Bank, 2017)[1] was applied for this analysis, with a distribution as follows; 13 High-Income at (60%); 4 Upper-Middle-Income at (20%); 3 Lower-Middle-Income at (15%); and 1 Low-Income at (5%). There are many complexities to consider when viewing this section of the report, particularly the 60% of all Member States analysed are from High-Income countries. Possible explanations for this distribution could be due to the selection process conducted at the inception of this study or the limiting eligibility criteria for inclusion into this study (i.e. all frameworks (NAFs and NCFs alike) had to be nationally- authored). This is expounded upon in the sections below. Issues of critical mass and resource availability may be the cause of this limitation. Nonetheless, readers are encouraged to keep this in mind when visually interpreting the figures in this section.

Domain level

The information displayed in *Figure 12*, below, shows a breakdown, by percent, of NAFs and NCFs alignment by domain.

[1] This classification was preferred over the separation between developed and developing countries, which are terms that are no longer used by the World Bank (Fantom, 2016). Instead, the classification was made between Low-Income, Lower-Middle-Income, Upper Middle-Income, and High-Income Member States. This classification was used to provide a precise description and facilitate a richer analysis of the data collected.

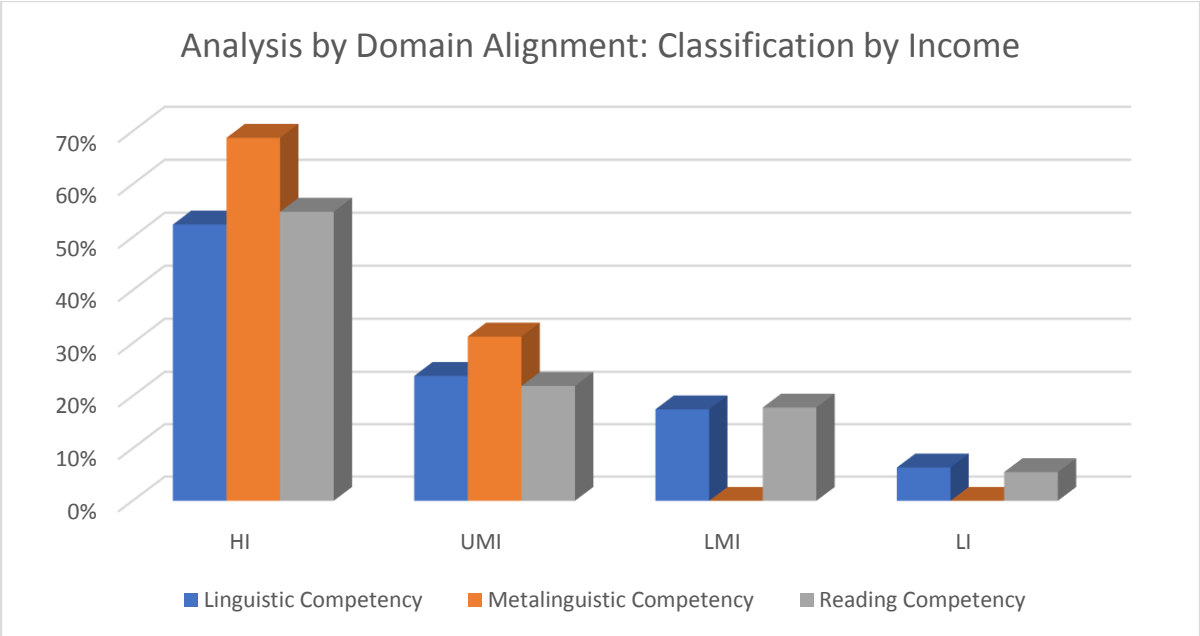

Figure 12: Analysis by income classification: Domain level Alignment

Figure 12 displays the percentage of domain alignment per income classification as follows; High-Income (HI) Member States presented 33 out of 63 aligned frameworks (52%) in the domain *Linguistic Competency*; 11 out of 16 (69%) aligned frameworks in the domain *Metalinguistic Competency*; and 40 out of 73 (55%) aligned frameworks in the domain *Reading Competency*. Within the HI Member States, a commonality is noted in the domain *Metalinguistic Competency* with the highest alignment of all income classifications for this domain. This trend has been noted in previous sections of this report and will continue to emerge in the following, reasons for it may be due to critical mass, however, such a hypothesis would require testing before confirming.

In the Upper Middle-Income (UMI) Member States presented 15 out of 63 (24%) aligned frameworks in the domain *Linguistic Competency*; 5 out of 16 (31%) aligned frameworks in the domain *Metalinguistic Competency*; and 16 out of the 73 (22%) aligned frameworks in the domain *Reading Competency*.

Within the Lower Middle-Income (LMI) Member States, the domain alignment was found in 11 out of the 63 (17%) aligned frameworks in the domain *Linguistic Competency*; 0 out of the 16 (0%) aligned frameworks in the domain *Metalinguistic Competency*; and 13 out of the 73 (18%) aligned frameworks in the domain *Reading Competency*.

In the Low-Income (LI) Member States' domain alignment was at its lowest – however, one must keep in mind that The Gambia is the only Member State represented in this income classification within the scope of this study. In the domain *Linguistic Competency*, 4 out of 63 (6%) aligned frameworks were found in this income classification; 0 out of 16 (0%) aligned frameworks in the domain *Metalinguistic Competency*; and 4 out of 73 (5%) aligned frameworks in the domain *Reading Competency*.

A commonality can be drawn between the LMI and LI classified Member States with 0% alignment in the domain *Metalinguistic Competency*. Answers for this occurrence could be formed by noting the lower number of frameworks available for alignment analysis from both income classifications. However, supportive documents would be required. This emphasises another limitation of the study. Because this study only looks at the alignment between nationally-authored assessment frameworks and curricula documents, and rightly so, many low-income and low-middle income Member States' were left out of the analyses. It is important to note that although many of the Member States at these income classification levels provided IBE-UNESCO with international or regional assessment

frameworks in lieu of nationally-developed ones, they were not used for this study due to the fact that alignment between national curricula and international/regional assessment cannot be accurately determined. The findings in these sections should be viewed in light of this knowledge.

Sub-domain level

The information displayed in *Figure 13*, below, shows a breakdown, by percent, of NAFs and NCFs alignment per sub-domains by each of the income classification levels.

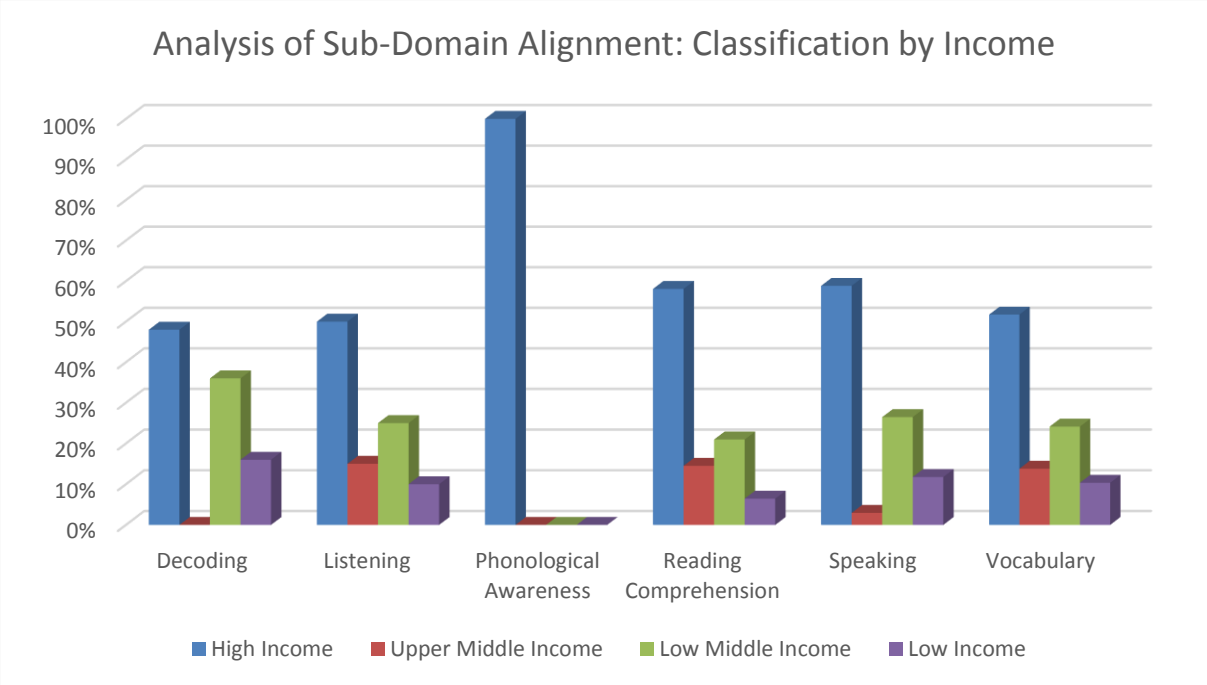

Figure 13: Analysis of sub-domain alignment: classification by income

The alignment by income classification at the sub-domain levels is as follows: High-Income frameworks were aligned within the sub-domain *Decoding* with 12 out of the 25 (48%) aligned frameworks; *Listening,* with 24 out of the 48 (50%) aligned frameworks; *Phonological Awareness,* with 11 out of the 16 (69%) aligned frameworks; *Reading Comprehension,* with 40 out of the 73 (55%) aligned frameworks; *Speaking* with 20 out of the 39 (51%) aligned frameworks; and *Vocabulary,* with 15 out of the 29 (52%) aligned frameworks. In sum, even with a higher number of NAFs and NCFs compared for this study, these percentages indicate a strong alignment between curricula and assessment from High-Income Member States.

In the UMI Member States, the sub-domain alignment is less; the sub-domain *Decoding* there are 0 out of the 25 (0%) frameworks aligned; in *Listening,* there are 10 out of the 48 (21%) aligned; in *Phonological Awareness,* there are 5 out of the 16 (31%) frameworks aligned; in *Reading Comprehension*, there are 16 out of the 73 (22%) frameworks aligned; and in *Speaking,* there are 6 out of the 39 (15%) aligned frameworks; and in *Vocabulary,* there are 4 out of the 29 (14%) aligned frameworks. It is perplexing that *Decoding* is at 0% - as this sub-domain contains elements of *Alphabetic principle* and *grapheme phoneme correspondence*, as well as *Precision* and *Fluency* - but *Phonological Awareness,* which contains phonemes as well, is at 31% alignment. Further investigation is needed to understand the elements (constructs) which fall within *Decoding* and not *Phonological Awareness,* this will be done in the construct alignment analysis below.

Within the LMI Member States, the sub-domain alignment appears to be similar to the UMI's, however, a closer look into the percentages indicate a difference in which sub-domain is aligned. In the sub-

domain – *Decoding*, 9 out of the 25 (36%) frameworks aligned; *Listening* with 10 out of the 48 (21%) aligned frameworks; *Phonological Awareness* with 0 out of the 16 (0%) aligned frameworks; *Reading Comprehension* with 13 out of the 73 (18%) aligned frameworks; *Speaking* with 9 out of the 39 (23%) aligned frameworks; *Vocabulary* with 7 out of the 29 (24%) aligned frameworks. One of the biggest differences is found in the sub-domain of *Phonological Awareness* where UMI Member States had a 31% alignment compared to LMI's alignment of 0%. There appears to be a disparity occurring between these two income classifications which affect the understanding of, and inclusion of this sub-domain in both NAFs and NCFs.

