NAPLAN Online – Jurisdictional Results and Reporting Data Set Technical Specs

File specification for extraction of results and reporting data from the National Assessment Platform

(Based on the version 2.07 of the Results & Reporting data)

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Author:	NSIP team

Contents

Version Control

Results and Reporting Data Set Specification Document Version Control			
Version	**Date:**	**Author/Organization:**	**Comments**
V0.1	31/8/2016	Linda Marshall and Anthony Yaremenko /NSIP	Initial Draft
V0.2	2/9/2016	NSIP	Edits following ESA/Janison review
V0.3	7/9/2016	Nick Nicholas, NSIP LM AY NSIP	Updates to data transport, referenced dataset Updates to referenced dataset, XML and data exchange infrastructure post meeting with Janison.
V0.4	22/9/2016 27/9/2016	NSIP Team	Updates for XML based on interactions and feedback from Janison as well as the intention to support the transfer of the Codeframe. Updates of XML after XSD creation and validation
V0.5	29/9/2016	NSIP Team	XML structure NAPTestItem and NAPTestlet updated after feedback
V0.6	27/10/2016	NSIP	Updated student scope statements for inclusion in dataset Updated method of data extract Updated sample XML provided Updated embedded dataset to v2.02 Adjusted advice on timing of data extracts
V0.7	15/12/2016	NSIP Team	Updated embedded dataset to v2.051 Reviewed advice and methods on data extracts
V0.8	09/02/2016	NSIP Team – LM	Updated embedded dataset to v2.053 Link to Sample XML provided instead of the actual data. Other minor edits
V0.9	20/2/2017 21/2/2107	NSIP Team	Updated Diagram from NSIP Team. ESA updates to timing of extracts. Updated embedded DataSet spreadsheet to 2.054 Added: Representation of events, tests and domains
V0.91	14/3/2017	NSIP Team	Refined Representation of events, tests and domains
V0.92	10/4/2017	NSIP Team	Added Dataset scope (refer section 2.1) Added Cardinality - Student Participation Status Table and data impacts (refer section 2.3)
V0.93	24/05/2017	NSIP Team	Clarified “0” vs NULL in student test participation status table (pg 11) Updated html link for sample file (pg 14) Updated reference to R&R dataset s/sheet (now at 2.057 following update to parallel test to be optional rather than mandatory to support Writing test)
V0.94	6/6/2017	NSIP Team	Clarified expectations around Codeframe object for Writing, number of instances of each object in results set and representation of Item types. Expanded detail regarding NAPStudentResponseSet Added Appendix B covering Item types Added additional detail regarding behaviour of ISR extract in Participation Code table Expanded detail regarding Composite Items (CO) to include multiple combinations (CO – Other). Updated “Refused” score details (raw score 0, scaled score may be negative)

			Updated reference to dataset (v2061) – spreadsheet now includes comments regarding Calibration and equating sample flags (not included in R&R dataset).
V0.95	16/11/17	NSIP Team	Added detail regarding multiple writing prompt support
V2.00	18/10/18	NSIP Team	Updates to incorporate: 1. Issues observed from 2018 NAPLAN Online testing, time estimates, etc (largely section 3) 2. Item response formats (section 1.7.1) 3. File size estimates (section 1.8) 4. Advice re: processing of extracts (section 1.9) 5. Reference to RRD API details 6. Improved clarity regarding representation of Writing tests (section 2.2) 7. Updated list of DAC Codes (section 3.8) 8. Added section 5.2 – Known XML issues 9. Added section 5.3 – Changes to the RRD in readiness for 2019 testing 10. Student Item Response and Item Correct Answer for all tests except Writing set to NIL. Refer updated reference to v2.07 of the RRD dataset 11. Updated diagram section 3.6 covering nodes and testlets 12. Updated list of item types available for NAPLAN Online 2019 including expanding Interactive Match 13. Expanded section 2.4 Participation codes

1. Introduction

1.1 Purpose

This document is designed for use by consumers of reporting data out of the delivery of NAPLAN Online. They include Test Administration Authorities in each jurisdiction and school system authorities.

These guidelines are based on the approved NAPLAN Results and Reporting Data Set. This document also references the approved NAPLAN Online Registration Data Set, and addresses:

- Elements available for exporting from the National Assessment Platform relating to the Student, the Registration of the Student into the platform, the Student's NAPLAN test session and results, as well as school, jurisdiction and national summary statistics
- Elements used to support the production of various reports including the SSSR and ISR (but not the reports themselves)
- All elements available to authorised jurisdictional/TAA users as a result of NAPLAN assessment online for a given testing event.

1.2 Terminology

Table 1.1: Terminology

Term	Definition
ACARA	Australian Curriculum and Assessment Authority
ESA	Education Services Australia (tasked with developing the assessment platform)
HITS	Hub Integration Testing Service – A SIF testing service provided by NSIP available here: http://hits.nsip.edu.au/dashboard/
ISR	Individual Student Report (rocket-ship report)
NIAS	NSIP Integration As a Service
NSIP	National Schools Interoperability Program
OAWG	On line Assessment Working Group
PNP	Personal Needs and Preferences
RRD	Results and Reporting Dataset
SIF	Systems Interoperability Framework
SRM	Student Registration Management System
SSA	School Sector Authority (examples include the Department of Education Victoria, the Department of Education NSW)
SSSR	School Student Summary Report
TAA	Test Administration Authority (examples include the VCAA, NESA, QCAA)
XML	eXtensible Markup Language
XSD	XML Schema Definition

1.3 Additional files

This document is complemented by a number of files to assist with integration development.

