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Tested Curriculum

The tested curriculum consists of standardized or state tests and curriculum-embedded tests and may also include student written assignments submitted for evaluation purposes.

Squires, 2012, p 130

Review of the Tested Curriculum

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ACTRC is a partnership between the University of Melbourne and the University of the Philippines, supported by the Australian Government.

This report was authored by:

Pam Robertson

Louie Cagasan

Katrina Guanio

Junice Nepomuceno

Thida Kheang

Therese Bustos

Field Rickards

Marlene Ferido

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UP Campus, Diliman 1101, Quezon City

P: 632-8064680

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Executive Summary

The Republic of the Philippines Department of Education (DepEd) implemented curriculum changes, known as the Enhanced Basic Education (K to 12) Program in 2011, which aim to strengthen the basic education system and increase the number of years for basic education. The changes are especially intended to create a functional basic education that provides sufficient time for mastery of concepts and skills, develop lifelong learners, and prepare graduates for tertiary education and employment. When the rollout was completed in 2018, the Curriculum Review Project commenced in order to provide a comprehensive and evidence-based study to inform curriculum and policy decision-making and to build the capacity of relevant bureaus within DepEd.

The Curriculum Review Project consists of five components which are: (1) the intended curriculum; (2) the implemented curriculum; (3) the tested curriculum; (4) the attained curriculum; and (5) the application of research findings to policy. This report presents the findings of the Review of the Tested Curriculum, which is the third component of the project. The purpose of the review is to explore the extent to which the national tests are assessing the intended curriculum, with a focus on students from Grade 3, Grade 6, Grade 10 and Senior High School (SHS). This was achieved via adoption of an expert judgment method involving staff members from DepEd Bureau of Education Assessment- Education Assessment Division (BEA-EAD) in the process of judging cognitive demand required by each assessment items in the tests.

The Review of the Tested Curriculum shows that the national test items are aligned to the content of the intended curriculum, suggesting that the tests fairly assess the intended curriculum and can provide an indication of the extent to which learners have reached the expected standards. Regarding the comparison of cognitive demand, it indicates that the cognitive demand of the test items, while aligned to the current wording of the learning competencies within the K to 12 curriculum documents, is too high. The review also notes the dual mapping of the tables of specifications for the Grade 6, Grade 10 National Achievement Test (NAT), and the Basic Education Exit Assessment (BEEA) to two different working frameworks, one originating from the Bureau of Educational Assessment (BEA) and the other from Bureau of Curriculum Development (BCD), is problematic for sending consistent messages to stakeholders. Incorporating both frameworks into the curriculum guides would send a more consistent message, especially to schools implementing the curriculum, and to those using the results from the national curriculum testing to make inferences about the quality of learning of students.

The Review of the Tested Curriculum has offered several recommendations which aim to improve education assessment and curriculum policy making. The recommendations are as follows:

- The current practices of BEA around the construction of tables of test specifications should be maintained to ensure ongoing alignment of the tested curriculum with the intended curriculum.
- Increased collaboration between BCD and BEA should be used to improve the alignment of cognitive demands across the intended and tested curricula, especially through consultation on the wording of learning competencies associated with any future curriculum enhancement.
- Increased collaboration between BCD and BEA should be used to improve the clarity of expectations of 21st century skill development.

Introduction

The Enhanced Basic Education (K to 12) Program of the Philippines was first introduced in 2011 by the Department of Education (DepEd). This program primarily implements curriculum changes that aim to strengthen the basic education system and increase the number of years for basic education. The K to 12 Program consists of one year of kindergarten education, six years of primary education, four years of junior high school, and two years of SHS. As stated in the Enhanced Basic Education Act of 2013, the K to 12 Program aims to “provide sufficient time for mastery of concepts and skills, develop lifelong learners, and prepare graduates for tertiary education, middle-level skills development, employment, and entrepreneurship” (Enhanced Basic Education Act of 2013).

After the full implementation of the K to 12 Program in 2018, the Curriculum Review Project commenced in order to provide a comprehensive and evidence-based study to inform curriculum and policy decision-making and to build the capacity of relevant bureaus within DepEd. The Curriculum Review Project consists of five components which are: (1) the intended curriculum; (2) the implemented curriculum; (3) the tested curriculum; (4) the attained curriculum; and (5) the application of research findings to policy. This report presents the methodology, results, conclusion, and recommendations of the Review of the Tested Curriculum, the third component of the project.