In the LI Member State, The Gambia, the sub-domain alignment is the lowest of all income classifications with 4 out of the 25 (16%) aligned frameworks in the sub-domain – *Decoding*; with 4 out of the 48 (8%) aligned frameworks in *Listening*; with 0 out of the 16 (0%) aligned frameworks in *Phonological Awareness*; 4 out of the 73 (5%) aligned frameworks in *Reading Comprehension*; with 4 out of the 39 (10%) aligned frameworks in *Speaking*; and 3 out of the 29 (10%) aligned frameworks in *Vocabulary*.

The sub-domain alignment analysis highlights the strong alignment between NAFs and NCFs from the HI classified Member States. It is therefore no surprise that the highest number of total compared frameworks comes from this income classification group and represents 60% of the Member States in this study.

Disparities are found between the UMI and LMI Member States in certain sub-domains' alignment (i.e. *Phonological Awareness*), albeit not all. Furthermore, by examining certain sub-domains, it would appear that income is a factor affecting alignment, as shown by a downward trend (i.e. *Reading Comprehension)* from HI Member States at 55%, UMI at 22%, LMI at 18%, and LI at 5%. However, this downward trend does not occur across the array of sub-domains. Therefore, further investigation into critical mass is needed. In addition, an expansion of the sample size for LMI and LI Member States is recommended in order to determine whether or not such trends are consistent. A higher number of frameworks from these two classification levels would be needed to determine whether income considerations, such as resources, factor into alignment.

Construct Level

The information displayed in *Figure 14*, below, shows a breakdown, by percent, of NAFs and NCFs alignment per construct by each of the income classification levels. Only main findings will be included in this section.

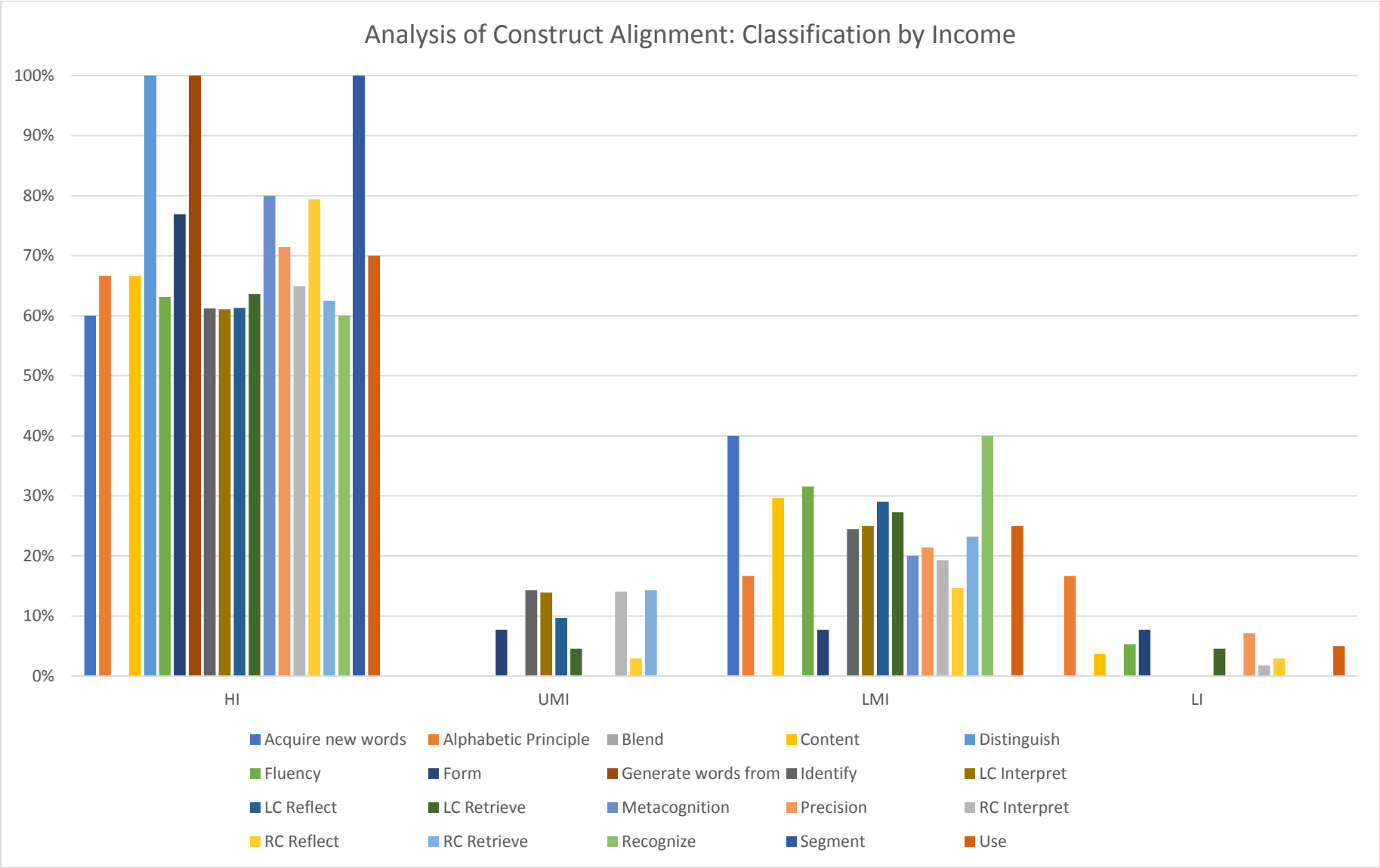

Figure 14: Analysis of Construct Alignment: Classification by Income

Figure 14 provides the reader with "aligned" construct level data to facilitate data interpretation at a glance, but only main findings highlighted in the domain and sub-domain levels will be elaborated upon in this section.

Not surprisingly, is the confirmation at the construct level that HI countries have a higher percentage of alignment, seen as well in the domain and sub-domain analyses. Elaborating upon the disparities noted in the distribution of alignment at the sub-domain levels between UMI and LMI countries, a closer look into the construct alignment will shed some light on this, with three examples. If income was the sole factor affecting alignment, which would appear with downward trends from highest income to lowest income, then the alignment percentages found between UMI and LMI countries are perplexing. Among many, the three constructs with significant differences between the UMI and LMI are as follows: in the construct *Content* (corresponding to *Speaking* sub-domain) the UMI's alignment is 0 out of the 27 (0%) aligned frameworks, compared to the LMI's alignment, which is 8 out of 27 (30%) aligned frameworks. The second differing construct between these two income classifications is the construct *Fluency* (part of the *Decoding* sub-domain) with UMI's 0 out of 19 (0%) frameworks aligned, and LMI's 6 out of 19 (32%) frameworks aligned. The third difference is found in construct *Acquire new words* (part of the *Vocabulary* sub-domain), with UMI's frameworks aligned in 0% and LMI's frameworks aligned in 6 out of 15 (40%).

4. Analysis of NAF and NCF Alignment: Classification by Education Level

The classification of all NAFs and NCFs by education level based on the three points of measurement of SDG 4.1.1 (end of lower primary/early grades; end of upper primary; end of lower secondary) was used for the analysis. The 73 compared frameworks were organized in such groups to allow for comparisons to be analysed: Lower Primary[2] (27 out of 73 frameworks mapped, or 37%), Upper Primary (27 out of 73 frameworks mapped, or 37%), and Lower Secondary (19 out of 73 frameworks mapped, or 26%). In respecting the integrity of each Member State's national framework and the inherent relevance of educational philosophy within each design and development, grades indicated in each framework were grouped according to the Member States' classification of education levels. For example, if a Member State stated grade 6 as Upper Primary, this grouping was respected, and that national framework was classified as part of the Upper Primary frameworks analysed. In light of this information, a thorough interpretation of the figures and their values are represented below.

Domain level

The information displayed in *Figure 15*, below, shows a breakdown, by percent, of NAFs and NCF alignment by domains per education level.

2 Even though the first point of measurement of indicator 4.1.1 focuses only on grades 2 and 3, data from grade 1 was also mapped and analysed, to expand the scope of this report and analysis.

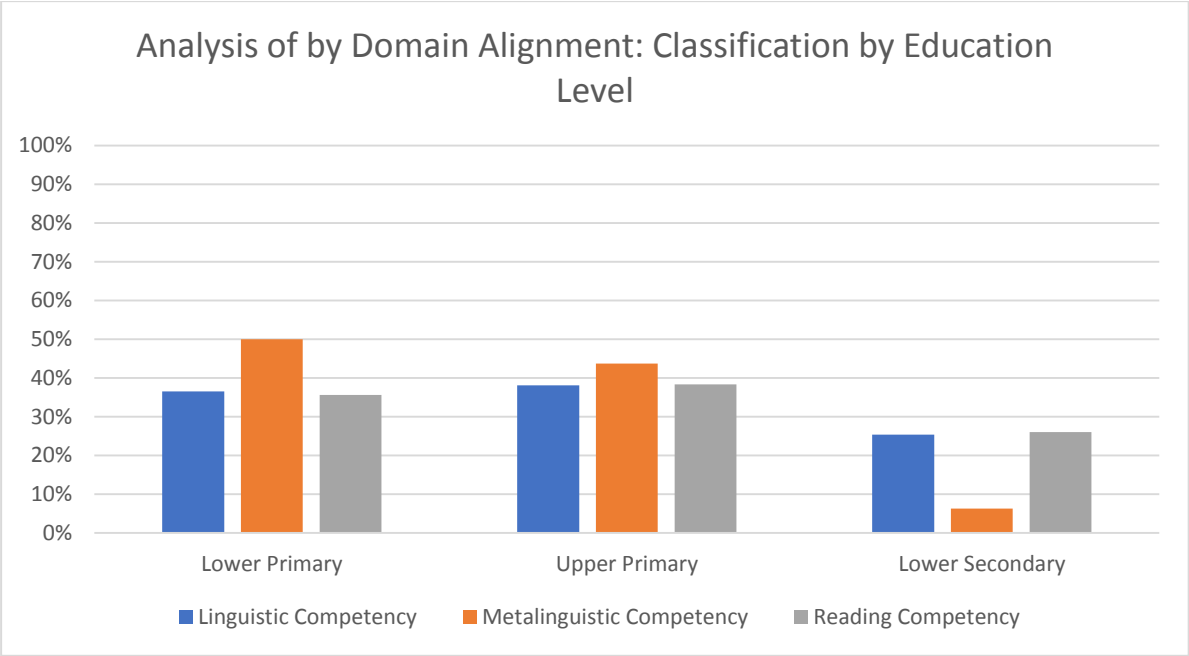

Figure 15: Analysis by level of education: Domain level Alignment

In Lower Primary, the domain alignment is as follows: *Linguistic Competency* domain is aligned in 23 out of 63 (37%) aligned frameworks; *Metalinguistic Competency* is aligned in 8 out of 16 (50%) aligned frameworks; and *Reading Competency* is aligned in 26 out of 73 (36%) aligned frameworks. An alignment percentage of 50% in *Metalinguistic Competency* is consistent with the developmental phases of reading acquisition which are higher in this domain in the early grades. This is also consistent with the processes that learners adopt when learning fundamental reading skills. Students must first understand the relationships between sounds, syllables, letters, and words in order to construct meaning from them. These objectives and skills are all contained within the *Phonological Awareness* sub-domain, which is housed within the *Metalinguistic Competency* domain, as elaborated on above.