Files include:

Filename	Description
Online NAPLAN Reporting DataSet 2.07.xlsx	Reference excel spreadsheet, adapted from previous versions of the Results & Reporting dataset.
Sample data and schema file for NAPLAN Online Results and Reporting data	Link for Sample XML can be found in section 7.1
National Assessment Platform - Results and Reporting API documentation	Details on the NAPLAN Online Results & Reporting API

1.4 Document distribution

This document will be made available via NSIP's Github page: *https://github.com/nsip/naplan-results-reporting* and the PMWG Sharepoint hub.

1.5 Background – Assessment platform

The Australian Government Department of Education is funding Education Services Australia (ESA) to develop the Online National Assessment Platform ('the Assessment Platform') that supports a range of assessment types including national online assessment. This platform allows for test creation and management using an existing item authoring system, user management and student registration, test administration, delivery, access and presentation of tests to eligible students, as well as scoring of these assessments and reporting for assessment events. Offline and low-bandwidth delivery solutions are also included as part of the overall assessment delivery system (the outputs are assumed to be the same as online so are within the scope of this document).

1.6 Operations and Timing of data extracts

Access to jurisdictional results and reporting extracts (RRDs) is dependent on the timetable published by ACARA. For 2019:

For Test Administration Authorities in a given State/Territory:

Authorised jurisdictional users are able to extract data from the platform once all schools have moved into the 'Results' phase and ACARA has uploaded the information required for reporting.

Jurisdiction extracts can take many hours to generate. SSSRs for 2018 took approximately 28 hours to generate. RRDs for each sector take approximately 4 hours to generate. Generation times should be factored in by data consumers.

As the underlying psychometric data can be changed, with possible impacts to the dataset including scaled scores, the RRD extract can be run many times, so care should be taken with noting date and timestamp of each version.

The sequence of events covering the retrieval of results and reporting data for a jurisdiction from the platform is outlined below.

1. TAA administrator accesses the Results & Reporting Dataset generation & retrieval page via the TAA dashboard in the Platform
2. Dataset will be accessible after all schools within the TAA's Jurisdiction have entered the "Results" phase and ACARA has uploaded data for reporting
3. TAA administrator generates the Results & Reporting Dataset for the sector within their scope.
4. As this dataset can be extracted more than once, the date and time of the extract should be noted.
5. The downloaded file will be a zip of the XML file that will require a password to open
6. Platform displays a message on screen confirming file generation and advising the password required to access the extract.
7. TAA administrator receives email notification upon completion of Results & Reporting Dataset generation
8. TAA administrator accesses the Results & Reporting Dataset page via the TAA dashboard and downloads the generated data extract, accepting a privacy agreement in the process
9. TAA administrator opens data extract, using the password initially provided upon generation
10. If TAA administrator wishes to re-download or re-generate the data extract at any point after this, they can do so by following the steps above. The most recently generated extract will always be available for download after its initial generation. Date and time for each extract should be documented. These files include individual student results that may change as ACARA updates psychometric information. Decisions about local storage of these downloaded files should take into account differences over time and the sensitive nature of the information,
11. The TAA administrator is able to delete the data extract.

Impact of ACARA's processes on Results & Reporting Dataset:

It should be noted that as part of ACARA's data analysis, and the supply of school and/or jurisdictional means by TAAs to ACARA/ESA, values will be uploaded to the assessment platform which may alter the results and reporting data extract. ACARA's psychometric data may be uploaded multiple times which may impact the RRD and therefore may require regeneration of the RRD. Consequently, the date and time of each download should be documented.

The RRD extract may have the following values populated or altered (may have been previously NULL or 0) as a result of ACARA uploading psychometric data and summary statistics used for ISR generation:

1. ***NAPStudentResponseSet Object***
   - ScaledScoreValue
   - ScaledScoreLogitValue
   - ScaledScoreStandardError
   - ScaledScoreLogitStandardError
   - StudentDomainBand
   - StudentProficiency
   - PlausibleScaledValueList

2. ***NAPTestScoreSummary Object***
   - DomainNationalAverage
   - DomainJurisdictionAverage*
   - DomainTopNational60Percent
   - DomainBottomNational60Percent

Note: In 2018 the upload of school and jurisdictional means to the platform did not occur. In 2019, the upload of school and jurisdictional means will also likely not occur as these values are typically only required for ISR production purposes.

*** -Jurisdiction Averages**

The supply and load of jurisdiction averages into the platform is the responsibility of jurisdictions (possibly with the help of ESA) until after the transition period (ie post 2020), when a change request might enable automatic generation of these statistics.