The Review of the Tested Curriculum is a detailed analysis of the components of the curriculum that are assessed, focused on students from Grade 3, Grade 6, Grade 10 and SHS, and the scope is limited to national tests. The purpose of the review is to explore the extent to which the intended curriculum is assessed. Alignment between the intended, implemented and tested curricula has been shown to improve student achievement (Squires, 2012).

The Review of the Tested Curriculum explores the extent to which the national tests are assessing the intended curriculum. Alignment between test items and the intended curriculum is important because a high degree of alignment provides reassurance that the tests are assessing what they should and that the implemented curriculum is aligned with the intended curriculum. The results provide an indication of the extent to which learners have achieved the curriculum expectations. Test items should be aligned to curriculum expectations in both their content and in their degree of difficulty.

Specifically, this study seeks to analyse the alignment of national tests to the learning competencies in the K to 12 Curriculum Guide. It seeks to answer the following questions:

1. To what extent are the national tests aligned with the intended curriculum, as listed in the curriculum guides?
2. To what extent is the cognitive demand of items within the national tests matched to that required by the learning competencies within the curriculum guides?

Method

Scope of the Review of the Tested Curriculum

The scope of the Review of the Tested Curriculum is restricted to the national achievement tests which are developed and administered by the DepEd Bureau of Educational Assessment (DepEd-BEA). This review covers the following tests:

- Grade 3 Early Language Literacy and Numeracy Assessment (ELLNA), School Year (SY) 2017-2018
- Grade 6 National Achievement Tests (G6 NAT), SY 2017-2018
- Grade 10 National Achievement Tests (G10 NAT), SY 2017-2018
- Grade 12 Basic Education Exit Assessment (BEEA), SY 2018-2019

This scope was chosen as it is consistent across all regions and levels of schooling, allowing a single frame of reference that applies to all schools.

Method of the Review of the Tested Curriculum

The Review of the Tested Curriculum adopted an expert judgment method to map the contents of the tests against the same learning outcomes and levels of cognitive demand as used for the intended curriculum, to ensure comparisons can be made. This method is the same as the one used for the earlier Review of the Intended Curriculum (Robertson, et al., 2020), to facilitate the comparison of the two datasets and is based on the method developed by Porter and Smithson (2001), with the cognitive demand levels adapted for a Philippine context from this study. The adaptations were made during the first workshop for the earlier Review of the Intended Curriculum by local curriculum experts and comprised a written description of each category accompanied by examples from the K to 12 curriculum guides (Robertson, et al., 2020). Specific adaptations were then available for each learning area covered by the national tests. These cognitive demand levels are presented in Table 1.

Table 1
Levels of Cognitive Demand

Cognitive demand level	Cognitive demand description
Level 1	Memorize facts/definitions/formulas
Level 2	Perform procedures/investigate
Level 3	Communicate an understanding of concepts
Level 4	Analyze information and advance arguments
Level 5	Apply concepts/make connections.

Participants

ACTRC researchers collaborated with seven staff members from the DepEd Bureau of Educational Assessment-Education Assessment Division (BEA-EAD) to review the tested curriculum. The BEA-EAD staff members were suitable for the tasks required by this review because they were familiar with the test specifications and items.

Data Collection

In the Review of the Tested Curriculum, experts in the assessment were used to judge the level of cognitive demand required by each assessment item in the tests. The process took place during a workshop which was held in the conference room of DepEd-BEA and was conducted from 13 – 17 January 2020. This event was attended by staff members from BEA-EAD and facilitated by ACTRC staff. During the first day, ACTRC staff oriented the BEA-EAD staff to the project and the procedures involved in reviewing the test items.

The BEA-EAD staff members categorized the cognitive demand of each assessment item against the cognitive demand level descriptions listed above for the relevant learning area. The learning areas covered are provided in Table 2. Discussion and cross-checking between experts were performed to promote quality assurance of the judgment. However, the strict judgement/moderation process used in the earlier Review of the Intended Curriculum was not possible during this workshop, as fewer assessment experts

were available to participate in the process in 2020 due to the need to restrict participating experts to current BEA staff for test security reasons.