In Upper Primary, the domain alignment is as follows: *Linguistic Competency* is aligned in 24 out of 63 (38%) aligned frameworks; *Metalinguistic Competency* is aligned in 7 out of 16 (44%) aligned frameworks; and *Reading Competency* is aligned in 28 out of 73 (38%) aligned frameworks. The commonality seen between Lower Primary and Upper Primary in the domain *Metalinguistic Competency* could be explained by the curricular emphasis on the acquisition of this competency (domain) as fundamental to reading acquisition in accordance to the natural development of learners in the primary grades.

In Lower Secondary, the domain alignment is as follows: *Linguistic Competency* is aligned in 16 out of 63 (25%) aligned frameworks; *Metalinguistic Competency* is aligned in 1 out of 16 (8%) aligned frameworks; and *Reading Competency* is aligned in 19 out of 73 (26%) aligned frameworks. A lower alignment percentage is to be expected in the domain *Metalinguistic Competency* due to its foundational role in the development of reading for earlier education levels. It would therefore be appropriate to notice a decline in the alignment in the upper grades, as students have already developed the foundational skills needed to make meaning of the sounds and syllables they compile to make words.

Among the three education levels, it can be seen that both *Linguistic Competency* and *Reading Competency* are relatively equally distributed regardless of education level. The only domain that appears to be factored by education level in its alignment is *Metalinguistic Competency*.

Sub-domain level

The information displayed in *Figure 16*, below, shows a breakdown, by percent, of NAFs and NCFs alignment by sub-domains per education level.

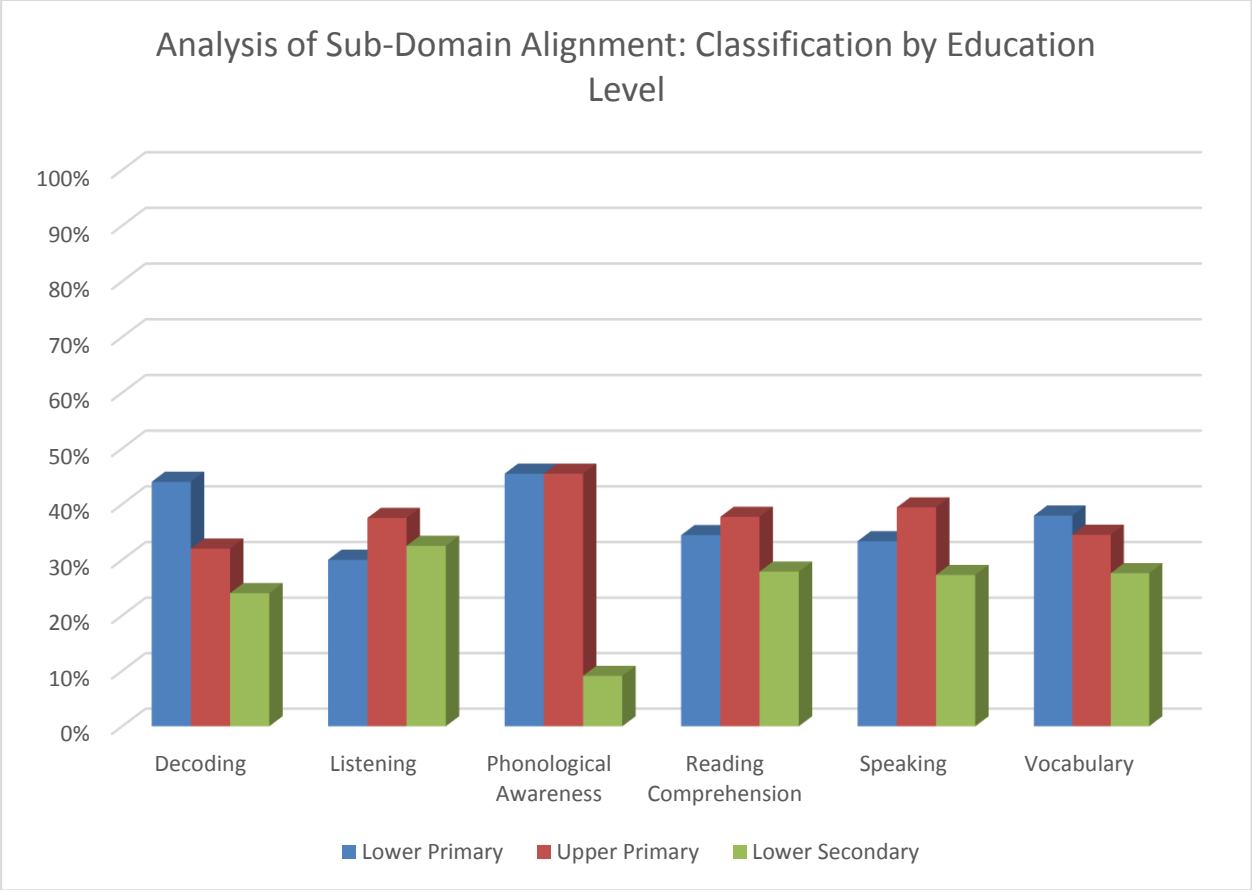

Figure 16: Analysis of sub-domain alignment: classification by education level

Figure 16 illustrates the sub-domain alignment by education level. In Lower Primary grades, within the sub-domain *Decoding* was aligned in 11 out of the 25 (44%) aligned frameworks; in *Listening* was aligned in 16 out of 48 (33%) frameworks aligned; in *Phonological Awareness* was aligned in 8 out of the 16 (50%) frameworks aligned; in *Reading Comprehension* was aligned in 26 out of 73(36%) frameworks aligned; in *Speaking* was aligned in 12 out of 39 (31%) frameworks aligned; and in *Vocabulary* was aligned in 11 out of 29 (38%) frameworks aligned.

In Upper Primary grades, within the subdomain – *Decoding* was aligned in 8 out of 25 (32%) frameworks aligned; in *Listening* was aligned in 17 out of 48 (35%) aligned frameworks; in *Phonological Awareness* was aligned in 7 out of 16 (44%) aligned frameworks; in *Reading Comprehension* was aligned in 27 out of 73 (37%) aligned frameworks; in *Speaking* was aligned in 16 out of 39 (41%) aligned frameworks; and in *Vocabulary* was aligned in 10 out of 29 (34%) aligned frameworks. As indicated in the domain alignment for education level analysis, the vertical articulation between Lower Primary and Upper Primary, as displayed by the domain and sub-domain alignment data, appear to be strongly connected. The alignment percentages between the Primary education levels seem to be consistent with developmental stages of learners' reading acquisition.

In Lower Secondary grades, the alignment percentages were found within the sub-domain *Decoding* was aligned in 6 out of 25 (24%) frameworks aligned; in *Listening* was aligned in 15 out of 48 (31%) frameworks aligned; in *Phonological Awareness* was aligned in 1 out of 16 (6%) aligned frameworks; in *Reading Comprehension* was aligned in 19 out of 73 (26%) aligned frameworks; in *Speaking* was aligned

in 10 out of 39 (26%) aligned frameworks; and in *Vocabulary* was aligned in 8 out of 29 (28%) aligned frameworks. Previously mentioned in the domain alignment analysis, the alignment percentage for the sub-domain of *Decoding* in Lower Secondary education levels warrants further investigation. According to the Content Reference List, this sub-domain consists of the constructs *Alphabetic principle* (with sub-constructs in grapheme-phoneme correspondence), and *Precision* and *Fluency* of reading text. The following section, a construct alignment analysis, will dive deeper into this sub-domain to tease out which constructs are aligned to Lower Secondary and are thus contributing to this 24% alignment, in light of *Phonological Awareness'* alignment percentage amounting only to 6%.

Construct level

The information displayed in *Figure 17*, below, shows a breakdown, by percent, of NAF and NCF alignment by constructs per education level, with main findings in Lower Secondary.

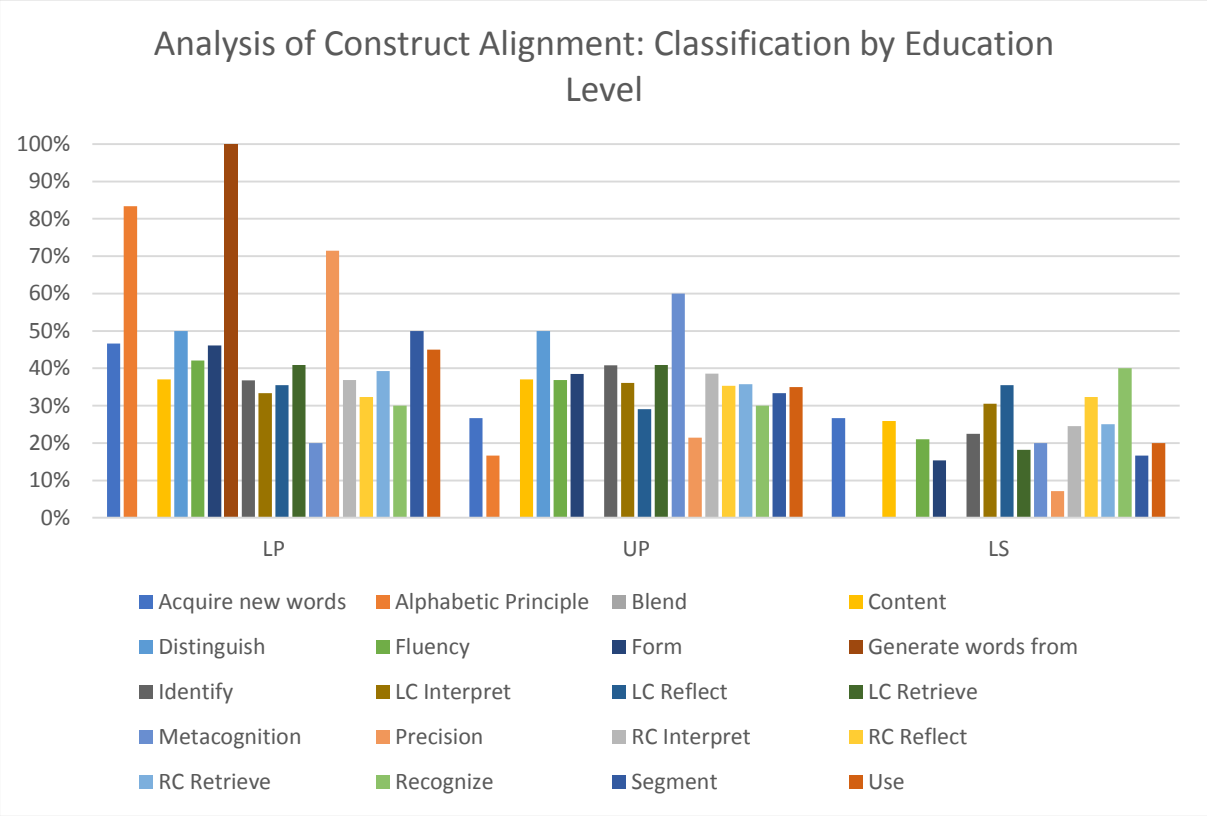

Figure 17: Analysis of Construct Alignment: Classification by Education Level

Figure 17 illustrates the construct alignment by education level with the values represented within. This section will focus on examining the constructs aligned within the Lower Secondary education level, with a particular focus on dissecting the constructs aligned in the *Decoding* sub-domain.