1.7 Format of data extracts

The format of the data will be XML (eXtensible Markup Language). XML is able to model the complex, repeating nested data structures produced by the assessment platform, something which flat text files (such as CSV – comma separated value files), cannot readily accomplish. XML is both human and machine readable and will allow for validation of the file contents via XSD (XML Schema Definition – latest copy available here: https://github.com/nsip/naplan-results-reporting (SIF_MessageWithWrapper.xsd)).

An open source tool produced by NSIP, NIAS (NSIP Integration As a Service), is available to assist with conversion of XML to CSV where required. Please contact NSIP via info@nsip.edu.au for further details on NIAS or see https://github.com/nsip/nias2/releases .

1.7.1 Response format

Item responses are delivered in the Results and Reporting Data Set XML as text. This includes the students' extended writing task responses. The responses may be strings, numbers, arrays, maps, or arrays of maps, depending on the item type. (Maps and arrays of maps are appropriate for match/association items.) The data structures for responses are given by the Assessment Platform in JSON. In the Assessment Platform structures, JSON object keys can map to multiple values without them being in an array; e.g. {"ValueMatch":"the amount of power going to your board", "controlled by the expert pilot"}

Formatting for extended responses, including font size, boldface, italic, underlining, and paragraphs are given in HTML. The HTML markup is escaped within the XML (e.g. <p> is represented as <p>)

Item content is encoded in UTF-8, and includes smart apostrophes.

1.8 Method & size of data extracts

Jurisdictions will be able to request results and reporting data from the platform using either a web based GUI or a REST based API (from 2019 – see additional files section 1.3):

When using the web GUI to retrieve RRDs an authorised user may download a single password protected zip file per sector containing the results and codeframe for all schools in that particular sector (one of Government, Catholic, Independent). This may result in large file sizes exceeding 20 Gigabytes (estimates based on 2018 data: 1,000 students = 0.36Gig, i.e. 50,000 students = 18 Gig)

- **When using the machine to machine API** to retrieve RRDs, a TAA may request three different types of data:
    - the list of schools they are entitled to access,
    - the codeframe and
    - individual school RRDs.

  (Refer section 1.3 – Additional files)

It is **strongly recommended** that stakeholders consuming results data **use the machine to machine API** as this will allow processing of data to take place on smaller sized files (per school as opposed to per sector).

1.9 Processing of data extracts

In processing the XML files received from the platform, the following constraints need to be borne in mind.

- The files containing data for a sector are huge, potentially reaching 50GB in the case of NSW Government schools. It is simply not practical to attempt to process a file of that size in memory in a single sitting. Approaches that involve in-memory processing (such as converting it into a DOM tree) should in fact be avoided for any file larger than 2GB; that includes not only extracting information from the file, but also validating the file against a schema, and even checking the file for well-formedness.
- The only approaches that will scale with a file of this size will use Streaming XML parsers, which process the XML file as a stream of data, one XML object at a time, and select the attributes to do things with. This is the approach NIAS takes to processing the XML files. Even so, any file processing at that scale will not be quick: report generation through NIAS for an 18GB file will take around 8 hours on a reasonably powerful current machine.
- If RRD data is consumed through an API, the individual file sizes are much smaller (the maximum possible file size is closer to 100MB), and in-memory processing of XML becomes feasible again. Streaming XML parsing is nonetheless the preferable paradigm to follow for efficiency: the individual files may be much smaller, but there will be many more of them.
- The data objects represented in the RRD are complex and highly nested; any translation of the data to backend storage will need to preserve that complexity. In particular, linkages between objects are dense and frequent, and are made through GUIDs under the SIF data model. The GUIDs are not guaranteed to be persistent: they represent linkages between objects only as a snapshot, and different exports of the XML may end up using different GUIDs for the same objects.
- The local representations that the XML is mapped to (whether as relational databases, NoSQL databases, or CSV files) will need to take care to preserve those linkages, so that objects can be joined for queries as required. Because object GUIDs may not persist, care should be taken to use other attributes as primary keys if the data is to be persisted.
- The local representations that the XML is mapped to need to take the XSD schema defining the XML structure into account, when designing the cardinality of elements within the representation. The full range of cardinalities may not be present in an RRD extract, but it may be used in future iterations of NAPLAN testing. For example, the XSD schema currently provides for multiple Australian Curriculum content descriptions to be linked to a NAPLAN Test Item; currently only one content description is linked per test item, but to future-proof the local representation, it should allow for multiple content descriptions anyway.

1.10 Other results extracts available from the platform

The Student and School Summary Report (SSSR) is another way of accessing student results from the Platform. The SSSR is composed of:

- a school summary report, which enables schools to see how their students, classes and year groups performed in NAPLAN tests, as well as data about the questions in the tests
- a preliminary student summary report, which schools may distribute to parents for each student. This report may contain data that is different to the various possible versions of the RRD, due to timing.

The SSSR report is downloaded by either an authorised school role or TAA to be accessed, viewed and analysed locally. Extracts from the SSSR can also be created in Excel or CSV form. The management of versions, naming, date stamping, storage and access to the different files created and stored locally is of utmost importance. As these files contain individual student results that were current at different points in the assessment process, the security of these files is paramount. Reconciliation of these results with RRD is not likely to be useful. SSSR results should be treated as preliminary and illustrative.