Table 2
Assessment and Learning Areas

Assessment	Learning Areas
Early Language, Literacy and Numeracy Assessment (ELLNA) for Grade 3	English, Filipino, Mathematics
National Achievement Test (NAT) for Grade 6	Mathematics, English, Filipino, Science, and Araling Panlipunan
National Achievement Test (NAT) for Grade 10	Mathematics, English, Filipino, Science, and Araling Panlipunan
Basic Education Exit Assessment (BEEA) for Grade 12	Language and Communication, Humanities, Mathematics, Science, Social Science, Philosophy, and Media and Information Literacy

During the first day of the workshop, BEA-EAD staff advised that BEA organizes each assessment item under two different systems. The first maps each item against the relevant learning competency from the various curriculum guides. The second maps each item against a framework for 21st century skills (including subskill and indicator). The workshop template used to record judgements was adapted to also gather the 21st century skill information.

BEA-EAD staff members were requested to review all the items used in the national assessments specified above and provide the relevant learning competencies, as shown in Table 3.

Table 3
Sample Template Used in Workshop

Item ID	Learning Competency	Learning Competency Number	Item Type	21 st Century Skills			Others (to be specified)			Cognitive Demand				
				Skill	Subskill	Indicator	Subject Area	Skill/Component	Subskill/Indicator	Memorize facts/definitions/formulas	Perform procedures/investigate	Communicate an understanding of concepts	Analyze information and advance arguments	Apply concepts/make connections

Table 3 contains the following: (1) Item ID (for tracking purposes only), (2) Learning Competency (with learning competency number as found in the curriculum), (3) 21st Century Skill measure (including subskill and indicator), and (4) Cognitive Demand. Since the 21st Century Skill mapping was not yet integrated into ELLNA, participants were simply asked to record the applicable details. For each item, participants were asked to record the dominant kind of cognitive demand required by the item by placing a '1' in the appropriate box.

Data Analysis

The first stage of the data analysis addressed the first research question by reviewing the extent of alignment between the test items and the learning competencies within the intended curriculum. The second stage compared the levels of cognitive demand required by the test items to those expected by the intended curriculum in order to answer the second research question. All data analysis was carried out using RStudio Version 1.3.959.

Alignment to the intended curriculum

In order to determine the alignment of test items to the intended curriculum, ACTRC researchers independently cross-checked the learning competencies and codes listed in the BEA assessment documents with the K to 12 Basic Education Curriculum Guides of DepEd. For each test item, the following details were added to the workshop spreadsheets as part of the comparison:

- Curriculum Guide name (eg: Mathematics, Physical Science, etc.)
- Curriculum Guide Grade
- Learning Competency wording match (0 = No match, 1 = content match, 2 = approximate match, 3 = exact match)
- Learning Competency code match (0 = No match, 1 = approximate match, 2 = exact match)

Each curriculum guide name provided an indication of the learning area in which the learning competencies are present in the curriculum. The curriculum guide grade showed the grade level in which the learning competencies are taught.

The data analysis examined the consistency of the wording of each learning competency and learning competency code match. The learning competency wording match indicated the extent to which the wording of the BEA learning competencies matched that of the learning competencies from the Curriculum Guide. This indicator assesses if the BEA learning competencies and the Curriculum Guide learning competencies have no match, content match (there is some link between the wording and the content or performance standards), approximate match, or an exact match. The wording match indicator mainly determines whether a learning competency is appropriately assessed. The learning competency code match indicator determines the level to which the codes from the BEA document match that of the Curriculum Guide, assessing whether the BEA learning competency codes and the Curriculum Guide codes have no match, approximate match, or an exact match.

Comparison of cognitive demand

The data sets generated in the BEA workshop were compared to the levels of cognitive demand for each learning competency generated in the Bureau of Curriculum Development (BCD) workshop which was held as part of the earlier Review of the Intended Curriculum. The purpose of this comparison was to explore the extent of the alignment between the cognitive demands required by the national tests and that expected by the intended curriculum. As the BCD workshop only mapped the cognitive demand of learning competencies in K to 10, no comparison could be made for BEEA in SHS.

The comparisons were conducted for assessment items which were found to have an exact or approximate match to learning competencies. No comparisons were possible for assessment items matched only to the content or performance standards, as these were not included in the BCD review.

Results and Discussion

The Review of the Tested Curriculum analyzes the alignment of national tests to the learning competencies in the K to 12 Curriculum Guide. In particular, it examines the alignment of the national tests with the intended curriculum and the comparison of the cognitive demand of items within the national tests with that required by the learning competencies within the curriculum guides.

Alignment to the intended curriculum

To determine the extent of alignment between the national tests and the intended curriculum the test item contents, as specified in the BEA documentation, were compared to the DepEd curriculum guides on an item-by-item basis. This provides an indication of the extent to which the national tests are assessing the intended curriculum.