Lower Primary's highest alignment was found in the construct – *Generate words from* (part of the sub-domain *Vocabulary*) with 100% alignment. The second highest aligned construct is *Alphabetic Principle* with 83% alignment; and the third is *Precision* with 71%. These alignments are consistent with the developmental stages accurate for Lower Primary in the acquisition of reading.

Upper Primary's highest aligned construct is *Metacognition* with 60% alignment. Note that this is the highest alignment between all education levels.

With a total of 20 constructs, Lower Secondary's construct alignment percentages can be seen in *Figure 17.* However, as mentioned in the sub-domain analysis, this section will tease out the constructs corresponding to the sub-domain of *Decoding* and identify the constructs aligned within. The three

constructs contained in the *Decoding* sub-domain are as follows: *Alphabetic principle* with 0 out of 6 (0%) aligned frameworks; *Fluency* with 4 out of 19 (21%) aligned frameworks; and *Precision* with 1 out of 14 (7%) aligned frameworks. The construct analysis has provided information as to which constructs within *Decoding* were contributing to its 31% alignment. This was noted specifically within the *Fluency* construct. This supports the developmental phases most appropriate for Lower Secondary education, meaning that at this level, students would be more apt to practice reading aloud with varying levels of volume, expression and intonation. It also indicates that *Alphabetic Principle* construct, would be much less emphasized at this level of schooling, understanding at this level that students would have complete knowledge of such topics as grapheme-phoneme correspondence, alphabetical order, and upper-lowercase correspondence, all of which are contained within the *Alphabetic Principle* construct.

5. Analysis of NAF and NCF Alignment: Classification by Language

Among the range of national frameworks collected and analysed in this study, a disproportionately higher number of English-language frameworks were gathered. This must be kept in mind when viewing this data and its findings. See *Figure 2* for the overall distribution of compared frameworks in this study.

The three languages included within the scope of this study from Member States are as follows: 14 out of 20 Member States (70%) had national frameworks in English; 2 out of 20 (10%) had national frameworks in French; and 4 out of 20 (20%) had national frameworks in Spanish. It is noteworthy that all of Member States with Spanish-language frameworks belonged in the Latin America and the Caribbean region, and that Spain was not included in this comparative study. Comparatively, English-language frameworks, for example, were collected and analysed from North America and Western Europe, Sub-Saharan Africa, South and West Asia; in the case of Member States with French-language national frameworks, one came from North America and Western Europe and the other from Sub-Saharan Africa.

Domain level

The information displayed in *Figure 18*, below, shows a breakdown of, by percent, NAFs and NCFs alignment by domains in each language classification.

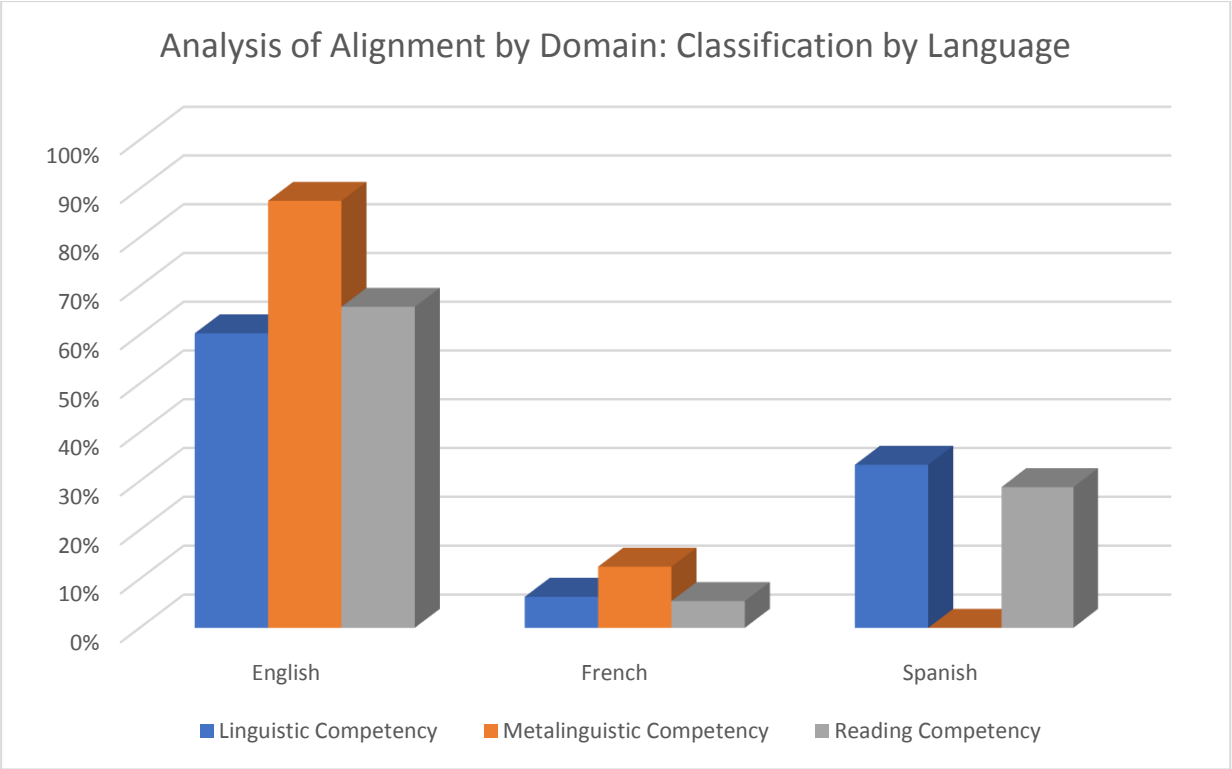

Figure 18: Analysis Domain Alignment: Language

Figure 18 displays the domain alignment by language classification (English, French and Spanish) of NAFs and NCFs compared in this study. Readers are encouraged to view *Figure 4* mentioned at the onset of this report to reference the number of frameworks out of the total 73 compared that are from each language group. It is imperative to note that the majority of frameworks (70%) are authored in the English language, and therefore, this tremendously skews the data for the language analysis in this regard. Readers must be cognizant of this limitation before drawing conclusions that any one language group has better alignment in its frameworks than another. When reading the following analysis, careful consideration should also be taken in this way. Because of these limits, an expansion of this study would benefit from examining an equal number of frameworks from each language classification group to better capture if language is a factor contributing to national framework alignment. While additional frameworks in these languages may be more difficult to obtain, a stronger analysis hinges on this increase in the diversity of language frameworks. Nonetheless, the values in *Figure 18* are representing the alignment percentages in NAFs and NCFs from the sample size in the scope of this study.

In the English-language compared frameworks, 38 out of 63 (60%) aligned frameworks were aligned in the domain *Linguistic Competency*; 14 out of 16 (88%) aligned frameworks were aligned in the domain *Metalinguistic Competency*; and 48 out of 73 (66%) aligned frameworks were aligned in the domain *Reading Competency*. In comparison to French and Spanish frameworks for this study, English appears to have the highest alignment in the domain of *Metalinguistic Competency*.

In the French-language compared frameworks, comprised only of two Member States (France and Mauritius), 4 out of 63 (6%) aligned frameworks were aligned in the domain *Linguistic Competency*; 2 out of 16 (13%) aligned frameworks were aligned in the domain *Metalinguistic Competency*; and 7 out of 73 (5%) aligned frameworks were aligned in the domain *Reading Competency.* The higher alignment percentage in *Metalinguistic Competency* is due to France's alignment in this domain, whereas Mauritius did not display alignment in this domain. When interpreting any potential relationship between these two countries, one must be cautious to not assume causation beyond the data sources in this study. Therefore, further investigation into any correlation or causation into this commonality,

whether it be design, structure or approach of NAFs and NCFs or linguistically based, is noteworthy. Within the data sources observable in this study, Mauritius' NCF states a curricular approach as being "an inclusive, integrated, holistic and comprehensive approach", whilst France's approach is categorically competency-based - cross-curricular and cross-disciplinary. Perhaps levels of alignment between assessment and curriculum are affected by the design and structure of the national framework, but such a statement would require further analyses. Nonetheless, this finding suggests that a criteria-based evaluation to separate both Member State's national framework approaches (competency-based, content-based or blended), may be warranted and is an intriguing variable within a comparative analysis of this nature. Further discussion of this matter is detailed in the Conclusion on the report.

In the Spanish-language compared frameworks, 21 out of 63 (33%) aligned frameworks were aligned in the domain *Linguistic Competency*; 0 out of 16 (0%) aligned frameworks were aligned in the domain *Metalinguistic Competency*; 21 out of 73 (29%) aligned frameworks were aligned in the domain *Reading Competency.* Particularly striking about the Spanish-language framework domain alignment is the omission of alignment in *Metalinguistic Competency*. As previously stated, the Spanish-language frameworks were provided from only one region of the world for this study-- Latin America and the Caribbean. Therefore, in order to garner a more holistic understanding of the justifications for this absence, it would be necessary to understand, from the authors of all frameworks, the national and regional educational philosophies and approaches to reading acquisition. This would help to highlight whether or not the omission of *Metalinguistic Competency* was intentional.

Sub-domain level

The information displayed in *Figure 19*, below, shows a breakdown, by percent, of NAF and NCF alignment by sub-domain per language.

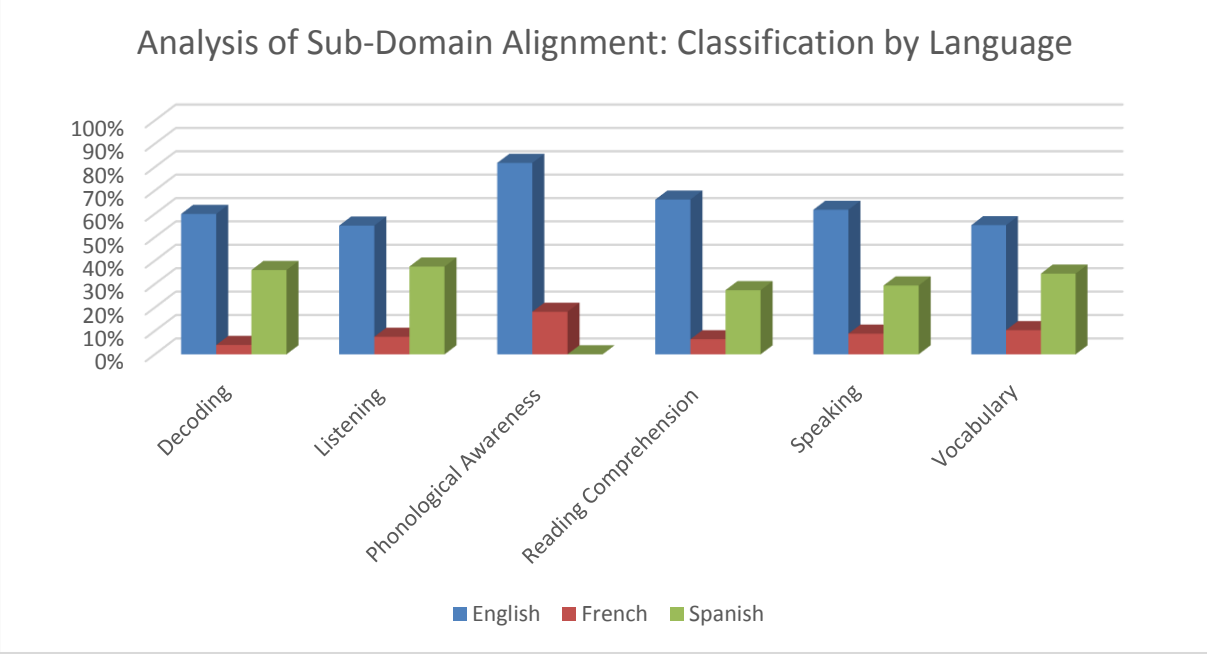

Figure 19: Analysis of Sub-domain alignment: by language

Figure 19, above, denotes the sub-domain alignment percentages by language classification as the following:

In the English-language frameworks, 15 out of 25 (60%) aligned frameworks were aligned in *Decoding*; 26 out of 48 (54%) aligned frameworks were aligned in *Listening*; 14 out of 16 (88%) aligned frameworks were aligned in *Phonological Awareness*; 48 out of 73 (66%) aligned frameworks were aligned in *Reading Comprehension*; 26 out of 39 (67%) aligned frameworks were aligned in *Speaking*; and 16 out of 29 (55%) aligned frameworks were aligned in *Vocabulary*. The alignment percentages for English-language frameworks appear to be rather equally distributed among the six sub-domains, all higher than 50%. This majority of alignment from the English-language frameworks indicates a strong alignment between NAFs and NCFs.

In the French-language frameworks, 1 out of 25 (4%) aligned frameworks was aligned in *Decoding*; 3 out of 48 (6%) aligned frameworks were aligned in *Listening*; 2 out of 16 (13%) aligned frameworks were aligned in *Phonological Awareness*; 4 out of 73 (5%) aligned frameworks were aligned in *Reading Comprehension*; 3 out of 39 (8%) aligned frameworks were aligned in *Speaking*; and 3 out of 29 (10%) aligned frameworks were aligned in *Vocabulary*. To reiterate, the sample size for French-language compared frameworks is the smallest (12 out of 73 (16%) aligned frameworks), and therefore extracting insights from this analysis is rendered as challenging.

In the Spanish-language frameworks, 9 out of 25 (36%) aligned frameworks were aligned in *Decoding*; 19 out of 48 (40%) aligned frameworks were aligned in *Listening*; 0 out of 16 (0%) aligned frameworks were aligned in *Phonological Awareness*; 21 out of 73 (29%) aligned frameworks were aligned in *Reading Comprehension*; 10 out of 39 (26%) aligned frameworks were aligned in *Speaking*; and 10 out of 29 (34%) aligned frameworks were aligned in *Vocabulary*. Evident again is the exclusion of the domain *Metalinguistic Competency* and its corresponding sub-domain *Phonological Awareness*. As reasons for exclusion are not known to the authors of this study, it is recommended that further inquiry into this exclusion be conducted. It is perplexing, however, to understand how acquisition of language (reading) can be scaffolded and developed without this basic building block of language present in a national framework. Without *Phonological Awareness* objectives taught or assessed in NCFs or NAFs, respectively, it seems as if there is a fundamental missing link to the acquisition of language abilities, specifically in Literacy- Reading. Again, in order to make concrete conclusions, more data would need to be collected from the authors of such Spanish-language frameworks

The following analysis – by construct, will explore the main findings from the domain and sub-domain analysis as described in the sections above.

Construct level

The information displayed in *Figure 20*, below, shows a breakdown, by percent, of NAF and NCF alignment by construct per language.

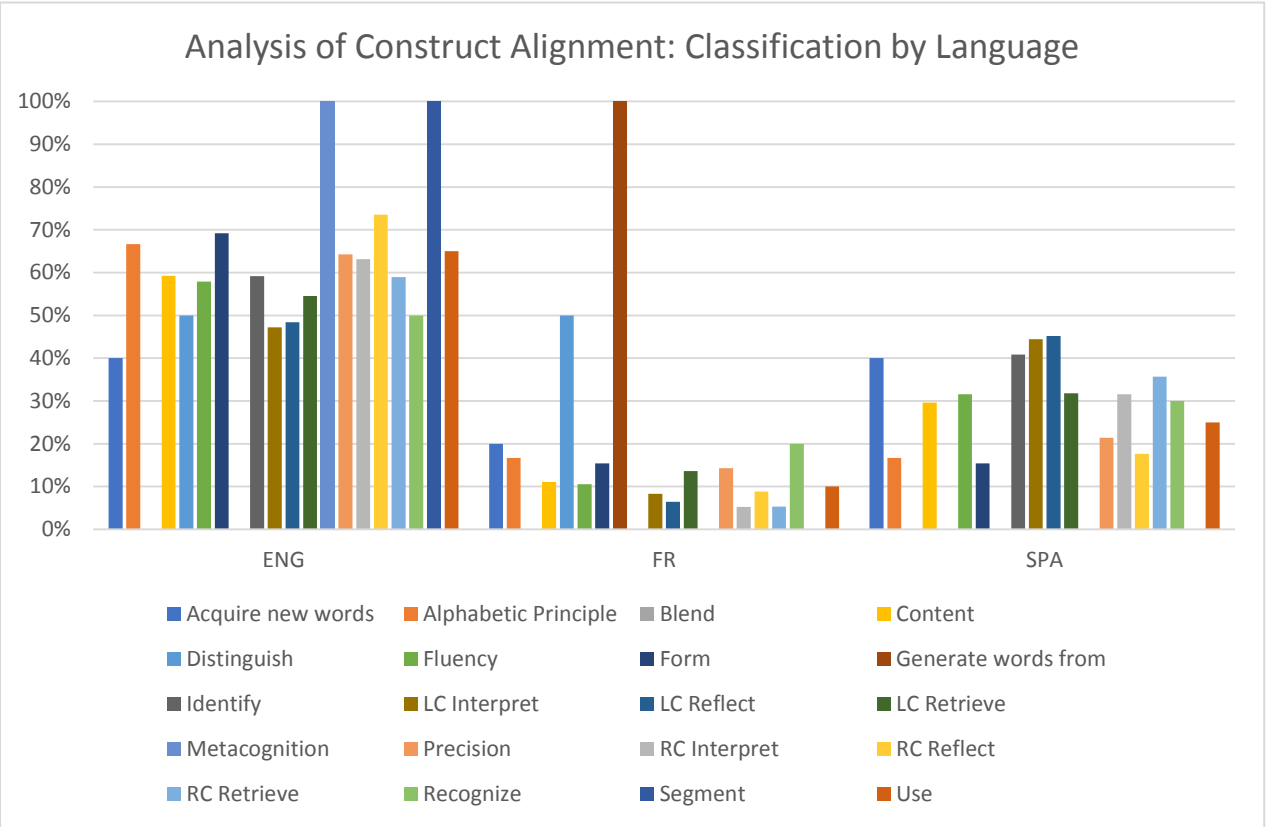

Figure 20: Analysis of construct alignment: classification by language

Figure 20 illustrates the construct alignment by language and for the purpose of this section, only main findings will be mentioned based on the data represented.

In the English-language frameworks, the most apparent data are the 100% alignment in the construct *Segment* (corresponding to the sub-domain *Phonological Awareness*), and the 100% alignment in the construct *Metacognition (*corresponding to the sub-domain *Reading Comprehension)*. *Metacognition,* defined by Ariel, C. et al., (2018), "the process of thinking about one's own thought processes…", is aligned uniquely to the English-language frameworks and excluded from the French and Spanish-language frameworks. It would be both interesting and necessary to collect additional data from French-language and Spanish-language Member States to gain an understanding of the way teaching and assessing of *Metacognition* is viewed. This data would provide insights into either an intentional or unintentional exclusion of this construct alignment.

Another interesting finding is the 100% alignment in the construct *Generate words from* (corresponding to the sub-domain *Vocabulary*) found in the French-language frameworks. This would indicate that vocabulary words are being taught in NCFs and assessed in complete alignment in NAFs.

In sum, as stated at the start of this analysis, due to the disproportionate number of English-language frameworks in this study to both French-language and Spanish-language frameworks, the data, within the scope of this study, warrants expansion. Moreover, with these current limitations, a conclusive determination cannot be made on whether or not language plays a role in the alignment of national frameworks.

III. Non-Alignment Analysis

The findings of the alignment analysis have yielded some interesting trends and disparities which warrant further study and calls for stronger alignment between national assessment and curricula frameworks. However, particularly interesting, and addressing the line of inquiry of this study, are findings from a non-alignment analysis. For example, if a domain is aligned in 22% of all compared frameworks (as is the case for *Metalinguistic Competency*), that indicates quite a significant portion of frameworks, from which data has been collected, are not aligned. This is worth further exploration. Therefore, this section focuses on providing main analytical findings and observations made from the data. A call for an in-depth study into non-alignment is made by the authors of this report, as it is determined that solely analysing levels of alignment merely scratches at the surface of the relationship between assessment and curriculum.

The information displayed in *Figure 21*, below, shows a breakdown, by percent, of alignment versus non-alignment in frameworks by domains.

Domain level

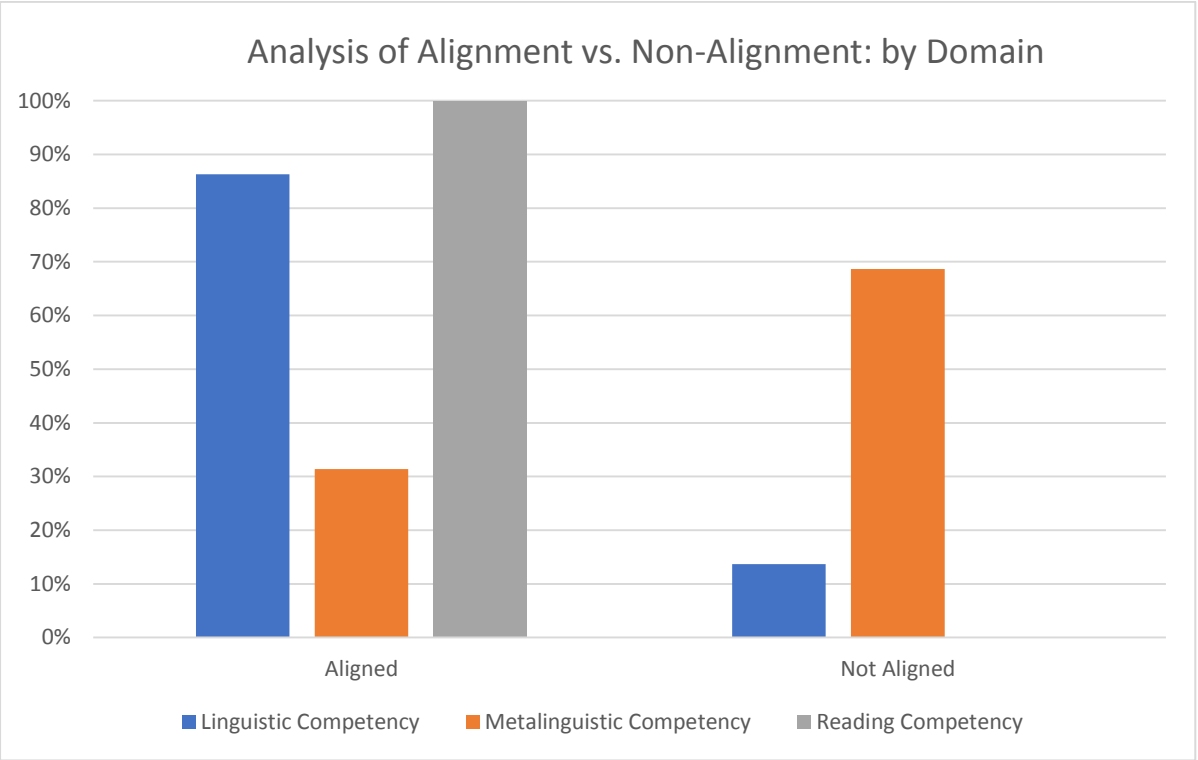

*Figure 21: Analysis of alignment versus non-alignment: by domain * (excluding the 'excluded' data)*

Figure 21 illustrates the findings of the aligned and not aligned domains found across the 73 compared frameworks. It must be noted that the 'excluded' data, as explained in the Methodology, by nature of being, by and large, problematic to comparison of data conformity to the Coding Scheme in order to examine curricular and assessment relationship in this study, has been excluded from *Figure 21's* percentage totals. However, the number of 'excluded' data is described in certain instances in this section to better inform the reader and create context, while reinforcing trends mentioned throughout this study. This is consistent in this domain analysis as well as the sub-domain analysis which follows in the section below.