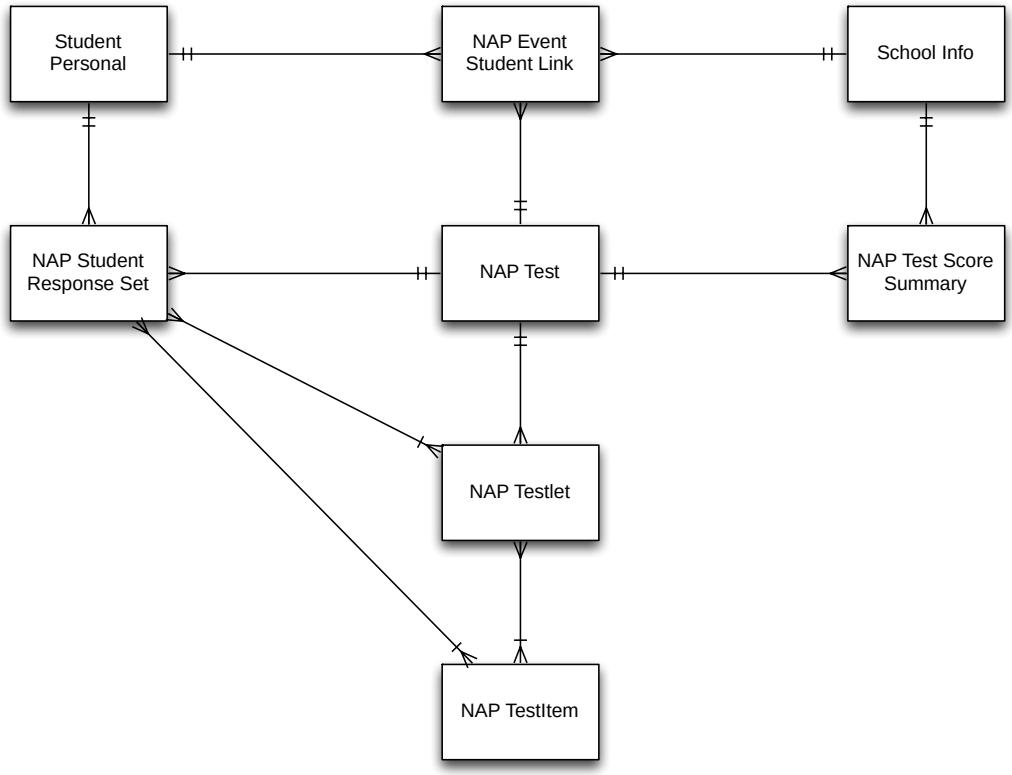
1.11 Expected test sequence

Currently, students are expected to complete the NAPLAN Online tests in the following order:

1. Writing
2. Reading
3. Conventions of Language
4. Numeracy

The test order is important, as the results a student obtains for Reading determines their starting position for the Conventions of Language test. Where a student completes the test out of sequence (or across schools), they will be given a default starting position for Conventions of Language.

2. XML – SIF Objects representing the Results and Reporting Data Set



XML – SIF Objects representing the entities associated with NAPLAN Assessment

The data available for export via the Jurisdictional Results & Reporting data set is represented as follows:

1. Student Personal: Contains all of the student demographic data and identifiers related to the student. Given that schools can add/modify details of students on the assessment platform, the original input registration data will most certainly be different to the final student details recorded in the platform.

2. NAP Event Student Link: This object represents a student's registration for a NAPLAN assessment. It includes key student identifiers, school identifiers, details of the test sat (including test name, level, domain), participation and exemption details, adjustments and PNPs, device details and the date of the test.

3. NAP Test: This object represents an assessment assigned in the context of NAPLAN, targeted at a particular domain and year level.

4. NAP Testlet: This object represents a testlet assigned in the context of a NAPLAN test, consisting of a number of items, and subject to branching rules according to adaptive testing.

5. NAP Student Response Set: Captures the student's response to NAPLAN Test Items in the context of a NAPLAN test. Results are captured for each testlet, and each item within each testlet, that the student responds to. Data elements include Report exclusion flags, calibration and equating samples, domain scores, plausible scaled values for domain scores, student band, testlet details, item responses, script images where appropriate, and links to test items.

6. NAP Test Item: Contains the item identifier, domain, subdomain, descriptor, released status, item difficulty, proficiency band, curriculum content descriptions, stimuli and writing rubrics. The writing rubrics in turn consist of scores, and score descriptions within each score. Where the item has not been published, the object refers to the URL of the item exemplar instead. Substitute test items point back to the original item(s) that they substitute for, along with an indication of the PNP codes applicable to the substitution.

7. School Info: This object represents each school associated with students who are registered for NAPLAN assessment and for which the system has recorded NAPLAN test scores. It may be required to relate a Student to a school or tenancy.

8. NAP Test Score Summary: For a given school this object details the aggregate scores for a NAPLAN test, including national, school, and jurisdictional averages for the same test.