The extent of the match between the test items and the curriculum guides is shown in Table 4. The closest matches were those where the content assessed is aligned to the exact wording of a learning competency within the curriculum guides. The next closest match is where there is an approximate match between the content assessed and the wording of a learning competency. Approximate matches usually indicated that the item assessed part of a longer learning competency, or that the BEA documentation provided a more specific description contained within a more general learning competency. The most general matches were those where the item was not able to be matched to a specific learning competency but could be matched to the content, performance or grade-level standards. Often, these items assessed content that spanned multiple learning competencies.

Table 4
Extent of Alignment Between Test Items and Curriculum Guides

Extent of match	Number of items	Percentage of items
Exact match to learning competency wording	593	79%
Approximate match to learning competency wording	77	10%
Match to content within curriculum guide	82	11%
Total	752	100%

The results shown in Table 4 indicate that all the national test items are aligned to the content of the intended curriculum. This is an important piece of evidence that the tests are a fair representation of the curriculum and can provide an indication of the extent to which learners have reached the expected standards. It shows that the tables of specifications used by BEA to drive test design are firmly embedded in the curriculum requirements.

During the mapping process, ACTRC researchers found that there were often inconsistencies in the learning competency codes shown in the BEA documents and the curriculum guides. These

inconsistencies may be due to changes in the curriculum guides since the tables of test specifications were made. Such documents must be kept up to date to ensure that the current high-quality alignment is maintained.

Distribution across curriculum guides and grades

To provide a more detailed picture of the alignment of the national tests to the curriculum guides, the distribution of test items across the different curriculum guides and grades is shown in Table 5. Each test maps includes a mixture of items, some assessing the current grade of students and some assessing competencies from previous grades. The table shows the test, the associated curriculum guides and grades from within those guides. The final two columns of the test show the relative percentages of items, with the fourth column showing the distribution across the grades for items within that curriculum guide and test, and the final column showing the distribution across curriculum guides within each test. For example, 24% of English items within the ELLNA are from Grade 2, while the same items make up 10% of the overall ELLNA test. All items within SHS curriculum guides were coded as SHS to recognize that schools often vary the scheduling of these, making strict reference to specific grades somewhat artificial.

Table 5
Distribution of Test Items Across Curriculum Guides and Grades

Test	Curriculum Guide	Grade	% of items from the curriculum guide in test	% of items in test
ELLNA	English	2	24%	10%
ELLNA	English	3	69%	28%
ELLNA	English	4	7%	3%
ELLNA	English	All grades	100%	41%
ELLNA	Filipino	1	18%	7%
ELLNA	Filipino	2	13%	5%
ELLNA	Filipino	3	69%	28%
ELLNA	Filipino	All grades	100%	41%
ELLNA	Mathematics	3	100%	18%
G6 NAT	Araling Panlipunan	5	33%	8%
G6 NAT	Araling Panlipunan	6	67%	17%
G6 NAT	Araling Panlipunan	All grades	100%	25%
G6 NAT	Filipino	5	33%	8%
G6 NAT	Filipino	6	33%	8%
G6 NAT	Filipino	7	33%	8%
G6 NAT	Filipino	All grades	100%	25%
G6 NAT	Mathematics	4	11%	3%
G6 NAT	Mathematics	6	89%	22%
G6 NAT	Mathematics	All grades	100%	25%
G6 NAT	Science	5	11%	3%
G6 NAT	Science	6	89%	22%
G6 NAT	Science	All grades	100%	25%
G10 NAT	Araling Panlipunan	9	44%	11%
G10 NAT	Araling Panlipunan	10	56%	14%
G10 NAT	Araling Panlipunan	All grades	100%	25%