This data displays that the domains with values represented in *Figure 21* are higher in alignment than non-alignment for *Linguistic Competency* and *Reading Competency*. However, the *Metalinguistic*

Competency domain appeared in more instances of non-alignment or 'excluded' data than it did in alignment. Details about this are provided below.

Linguistic Competency is aligned in 63 out of 73 (86%) frameworks, compared to non-alignment in 10 out of 73 (14%) frameworks, which denotes that this competency is valued, included and aligned between assessment and curriculum across the data array of this study.

Metalinguistic Competency is aligned in 16 out of 73 (22%) frameworks, compared to non-alignment in 35 out of 73 (48%) frameworks. It is within this domain that instances of 'excluded data' need to be highlighted in order to extrapolate numbers and to confirm the aforementioned trend of *Metalinguistic Competency's* perplexing presence and absence in national frameworks regardless of region, income, or language classification. Throughout the findings of this study, this domain was represented by low alignment percentages. Therefore, it must be noted that this domain was 'excluded' data in 22 out of 73 (30%) frameworks. To reiterate, this signifies that in 30% of the compared frameworks used for this study, the domain *Metalinguistic Competency* was excluded in both the NAF as well as the NCF; again, this reinforces the trend that further study into the causation of this exclusion in national frameworks is merited.

Reading Competency is aligned in 73 out of 73 frameworks (100%), with 0% non-alignment. The data confirms that this domain is the highest aligned domain across all national frameworks included in this study.

Sub-domain level

Figure 22, below, shows the breakdown, by percent, of the alignment versus the non-alignment by sub-domain.

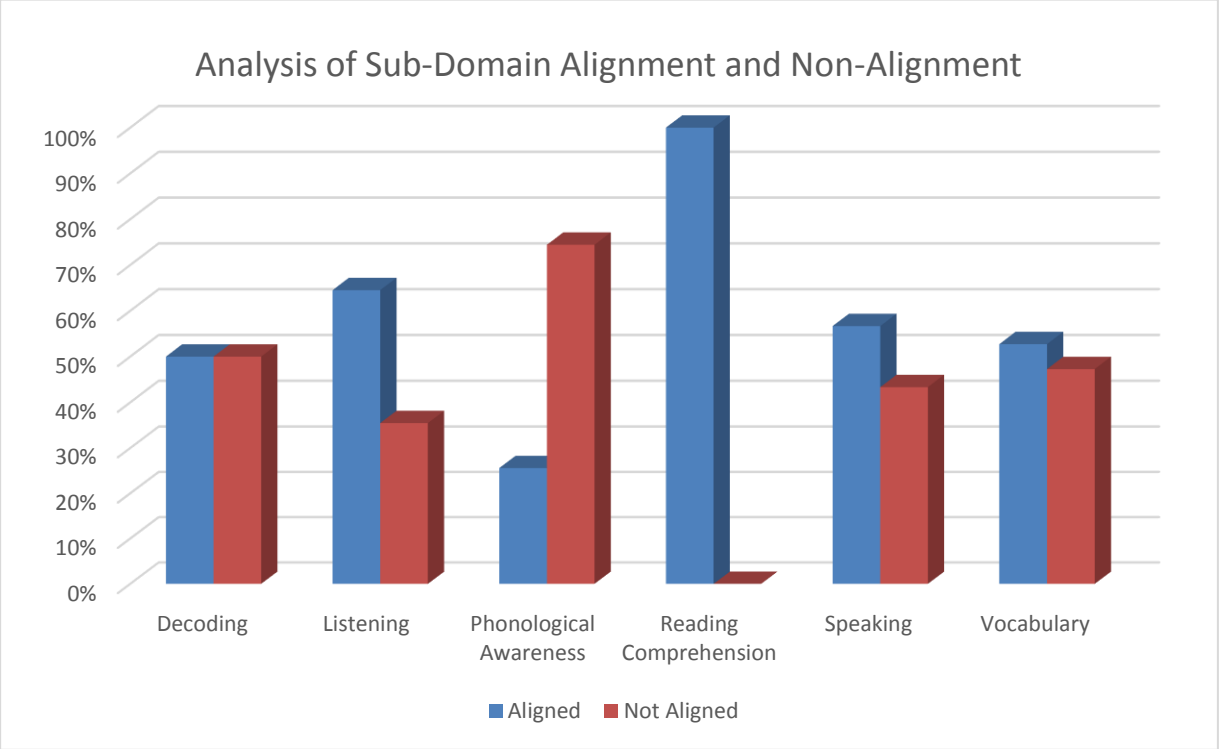

Figure 22: Analysis of alignment versus non-alignment: by sub-domain (excluding the 'excluded' data)*

Figure 22 illustrates the findings of the sub-domains that were aligned and not aligned found across the 73 compared frameworks. Details of the data that was labelled as "excluded" is included in this section when applicable.

In the sub-domain – *Decoding,* 25 out of 73 (34%) frameworks were aligned, versus 28 out of 73 (38%) that were not aligned. Furthermore, 20 out of 73 (27%) were 'excluded' data, signifying that for these frameworks, the *Decoding* sub-domain was absent from both the Member States' NAF and NCF.

In the *Listening* sub-domain, 48 out of 73 (66%) frameworks were aligned, versus 25 out of 73 (34%) that were not aligned. In this sub-domain, alignment was higher than non-alignment and/or any 'excluded' data.

In the *Phonological Awareness* sub-domain, 16 out of 73 (22%) frameworks were aligned, compared to 34 out of 73 (47%) frameworks that were not aligned. Further examination into instances of 'excluded' data in this sub-domain denotes that 23 out of 73 (32%) frameworks did not contain objectives that were mapped within the *Phonological Awareness* sub-domain in either NAF or NCF. This finding reinforces the commonality mentioned throughout the course of this report for this domain and sub-domain.

In the *Reading Comprehension* sub-domain, 73 out of 73 (100%) frameworks were aligned with no instances of non-alignment or 'excluded' data. This confirms the statement about this sub-domain in the above domain analysis.

In the *Speaking* sub-domain, 39 out of 73 (53%) frameworks were aligned, compared to 32 out of 73 (49%) frameworks that were not aligned. Furthermore, there were only 2 out of 73 (3%) frameworks which displayed 'excluded' data in this sub-domain, indicating that the majority of NAFs and NCFs do include objectives related to speaking in some capacity, even if only a small proportion is devoted to this sub-domain within individual frameworks.

In the *Vocabulary* sub-domain, 29 out of 73 (40%) frameworks were aligned, versus 34 out of 73 (47%) that were not aligned. Additionally, 10 out of 73 (14%) frameworks indicated 'excluded' data in this sub-domain.

As seen in *Figure 22, Reading Comprehension* is the only sub-domain which is 100% aligned in both NAFs and NCFs. Although this is an encouraging data finding, the remaining six of the seven sub-domains' alignment percentages are less so. All of the findings into non-alignment occurrences in both domains and sub-domains are salient; they display strong data which calls for a closer examination into the categorical differences in non-alignment. As non-alignment occurred when NAFs and NCFs did not map values of 1 in a particular criterion, there is a need to investigate whether the absence (value of 0) occurred in the NAF or NCF. This distinction is of the utmost importance because it would provide more clarification into the occurrences of which learners are being assessed in content areas that are not included in their curriculum. In other words, it would help to determine the areas in which students were assessed but that they were not first taught. In sum, more profound insights into the content areas and the relationship between assessment and curriculum in national frameworks can be garnered when examining non-alignment as well as alignment. It is particularly necessary to not only stress the importance of alignment for national bodies in their respective national frameworks, but to also fully understand the occurrences of non-alignment, and 'exclusion'.

An area for strengthening the analyses in this study would be in the non-alignment occurrences. Specifically analysing which content areas are present in NAFs but absent in NCFs, and vice-versa; as well as an examination into any regional, income or educational differences within such non-alignment. Concerns may arise when a closer look is given to non-alignment and additional supportive data sources, beyond national frameworks, are included in the study. Lastly, to attain a stronger analysis within the breadth of alignment, one must develop a methodology aimed to extract insights into 'excluded data' and non-aligned criteria, so that a more comprehensive Coding Scheme can be developed into a Global Framework for Literacy - Reading. In doing so, national bodies can be equipped with useful and meaningful tools for internal analyses and reporting on content areas such as Literacy-Reading.

Conclusion

Based on the numerous analyses in this report, much can be learned. However, the most prominent analytical distinctions were seen in the domain *Metalinguistic Competency,* which appears to be lacking in global understanding and/or not considered of value in reading acquisition to include in national curricular frameworks or assessment frameworks. Additionally, prominent findings took place in the regional comparison analysis as well as the income classification, although the authors of this report recommend that a more equitable number of frameworks from each region and income classification be collected and analysed before confirming this finding with certainty. Readers are reminded that three out of the seven regions in this study were represented only by one Member State. Therefore, statistically speaking, comparisons with this small number are to be interpreted with caution. Please remember that due to the sample size of this study, all conclusions drawn in this report have only considered the data we have collected, and thus, these conclusions cannot serve as generalisations for entire regions, income classification levels, languages, or grade levels. The conclusions drawn are based on the analyses conducted with the sample size collected and ought not be translated to wider generalisations outside the scope of this study.