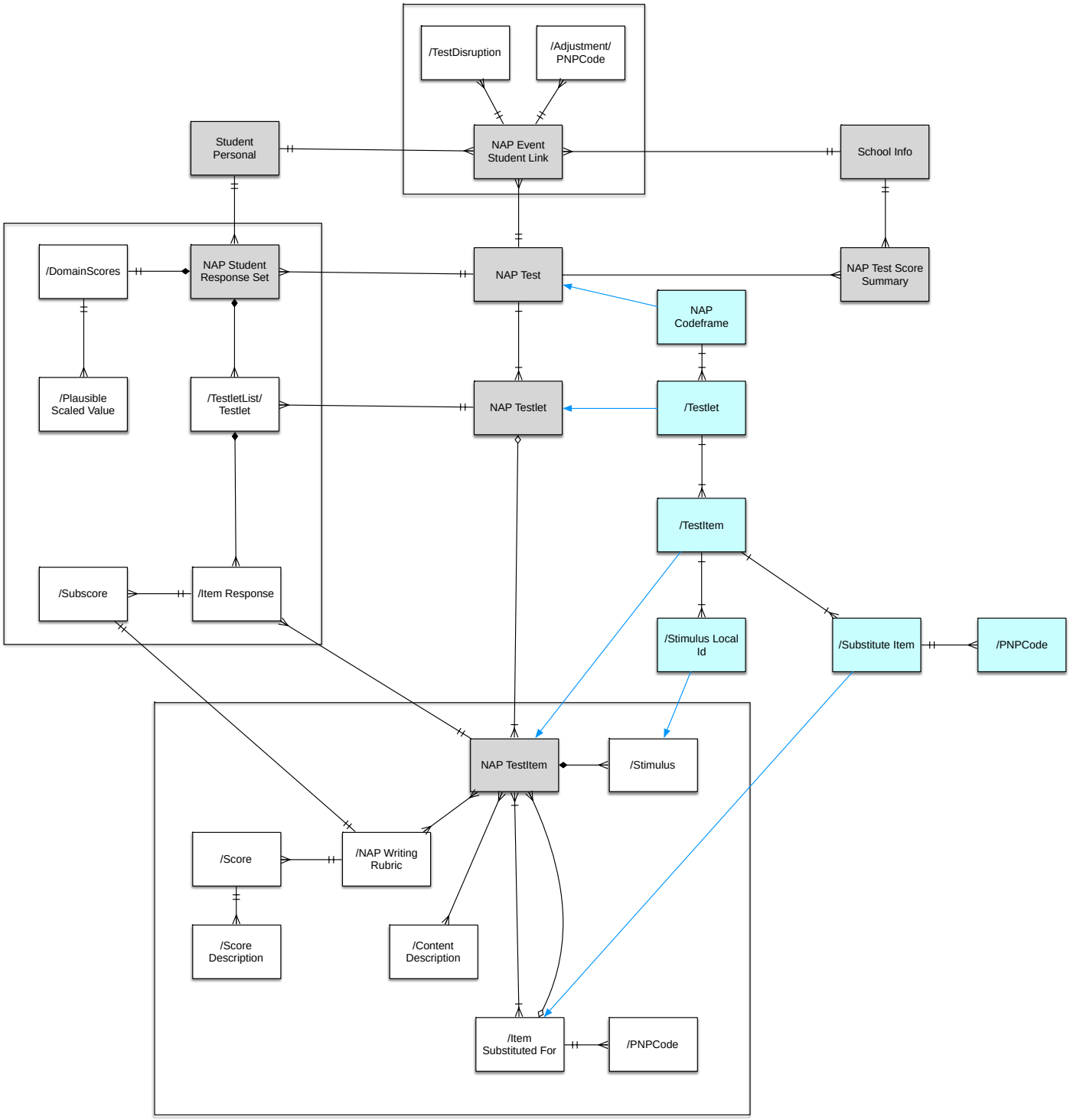
9. Test Structure - CodeFrame (derived from NAP Test Item): The full structure of a test domain within a test cycle, excluding Writing, is known as the NAPLAN codeframe, and is included in the export to jurisdictions. ACARA typically provide codeframes for the following year's tests to jurisdictions once the tests have been finalised. This structure is conveyed through additional fields in the NAP Test Item object, describing the testlet(s) and test(s) they belong to. A separate CodeFrame object may also be provided, as a single container of the information in a NAP Test object and in all its associated NAP Testlet and NAP Test Item objects.

For writing, marking rubrics are provided outside the Platform by ACARA, but inform the structure of the writing data elements in the dataset. Both the stimuli and the individual student's response are included in the dataset. Note that Writing is not an adaptive or tailored assessment.

The Student Response Set object indicates what the student responded to by pointing to separate Test, Testlet and TestItem objects, and not to the representation of those objects contained within the Codeframe object. For that reason, the Student Response Set is published alongside separate Test, Testlet and TestItem objects, even though their content may already be present in the Codeframe object.

The underlying conceptual Model is described below. The codeframe objects are given in blue.

The NAPWritingRubric objects are in a many:many relationship with NAPTestItem objects. In the implementation XML model, the Rubrics and Stimuli are contained within NAP Test Item.



ii) Underlying conceptual model for the entities associated with NAPLAN Assessment

2.1 Data scope

The dataset extract's scope is the 'Main test' and does not cover the 'Survey & Practice questions' which are not part of the 'Main test'.