Test	Curriculum Guide	Grade	% of items from the curriculum guide in test	% of items in test
G10 NAT	Filipino	9	22%	6%
G10 NAT	Filipino	10	78%	19%
G10 NAT	Filipino	All grades	100%	25%
G10 NAT	Mathematics	9	50%	13%
G10 NAT	Mathematics	10	50%	13%
G10 NAT	Mathematics	All grades	100%	25%
G10 NAT	Science	9	50%	13%
G10 NAT	Science	10	50%	13%
G10 NAT	Science	All grades	100%	25%
BEEA	21st Century Literature from the Philippines and the World	SHS	100%	6%
BEEA	Contemporary Philippine Arts from the Regions	SHS	100%	9%
BEEA	Earth and Life Science	SHS	100%	10%
BEEA	General Mathematics	SHS	100%	12%
BEEA	Introduction to the Philosophy of the Human Person	SHS	100%	15%
BEEA	Komunikasyon at Pananaliksik sa Wika at Kulturang Pilipino	SHS	100%	14%
BEEA	Media and Information Literacy	SHS	100%	15%
BEEA	Pagbasa at Pagsusuri_Pananaliksik	SHS	100%	3%
BEEA	Physical Science	SHS	100%	8%
BEEA	Statistics and Probability	SHS	100%	7%

Some learning competencies for the grade levels tested by BEA are found in previous grade levels in the curriculum guide. For example, some learning competencies for ELLNA (Grade 3) are found in the curriculum guide for Grade 1. This is a positive design feature for the national tests, as it recognises the cumulative nature of learning and enables the achievement of learners who may not yet be at the expected grade level standard to be noted.

Both the ELLNA and G6 NAT contain items from one grade higher than the learners assessed by the test. For example, ELLNA is administered to Grade 3 learners but contains some items from the intended curriculum for Grade 4. This is a common practice when tests want to provide a way of separating the very top learners taking the test. In all cases, the learning competencies aligned to these items assess generic capabilities that learners could achieve with the content of the previous grade level and the use of critical thinking skills. This makes them acceptable inclusions for the tests.

Comparison of cognitive demand

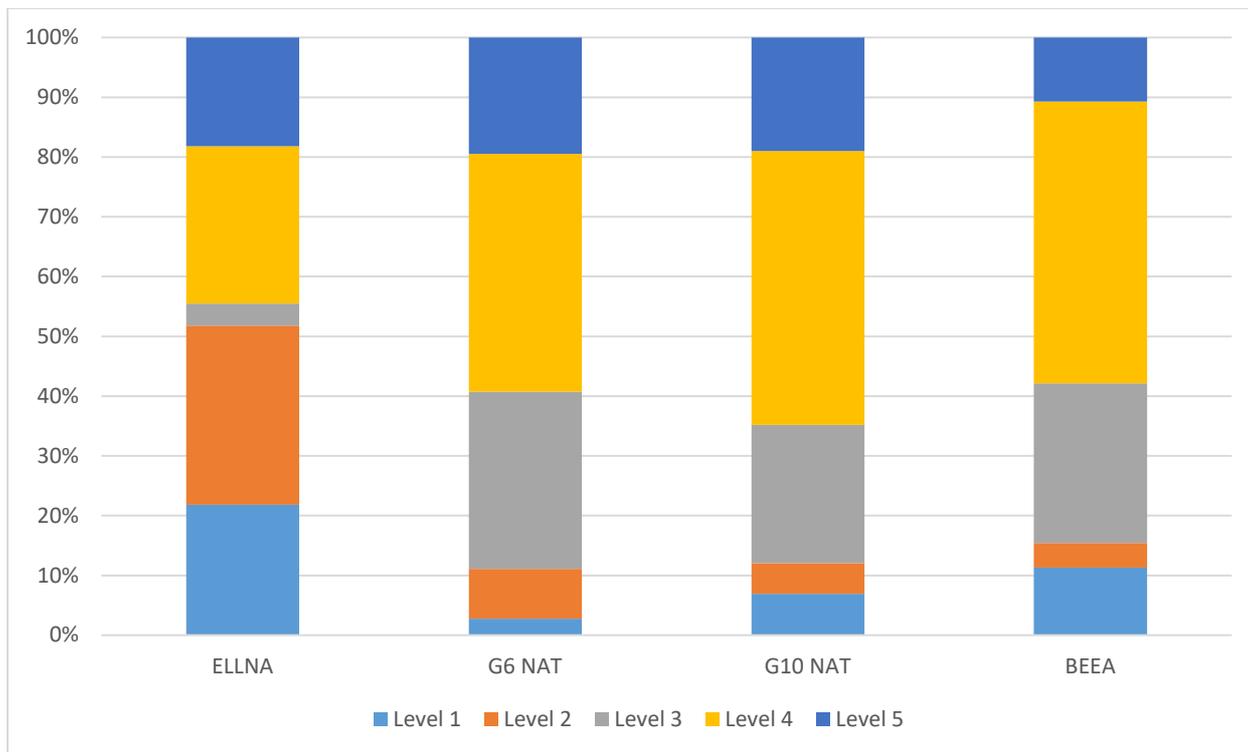
Another aspect of alignment is cognitive demand. Test items should have levels of cognitive demand that are equal to or lower than that required by the intended curriculum and ideally, would be a mixture of these. Test items with higher cognitive demand than required by the intended curriculum could be unfair to learners as they are being asked to do something in the test that is beyond the scope of the curriculum.