The findings in this study highlight the need for a stronger alignment between NAFs and NCFs regardless of region, income, education level and language. Nonetheless, it is highly recommended that an expanded study with additional data sources be conducted. Utilising national frameworks as a data source for understanding the relationship between assessment and curricular learning outcomes is a starting point; however, it is recommended that supportive data sources be added to capture the complexities and nuance present in this relationship. Suggested additional data sources are school district curriculum frameworks, educators' curricular annual grade plans, school districts' standardized assessment tools, educator-created assessment tools and qualitative interviews with stakeholders in country. A salient example of this recommended need is found in New Zealand's NCF. This curriculum framework is a high-level national document which emphasises the educational philosophy of the country as a whole and mentions overall learning goals for the country. However, it explicitly indicates that comprehensive assessment and curriculum frameworks are developed by regional and local districts. These additional data sources, if included in this study, would include more robust learning outcomes and objectives and be a more representative source of information of alignment in this Member State. Because the national framework only includes a general outline of learning goals in the area of Literacy – Reading, with no specific details or grades; this study would be greatly enhanced with the inclusion of these additional sources, which often outline more specific learning outcomes and objectives.

Competency and content-based approaches, even a blend of both approaches, are found within the NAFs and NCFs included in this study; and both are important to understanding the educational philosophies that countries abide by. A recommendation can be made to strengthen this study by examining the differences of alignment between these three approaches. Such an expansion could be centred on dividing the collected national frameworks into three design approaches (competency or content-based or blended) and analysing instances of alignment, and non-alignment, between the categories of frameworks. Grounded upon sound methodology, it is recommended that Member States identify which approach they deem best reflects their national frameworks. To be able to categorise one's approach into either competency-based, content-based or blended approach, a clear set of criteria and definitions of what constitutes a competency would be needed, as it was noted that these terms are often used interchangeably and thus would require clarification. Furthermore, the five levels of analyses conducted in this study could be conducted within the categories of frameworks, to examine any commonalities or disparities within such variables. Knowing that the approach reflected in a Member State's national framework is a manifestation of its educational philosophy and context, this expansion of the analysis would pose questions such as, is alignment affected by the approach of

the national framework? Which approach in national frameworks displays a higher level of alignment; and can the relationship between assessment and curriculum be better understood by separating the sample size into approach categories? It is believed that profound insights may arise from diving deeper into the approaches of design and structure of NAFs and NCFs within alignment (including non-alignment as previously mentioned is paramount for strengthening a comparative analysis).

This study aimed to answer the following inquiry: **how well, and in which domains, are assessment frameworks aligned with curriculum frameworks for Literacy- Reading; and what findings are most salient within such an inquiry?** and thus examined the findings from an alignment analysis to identify which domains and sub-domains were aligned in both NAFs and NCFS. However, an extended and strengthened analysis into the occurrences of non-alignment would be most thought-provoking as well. Of particular interest, within the non-aligned data, would be a more comprehensive understanding of which criteria were present in assessment frameworks but absent in curriculum frameworks. Not only does this further analysis warrant investigation to better understand the relationship between assessment and curriculum of Member States, but it would most certainly identify any possible instances where learners may be assessed on learning outcomes and objectives which they have not first been taught. It is these findings, which would be most troubling if present.

Furthermore, several observations made in this report demonstrate that Member States' educational philosophies, critical mass, socio-historical linguistic considerations and relative contexts are overall reflected in the structure of their NAFs and NCFs. In other words, Member States' approaches to developing and authoring their NCFs and NAFs do reflect their unique educational views and theoretical understanding and practices. However, these factors were found to be limitations with the scope of a comparative analysis due to the Coding Scheme and sample size of data sources which were shy of capturing the complexities and nuances present in national frameworks. With a more robust Coding Scheme, additional data sources – more than national frameworks – and a larger sample of languages to incorporate lower represented regions of the world, the comparative analysis would be strengthened as the relationship between assessment and curriculum is continuously examined and understood.

Lastly, this report calls to action international bodies, and national bodies to explore these findings, observations and discussions in relation to the design, development and implementation of national and global curricula and assessment policies and practices in an ever-changing world; and to participate in responding to the line of inquiry of this study and, as valuable stakeholders, in the expansion of the Global Framework for Literacy – Reading.

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Annex 1: NAFs and NCFs analysed

1.1 Total number of Member States per region

	Arab States (1)	Central Asia (0)	Central and Eastern Europe (1)	East Asia and the Pacific (4)	Latin American and Western Europe (5)	North America and Western Europe (5)	South and West Asia (1)	Sub-Saharan Africa (3)
Member State	Qatar		Estonia	Australia Hong Kong Micronesia New Zealand	Chile Honduras Mexico Peru	Ontario-Canada Quebec-Canada England France Ireland	India	Mauritius Seychelles South Africa
Total # Frameworks	2	0	2	13	21	13	2	20

1.2 Member States' NAFs and NCFs per income classification

Low-Income (1)		**Lower-Middle-Income (3)**		**Upper-Middle-Income (4)**		**High-Income (12)**	
Member State	# of	Member State	# of	Member State	# of	Member State	#of
Gambia	4	Honduras	9	Mauritius	1	Australia	3
		India	2	Mexico	7	Ontario (Canada)	2
		Micronesia	2	Peru	1	Quebec (Canada)	4
				South Africa	7	Chile	4
						England	2
						Estonia	2
						France	3
						Ireland	2
						Hong Kong SAR - China	2
						New Zealand	6
						Seychelles	8
						Qatar	2
Total	**4**	**Total**	**13**	**Total**	**16**	**Total**	**40**

1.3 Overview of Frameworks by Member State, Region, Income, Language, Education Level

Income classification:
High Income (HI)
Upper Middle Income (UMI)
Low Middle Income (LMI)
Low Income (LI)

Language:
English (ENG)
French (FR)
Spanish (SPA)

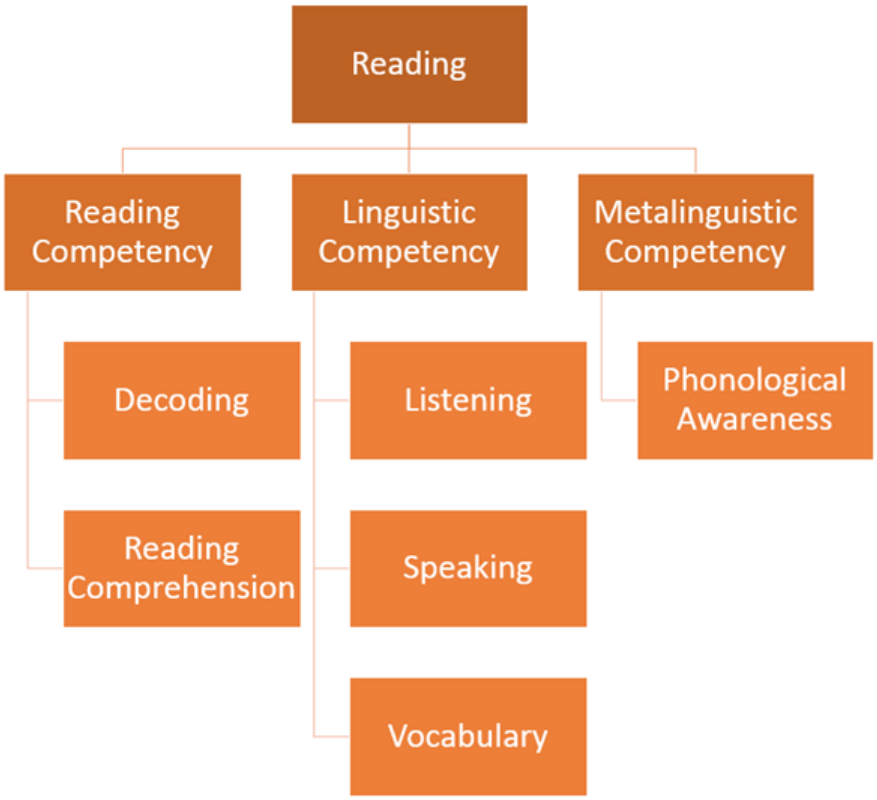
Education Level:
Lower Primary (LP)
Upper Primary (UP)
Lower Secondary (LS)

Country	Region	Income	Language	Grades	Education Level
Canada-Ontario	North America and Western Europe	HI	ENG	3	LP
Canada-Ontario	North America and Western Europe	HI	ENG	6	UP
Canada-Quebec	North America and Western Europe	HI	ENG	2	LP
Canada-Quebec	North America and Western Europe	HI	ENG	4	UP
Canada-Quebec	North America and Western Europe	HI	ENG	6	UP
Canada-Quebec	North America and Western Europe	HI	ENG	8	LS
England	North America and Western Europe	HI	ENG	2	LP
England	North America and Western Europe	HI	ENG	6	UP
France	North America and Western Europe	HI	FR	2	LP
France	North America and Western Europe	HI	FR	5	UP
France	North America and Western Europe	HI	FR	8	LS
Ireland	North America and Western Europe	HI	ENG	2	LP
Ireland	North America and Western Europe	HI	ENG	6	UP
Mauritius	Sub-Saharan Africa	UMI	FR	9	LS
Seychelles	Sub-Saharan Africa	HI	ENG	1	LP
Seychelles	Sub-Saharan Africa	HI	ENG	2	LP
Seychelles	Sub-Saharan Africa	HI	ENG	3	LP
Seychelles	Sub-Saharan Africa	HI	ENG	4	UP
Seychelles	Sub-Saharan Africa	HI	ENG	5	UP
Seychelles	Sub-Saharan Africa	HI	ENG	6	UP
Seychelles	Sub-Saharan Africa	HI	ENG	7	LS
Seychelles	Sub-Saharan Africa	HI	ENG	8	LS
Gambia	Sub-Saharan Africa	LI	ENG	3	LP

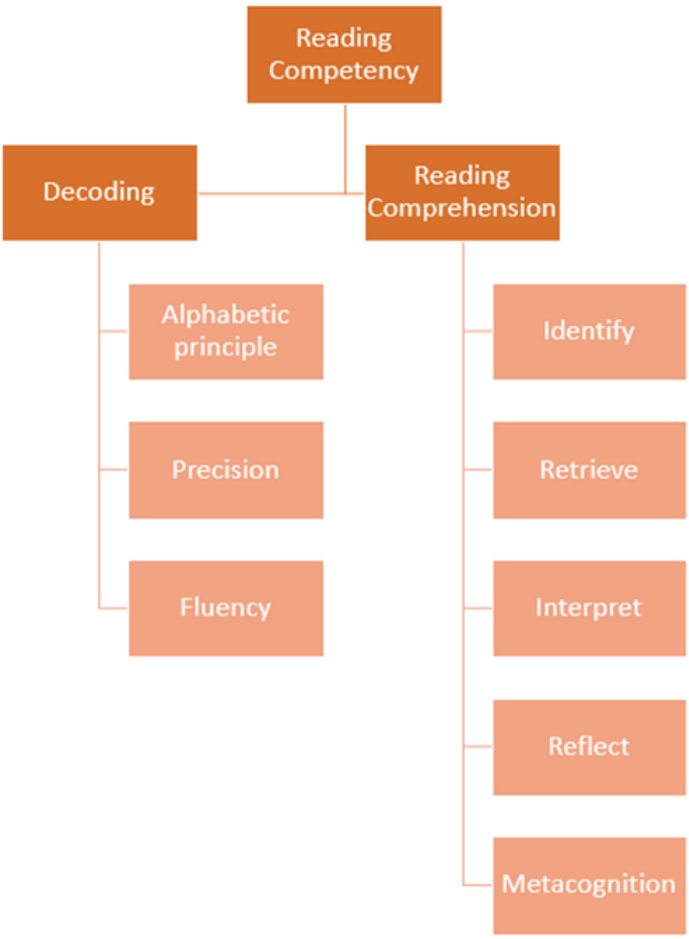
Gambia	Sub-Saharan Africa	LI	ENG	5	UP
Gambia	Sub-Saharan Africa	LI	ENG	7	LS
Gambia	Sub-Saharan Africa	LI	ENG	8	LS
India	South and West Asia	LMI	ENG	5	UP
India	South and West Asia	LMI	ENG	8	LS
Australia	East Asia and the Pacific	HI	ENG	3	LP
Australia	East Asia and the Pacific	HI	ENG	5	UP
Australia	East Asia and the Pacific	HI	ENG	7	LS
Hong Kong	East Asia and the Pacific	HI	ENG	3	LP
Hong Kong	East Asia and the Pacific	HI	ENG	6	UP
Micronesia	East Asia and the Pacific	LMI	ENG	6	UP
Micronesia	East Asia and the Pacific	LMI	ENG	8	LS
New Zealand	East Asia and the Pacific	HI	ENG	1	LP
New Zealand	East Asia and the Pacific	HI	ENG	2	LP
New Zealand	East Asia and the Pacific	HI	ENG	3	LP
New Zealand	East Asia and the Pacific	HI	ENG	4	UP
New Zealand	East Asia and the Pacific	HI	ENG	6	UP
New Zealand	East Asia and the Pacific	HI	ENG	8	LS
Estonia	Central and Eastern Europe	HI	ENG	3	LP
Estonia	Central and Eastern Europe	HI	ENG	6	UP
Qatar	Arab States	HI	ENG	3	LP
Qatar	Arab States	HI	ENG	6	UP
Mexico	Latin America and the Caribbean	UMI	SPA	3	LP
Mexico	Latin America and the Caribbean	UMI	SPA	4	UP
Mexico	Latin America and the Caribbean	UMI	SPA	5	UP
Mexico	Latin America and the Caribbean	UMI	SPA	6	UP