2.2 Representation of events, tests, and domains

The representation of events and tests specified here is intended for consumption in the context of reporting. This representation may be at odds with the representation of the same for the purposes of test administration.

In particular, test administration of NAPLAN makes the following conflations:

Domain	Test	Event
Writing	Writing	Writing
Reading	Reading	Reading and Conventions of Language
Spelling	Conventions of Language	
Grammar & Punctuation		
Numeracy	Numeracy	Numeracy

That is, the domains of Spelling and Grammar & Punctuation are conflated in the single test of Conventions of Language; and the tests of Reading and Conventions of Language are administered within a single event (as the branching of Conventions of Language depends on the result of Reading).

For the purposes of reporting test results, however, these distinctions are irrelevant. All result objects are keyed to a single domain. The NAP Event Student Link and NAP Test objects are populated redundantly: one identical event is created for each of Reading, Spelling, and Grammar & Punctuation, and one identical test for each of Spelling and Grammar & Punctuation.

Following a change request in 2017 introducing multiple writing prompts to improve test prompt security, more than one writing test are produced as of 2018 for a given test level. For example, Year 5 Writing may actually be represented via two or more NAP Test objects, each representing a different writing test prompt. The multiple writing tests delivered to a year level are *not* collapsed into a single test for the purposes of results and reporting. (Note: This only applies to Writing.)

The following tables details the expected frequency at which objects will appear in the NAPLAN Online Results and Reporting dataset:

Object	Number of times included in a jurisdiction's dataset
School Info	Once for each unique school campus as defined by the ACARA school ID (eg Greenvale P-12 S)
NAP Test	Once per NAP test domain & year level (eg Writing Y9, Reading Y9, Spelling Y9, Grammar & Punctuation Y9, Numeracy Y9, Writing Y5, Reading Y5…) **except** Year 3 Writing For a P-12 school campus with all year levels tested (3,5,7,9) omitting Year 3 Writing, this equates to (4 * 5)-1 = 19 instances (minimum). (note: impact of multiple Writing prompts resulting in multiple Writing NAPTest objects for a single year level eg where two prompts are used for Year level 5 (A and B) , a NAP Test object (and testlet and test item) will be produced for prompt A, and a second NAP Test object (and testlet and test item) will be produced for prompt B)

NAP Test Score Summary	One per unique school campus per NAP Test Domain & year level (eg Greenvale – Writing Y9, Greenvale – Reading Y9, Greenvale – Spelling Y9, Greenvale – Grammar & PunctuationY9, Greenvale – Numeracy Y9, …, Greenvale – Writing Y5, …) **except** Year 3 Writing For a P-12 school campus with all year levels tested (3,5,7,9) except Year 3 Writing, this equates to (4 * 5)-1 = 19 instances minimum (note: impact of multiple Writing prompts resulting in multiple Writing NAPTest objects for a single year level, therefore multiple NAPTestScoreSummary objects also).
NAP Testlet	One to many for each NAP Test except Writing & year level as required. Writing tests have a single NAP Testlet.
NAP Test Item	One to many for each NAP Testlet/Test combination as required. Writing tests have a single NAP Test Item.
NAP Event Student Link	For each student, an instance for a given NAP Test domain. For example Billy Brown in Year 5 would be expected to have 5 instances (one for each of Writing, Reading, Spelling, Grammar and Punctuation, and Numeracy).
Student Personal	Once per student registration per school campus For example Billy Brown in Year 5 at Greenvale P-12 would be expected to appear once.
NAP Student Response Set	For each “NAP Event Student Link” object, a “NAP Student Response Set” object is expected, excluding scenarios where a student’s participation code indicates that they did not sit the test (Absent, Cancelled, Exempt, Withdrawn, No Longer Enrolled). For example, Billy Brown in Year 5 at Greenvale P-12 would be expected to have five instances of the ‘NAP Student Response Set’ objects if his status was Present/Participating. Refer to Appendix B for further details on NAPStudentResponseSet.
NAP Codeframe	NAP Codeframe for each of the 4 NAP Test domains (excludes Writing). ie Across Y9, 7, 5, 3 = (4*4) = 16 NAP Codeframe instances. Reading, Spelling, Grammar and Punctuation, and Numeracy all have a code frame. The platform also produces a simple Writing NAPCodeframe (a single testlet with a single test item) for each Writing test (note impact of multiple writing prompts will results in multiple Writing NAP Codeframes per year level, each with a different NAPTest, testlet and item).

Note: The above assumes a student has enrolled at a single school and has been registered to a single school with a single PSI. Where this is not the case, and a student has duplicate enrolments and/or multiple registrations, the details regarding object instances represented in the above table may differ.

2.3 Cardinality of objects

Every student registered in the National Assessment Platform will have a NAP Event Student Link object generated for each NAPLAN test they are eligible for. The object is necessary to indicate the status of a student in that test, whether or not they sat the test (as indicated by their student test participation status).

If a student abandons a test and has a participation status of Sanctioned Abandonment, no score is calculated or reported for the test. However, student responses are published for the student in the Results and Reporting extract. Please refer to section 2.4 for student participation status impacts on the data for that test.