The distribution of test items across the levels of cognitive demand is shown in Table 6. For ease of comparison, the same information is presented graphically in Figure 1. This shows that approximately half the items within the ELLNA test were from the lower two levels, with the highest two levels also being well represented in the test. The pattern is different for the other 3 tests, where the majority of items require high levels of cognitive demand. A similar review of cognitive demand was conducted for Grades 3, 6 and 10 as part of the Review of the Intended Curriculum, and the distributions across the levels is similar to that found in these tests, however, a greater emphasis is given to analysis on information in the tests at the expense of communication of understanding. This shift is probably explained by the use of multiple choice questions in the tests as they offer limited potential to examine communication of understanding. A comparison of the level of cognitive demand in the Philippine curriculum with that expected by international comparators, also carried out as part of the Review of the Intended Curriculum, raised concerns about the high cognitive demand expectations of the intended curriculum. The same trend can be seen in the cognitive demand of the national tests, where the problem has been exacerbated, likely due to the restrictions of the test format.

Table 6
Distribution of Test Items Across the Levels of Cognitive Demand

Cognitive demand level	Cognitive demand description	ELLNA	G6 NAT	G10 NAT	BEEA
Level 1	Memorize facts, definitions or formulas	22%	3%	7%	11%
Level 2	Perform procedures or investigations	30%	8%	5%	4%
Level 3	Communicate understanding of concepts	4%	30%	23%	27%
Level 4	Analyse information and advance arguments	26%	40%	46%	47%
Level 5	Apply concepts or make connections	18%	19%	19%	11%

Figure 1
Distribution of Test Items Across the Levels of Cognitive Demand



To check if the distribution of cognitive demand was in line with that of the Review of the Intended Curriculum (Robertson et al., 2020), the cognitive demand levels for those items with an exact or approximate match to a learning competency in the Review of the Tested Curriculum were compared and considered to be suitable if the level was not greater. The suitability of test items is shown in Table 7. It should be noted that the Review of the Intended Curriculum only focused on the K to 10 Curriculum and thus BEEA for SHS was not included in the comparison.

Table 7
Percentage of Test Items with Suitable Cognitive Demand

Test	Total items matched to learning competency	% suitable	% unsuitable
ELLNA	60	75%	25%
G6 NAT	99	62%	38%
G10 NAT	168	61%	39%

From these results, it appears that the cognitive demand of the test items is too high; however, the Review of the Intended Curriculum found that the expression of many learning competencies is unclear, and this may be leading to the discrepancies. Therefore, it is not possible for the review to make an absolute finding in respect to the suitability of the cognitive demand of the national tests; however, the indications are that the cognitive demand is aligned to the extent possible given the current wording of learning competencies within the K to 12 curriculum documents.

Learning Standards and 21st Century Skills

This study highlights the dual mapping, to curriculum guides and to 21st century skills, that BEA uses for the tables of specifications for the Grade 6 and Grade 10 NAT as well as the BEEA. This double mapping has ensured that the national tests meet the requirements outlined in *DepEd Order no. 55 (s. 2016)*, which defined assessment as the “process of measuring learners’ progress in the attainment of learning standards and 21st-century skills.” Further information about the scope and development of BEA’s Assessment Framework is included in Appendix A.

The use of two different working frameworks, one for 21st century skills that originates from BEA and the other based on the curriculum guides that originates from BCD, is problematic for sending consistent messages to schools implementing the curriculum, and for those using the results from the national curriculum testing to make inferences about the quality of learning of students. Greater alignment between the work of the two bureaus, especially around the integration of 21st century skills, would be beneficial to DepEd. The BEA 21st century skills assessment framework could provide a starting point for enhancement and integration of 21st century skills in the K to 12 curriculum guides by BCD. It is, therefore, important that the two Bureaus work together to match their development of the focus on 21st century skills and assist each other to increase consistency of approach across the DepEd bureaus.