Mexico	Latin America and the Caribbean	UMI	SPA	7	LS
Mexico	Latin America and the Caribbean	UMI	SPA	8	LS
Mexico	Latin America and the Caribbean	UMI	SPA	9	LS
Peru	Latin America and the Caribbean	UMI	SPA	2	LP
Honduras	Latin America and the Caribbean	LMI	SPA	1	LP
Honduras	Latin America and the Caribbean	LMI	SPA	2	LP
Honduras	Latin America and the Caribbean	LMI	SPA	3	LP
Honduras	Latin America and the Caribbean	LMI	SPA	4	UP
Honduras	Latin America and the Caribbean	LMI	SPA	5	UP
Honduras	Latin America and the Caribbean	LMI	SPA	6	UP
Honduras	Latin America and the Caribbean	LMI	SPA	7	LS
Honduras	Latin America and the Caribbean	LMI	SPA	8	LS
Honduras	Latin America and the Caribbean	LMI	SPA	9	LS
South Africa	Sub-Saharan Africa	UMI	ENG	1	LP
South Africa	Sub-Saharan Africa	UMI	ENG	2	LP
South Africa	Sub-Saharan Africa	UMI	ENG	3	LP
South Africa	Sub-Saharan Africa	UMI	ENG	4	LP
South Africa	Sub-Saharan Africa	UMI	ENG	5	UP
South Africa	Sub-Saharan Africa	UMI	ENG	6	UP
South Africa	Sub-Saharan Africa	UMI	ENG	9	LS
Chile	Latin America and the Caribbean	HI	SPA	2	LP
Chile	Latin America and the Caribbean	HI	SPA	4	LP
Chile	Latin America and the Caribbean	HI	SPA	6	UP
Chile	Latin America and the Caribbean	HI	SPA	8	LS

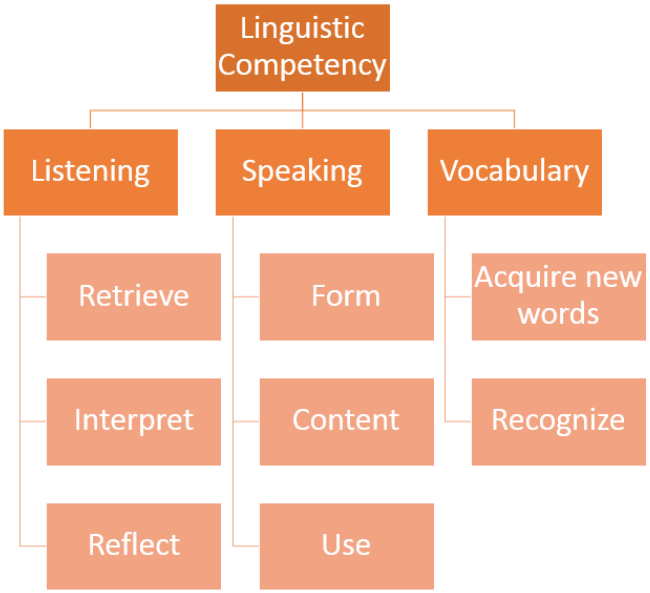
Annex 2: Reading Coding Scheme – Domains, Sub-domains



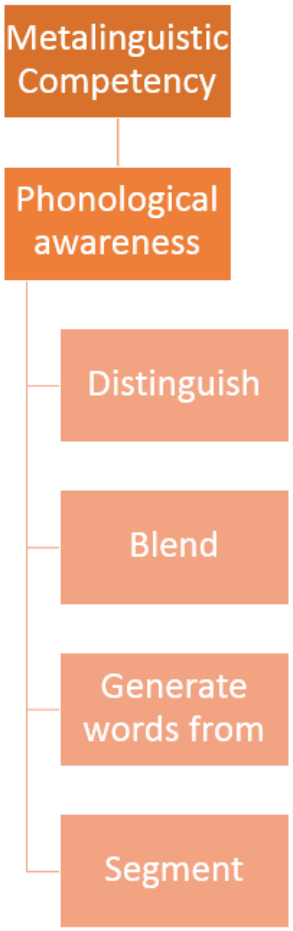
Annex 3: Reading Coding Scheme – *Reading Competency* domain



Annex 4: Reading Coding Scheme – *Linguistic Competency* domain



Annex 5: Reading Coding Scheme – *Metalinguistic Competency* domain



Annex 6: Coding Scheme - Competency Definitions

Reading competency

Includes two sub-domains: decoding and comprehension. Decoding refers to the ability to associate the orthographic form of a word with its phonological form, where the orthographic form is given by the sequence of the graphemes. Reading comprehension is the ultimate goal of reading, as it is the process by which we retrieve information from a written text, we interpret it and even reflect upon it. Retrieving, interpreting and reflecting constitute different levels of depth in which we can interact with a text to build meaning.

Linguistic competency

Includes three different sub-domains: listening, speaking, and vocabulary. It refers to the ability of retrieving and interpreting verbal information at the word, sentence and oral text levels. In order to include both receptive and productive skills we have created the listening and speaking domains, to differentiate both aspects. The vocabulary domain appears because it is one of the variables that shows a stronger association with linguistic comprehension (Compton, Gilbert, Jenkins, Fuchs, Cho & Bouton, 2012), having its explicit instruction an incidence on reading comprehension (Kamil, Borman, Dole, Kral, Salinger & Torgesen, 2008).

Metalinguistic competency

As it has been stated before, the metalinguistic and linguistic abilities are associated with reading but are not specific to written language as they respond to language in general. Phonological awareness is understood as the ability to reflect on and manipulate the sounds of speech (words, syllables, intra-syllabic units, and phonemes) and it is considered as one of the most powerful predictors of reading acquisition (Ducan et al., 2013), as its development is necessary to master the alphabetic code (Villarón, 2008).

Annex 7: Glossary

Alphabetic principle: the idea or understanding that letters of the alphabet represent specific sounds in speech.

Automaticity: the automatic processing of information as, for example, when a reader or writer does not need to pause to work out words as they read or write.

Blend: to join sounds together.

Comprehension: The ability to understand and draw meaning from spoken, written, and visual communications in all media.

Comprehension strategies: A variety of cognitive and systematic techniques that students use before, during and after listening, reading, and viewing to construct meaning from texts. Examples include: making connections to prior knowledge and experience and to familiar texts; visualizing to clarify or deepen understanding of a text; finding important ideas; questioning; summarizing information; inferring; analyzing and synthesizing; skimming text for information or detail; scanning text to determine the purpose of the text or type of material; adjusting reading speed according to the level of difficulty of the text or the kind of reading.

Content (speaking): refers to the meaning of language.

Decoding: process by which a sequence of letters is transformed into its phonological form.

Form (speaking): Refers to the rules, grammar and sounds of the language (phonetic and phonology) and the characteristics of its pronunciation, as well as the structure of words (morph syntax).

Grapheme: a written unit that represents one phoneme, e.g., f, th, o, ee.

Homonym: A word that has the same spelling as another word but a different meaning.

Homophone: A word that has the same sound as another word but a different meaning (e.g., seas and seize).

Implicit meaning: Ideas and concepts that are present but stated indirectly.

Inferring: Drawing meaning from or reaching a conclusion using reasoning and evidence from a text, based on what the author states and implies in the text and what the reader brings to the text from his or her prior knowledge and experience.

Metacognition: The process of thinking about one's own thought processes. Metacognitive skills include the ability to monitor one's own learning.

Onset: The consonant or consonants that occur before a vowel in a syllable (e.g., the g in gain, the fr in fright).

Phoneme: the smallest segment of sound in spoken language.

Phoneme–grapheme relationships: the relationships between spoken sound units and the written symbols that represent them.

Phonics: Instruction that teaches children the relationships between the letters (graphemes) of written language and the individual sounds (phonemes) of spoken language.

Phonological awareness: The ability to focus on and manipulate units of language, including phonemes and larger spoken units such as syllables and words. Phonological awareness activities can also involve rhymes, onsets, and rhymes.

Pragmatics: The study of how people choose what they say or write from the range of possibilities available in the language and the effect of those choices on listeners or readers. Pragmatics involves understanding how the context influences the way sentences convey information (e.g., the

speaker/author/producer's choice of text form, text features, use of conventions, and presentation style affect how the listener, reader, or viewer will understand the text).

Reading fluency: The ability to read with sufficient ease and accuracy to focus the reader's or listener's attention on the meaning and message of a text. Reading fluency involves not only the automatic identification of words but also qualities such as rhythm, intonation, and phrasing at the phrase, sentence, and text levels, as well as anticipation of what comes next in a text.

Reading strategies: Approaches used before, during, and after reading to figure out unfamiliar words, determine meaning, and increase understanding of a text. Examples include comprehension strategies and word-solving strategies, including the use of cueing systems. Good readers use a combination of word-solving and comprehension strategies, while maintaining a focus on developing and deepening their understanding of a text.

Rhyme: The part of a syllable that contains the vowel and all that follows it (e.g., -one in bone and tone). A rhyme is smaller than a syllable but larger than a phoneme.

Segment: to separate sounds out.

Semantics: The meaning in language, including the meaning of words, phrases, and sentences, alone and in context.

Use (speaking): intentionality in the use of language. See also pragmatics.

Vocabulary: a set of words and other terms (including phrases or idioms that have a single meaning), e.g., activate, exercise book, and bury the hatchet are all vocabulary items (or lexical items).