If the student has refused to sit the test (participation Code of R: Refusal), the raw score for the test will be zero, and the equivalent scaled score will be the lowest scaled score on any pathway in the test (the scaled score may be negative depending on the Score Equivalence Tables), and no responses will be recorded for the test. Please refer to the table below for student participation status impacts on the data for that test. Please refer to the table below for student participation status impacts on the data for that test.

A student will only have any NAPLAN results to report for a test where they have sat part of or an entire test. The Platform will then generate associated NAP Student Response Set objects. The participation code in the NAP Event Student Link should be used by data consumers to indicate whether the NAP Student Response Set object can be used meaningfully or not.

All NAP tests have at least one testlet, and there is no direct linkage between tests and test items. If the test is non-branching (as is the case in Writing), the test must have a single testlet, which includes all the test items in the test.

2.4 Student Participation Codes

The following table lists the various participation codes and includes detail on the impact of the participation code on a student's score, the impact on the SSSR and ISR, and the representation of the data within the RRD extract. For the full text on the above participation codes, please access ACARA's National protocols for text administration: https://nap.edu.au/naplan/school-support/national-protocols-for-test-administration

Participation Code	Score present in R&R dataset? refer DomainScore / RawScore DomainScore / ScaledScoreValue	Jurisdictional R&R extract	SSSR impacts	ISR impacts	Relevant information (including student report text)	ACARA protocol reference
P: Present	Yes	All objects	Displayed on report	Available	Present students include students who attempt the test and students exempt from testing. Present students also include students who login but do not attempt any part of the test or abandon the test session in a non-sanctioned manner.	5.1
A: Absent	No (NULL)	No NAPStudent ResponseSet object	Blank result	No dot for student score. Student report text: *Your child was absent from this test and no result has been recorded.*	Absent students are students who do not take the test because they are not present when the test is administered, and are identified as absent by the school for the purpose of the test session. <u>Treatment of absent students' data and results</u> Not counted as part of assessed student cohort. Student report text: *Your child was absent from this test and no result has been recorded.*	5.3
C: Cancelled	No (NULL)	No NAPStudent ResponseSet	Blank result	Not in extract if status against all student tests,	System function	N/A

Participation Code	Score present in R&R dataset? refer DomainScore / RawScore DomainScore / ScaledScoreValue	Jurisdictional R&R extract	SSSR impacts	ISR impacts	Relevant information (including student report text)	ACARA protocol reference
		object. Note: Cancelled status can only be applied by ESA admin.		in extract if affecting individual tests		
E: Exempt	No (NULL)	No NAPStudent ResponseSet object	Blank result	No dot for student score	Students may be exempted from one or more of the tests. <u>Treatment of exempt students' data and results:</u> Students who are exempt and do not submit a test are considered assessed students and counted in 'below minimum standard' for national and jurisdictional summary data. Not included in school-level calculations of means. Students who take any or all tests will be counted as assessed students with the score they received. Student report text: *Your child was exempt from this test and is considered not to have achieved the national minimum standard.*	5.2
W: Withdrawn	No (NULL)	No NAPStudent ResponseSet object	Blank result	No dot for student score	Students may be withdrawn from the testing program by their parent/carer. <u>Treatment of withdrawn students' data and results</u> Withdrawn students are not counted as part of the cohort of assessed students.	5.4

Participation Code	Score present in R&R dataset? refer DomainScore / RawScore DomainScore / ScaledScoreValue	Jurisdictional R&R extract	SSSR impacts	ISR impacts	Relevant information (including student report text)	ACARA protocol reference
					Student report text: *Your child was withdrawn from this test.*	
S: Sanctioned Abandonment	No (NULL)	All objects (noting that a student may have responded to 0, 1 or many items prior to the participation status being set)	Blank result	No dot for student score	Abandonment of a test refers only to students who have started a test but who abandon the test due to illness, or injury (i.e. a sanctioned reason verified by the TAA). <u>Treatment of students' results and data where abandonment applies</u> When abandonment due to illness or injury is reported to and sanctioned by the TAA, students who have abandoned the test are not counted as part of the cohort of assessed students. Student report text: *Your child does not have a result for this test due to illness or injury during the test.*	5.5
R: Refused	Lowest scaled score in any pathway in the test is awarded. May result in negative scaled score.	All objects (noting that the student response objects are able to be ignored, and that testlet and item responses may be excluded from the object)	Raw score of zero	Score of zero	Students in attendance at school for the test session but who do not log in to a test must be recorded as present for the purpose of the test and are considered assessed. Students will receive an individual student report, and are counted as assessed students with a score of zero. The text that will appear on the individual student report for tests where a student was present but did not log in to the test will read: Your child was	5.6

Participation Code	Score present in R&R dataset? refer DomainScore / RawScore DomainScore / ScaledScoreValue	Jurisdictional R&R extract	SSSR impacts	ISR impacts	Relevant information (including student report text)	ACARA protocol reference
					present for this test but did not complete any part of the test.	
X: No Longer Enrolled	No (NULL)	No NAPStudent ResponseSet object	Student does not appear in the SSSR	Not in ISR extract (If ALL test attempts have this status). In ISR extract if at least one attempt has a status other than X – No longer enrolled	N/A	N/A

Note: “Blank result” for the SSSR indicates that the student’s name will show on the report but with no result.