Conclusions and Recommendations

The Review of the Tested Curriculum shows that the national achievement tests for Grade 3, Grade 6, Grade 10, and Senior High School are aligned to the content of the intended curriculum. This means the tests are representative of the intended curriculum and can indicate the extent to which learners have reached the expected standards. While the cognitive demand of the test items is found to be too high, it is aligned to the current wording of the learning competencies within the K to 12 curriculum documents. The review highlights concern regarding the double mapping of the tables of specifications for the Grade 6, Grade 10 NAT, and the BEEA to two different working frameworks, one originating from BEA and the other from BCD, which may not send consistent messages to schools implementing the curriculum, and to those using the results from the national curriculum testing to make inferences about the quality of learning of students.

The Review of the Tested Curriculum provides evidence-based information which can be used to inform education assessment, curriculum and policy decision-making. The following recommendations have been drawn from the review:

- The current practices of BEA around the construction of tables of test specifications should be maintained to ensure ongoing alignment of the tested curriculum with the intended curriculum.
- Increased collaboration between BCD and BEA should be used to improve the alignment of cognitive demands across the intended and tested curricula, especially through consultation on the wording of learning competencies associated with any future curriculum enhancement.
- Increased collaboration between BCD and BEA should be used to improve the clarity of expectations of 21st century skill development.

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Appendix A: What is the Assessment Framework of DepEd Bureau of Educational Assessment (BEA)?

DepEd Order no. 55 (s. 2016) defined assessment as the “process of measuring learners’ progress in the attainment of learning standards and 21st-century skills.” DepEd adopted the Partnership 21 Framework (<http://p21.org/about-us/p21-framework>) and have organized the essential 21st Century Skills in four major areas. Table 8 shows the skills and definitions based on the DepEd Order.

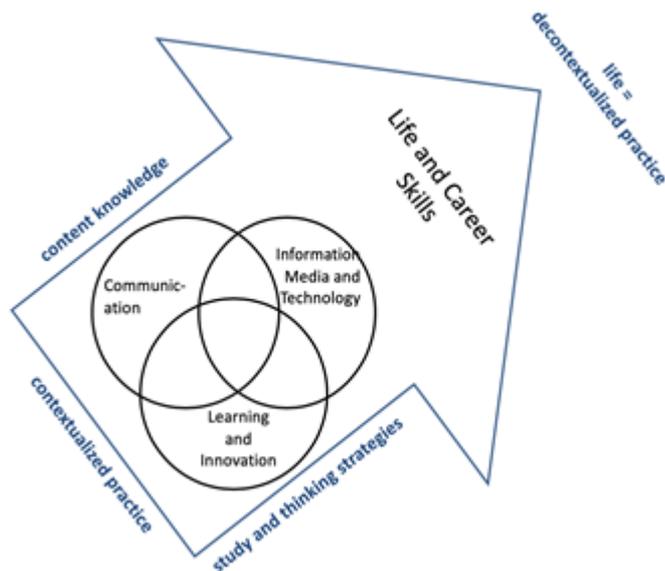
Table 8

The 21st Century Skills (DepEd Order no. 55 (2016), p. 2)

21 st Century Skills	Definition
1. Communication Skills	refers to the ability to express one’s self clearly and collaborate with others.
2. Information, Media and Technology Skills	refers to the ability to gather, manage, evaluate, use and synthesize information through media and technology.
3. Learning and Innovation Skills	refers to the ability to think critically, analyze and solve problems, create and implement innovations, and generate functional knowledge.
4. Life and Career Skills	refers to intrinsic and socialized personal values, ethics, and attitudes for life after basic education and learning within the workforce.

The first three skills are considered teachable and learnable in the classroom setting. When the learner is equipped with these 21st century skills, it can also be said that they have acquired the necessary life and career skills. The vision is that learners are “holistically developed Filipinos with 21st century skills” and that they are competent and ready for the workplace. Figure 3 shows the framework for the Holistic Filipino Framework.

Figure 2
Holistic Filipino Framework



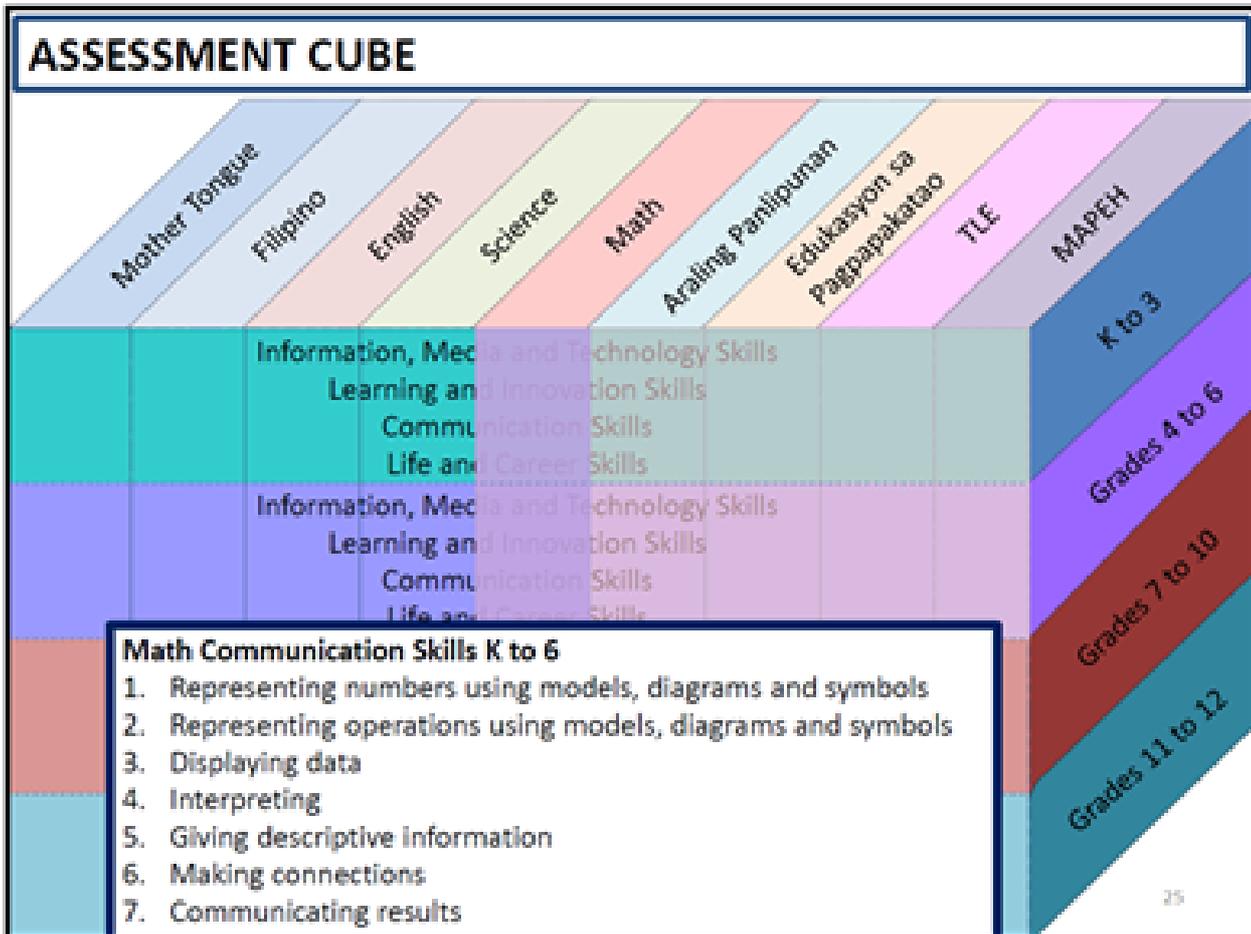
The process of integrating these 21st Century Skills with the national assessments of DepEd is discussed in Bureau of Education Assessment (2019) and Scoular (2020). Below are the major steps involved in integrating 21st Century Skills:

1. Construct Review and Definition
 - a. Review of 21CS Frameworks
 - b. Review of Implemented P21 Assessment Frameworks
 - c. Define Construct and Hypothetical Progressions
2. Curriculum Audits
 - a. Identify embedded 21CS in the curriculum
 - b. Identify common and unique competencies
3. Assessment Development
 - a. Develop the Assessment Cube/Test Blueprint
 - b. Construct Test Item
 - c. Panel, Pilot and Finalize
 - d. Integrate National Assessment

It should be noted that a curriculum audit was carried out by BEA years prior to this study to ensure that 21st Century Skills are integrated well in the Philippine K-12 Curriculum. The resulting test blueprint would look like an “assessment cube” and this became the basis for item writing and item review. The figure below is a sample of the assessment cube.

Figure 3

Assessment Cube Sample (from Bureau of Education Assessment, 2019, p 25)



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the University of Melbourne and the
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