Also, please refer to Appendix B for further details on NAPStudentResponseSet and the impact of participation code.

3. Test Details

3.1 Not in Path

As reported in NAPLAN 2018 testing, testlets that the student has not been presented with have their item responses flagged as being “Not In Path”. Depending on the test structure for subsequent years (ie NAPLAN 2019), including the number of testlets, the number of “Not In Path” item responses may vary from previous years. The removal of “Not in Path” items from the student response set is currently being considered to reduce the size of the XML export and may be a late fix applied prior to NAPLAN 2019.

3.2 Test Items

When analysing the results and reporting dataset the following should be taken into account regarding Test Items:

- Students in the same node can be presented with different testlets, every student in the same testlet will see the same test items (subject to either no DAC code or the same DAC codes being applied to the students - also refer to section 3.6 below).

- Test items with the same test item local id can appear in multiple testlets within a test and across tests (for example Year 3 Numeracy and Year 5 Numeracy).

- The RefID (GUID) for a Test item is unique for that instance of the test item within a testlet (and therefore a test) and across tests. The test item local id, on the other hand, is the same for all instances of the same test item, across testlets and tests.

- To link a test item completed by a student (NAPStudentResponseSet) to the corresponding codeframe entry in pseudocode the query would resemble:

  Select Item details
  From NAPCodeFrame.NAPTestItem
  Join NAPCodeFrame.NAPTestlet
  Join NAPCodeFrame.NAPTest
  Where NAPStudentResponseSet.NAPTestLocalId = NAPCodeFrame.NAPTest. NAPTestLocalId And
  NAPStudentResponseSet. NAPTestletLocalId = NAPCodeFrame.NAPTestlet. NAPTestletLocalId
  And
  NAPStudentResponseSet.TestItem. TestItemLocalId = NAPCodeFrame.NAPTestItem. TestItemLocalId

3.4 Item response correctness

The following outcomes of marking each student's item response are represented in the dataset:
Correct – The student's response was correct
Incorrect – The student's response was incorrect
Not attempted – No student response was recorded for this item
Not in path – This item was not presented to the student due to the adaptive structure of the test

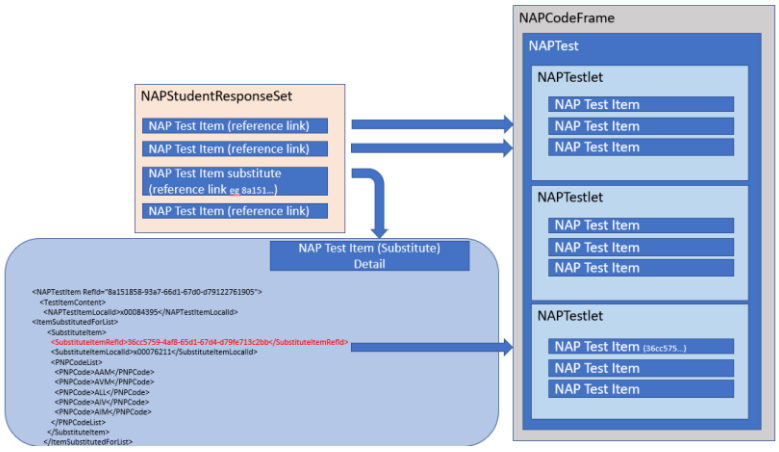
3.5 Codeframe

The codeframe currently contains only mainstream items; it does not contain substitute items.

3.5.1 Substitute Items

If a student has responded to an item not included in the codeframe, it is likely to be a substitute item. In order to make sense of the student's response, data consumers need to understand the following:

- The codeframe contains all mainstream items within the adaptive framework for each test, and details their content.
- Substitute items are available as separate objects within the results and reporting dataset, but are not enumerated or referenced within the codeframe.
- Substitute items contain links to the mainstream items that they replace.
- A substitute test item can be a replacement of more than one mainstream test item, and may replace different test items within the same test.
- However, a substitute test item will only replace a single test item in a given testlet and a given test pathway; e.g. it may replace an item in node B and a different item in node D of a reading test—but no student will undertake both nodes B and D in the same test. It could even replace an item in testlet B1 and a different item in testlet B2, where B1 and B2 are both in node B.
- Therefore, given a response to a substitute item, data consumers should retrieve the substitute item, and review it against the mainstream items expected for the current testlet, as enumerated in the codeframe. The substitute item will point to the mainstream items it can stand in for; only one of those items will be among the mainstream items of the current testlet. Information about the mainstream item (such as subdomain, difficulty) should be used for the substitute item.



Please note that there were some examples of 'mainstream' items also being represented as 'substitute' items in the 2018 NAPLAN Online test. Examples include:

NAPLAN Conventions of Language Year 9 2018	9	Grammar and Punctuation	x00098766
NAPLAN Conventions of Language Year 9 2018	9	Grammar and Punctuation	x00098768
NAPLAN Conventions of Language Year 7 2018	7	Grammar and Punctuation	x00098854
NAPLAN Conventions of Language Year 7 2018	7	Grammar and Punctuation	x00098766

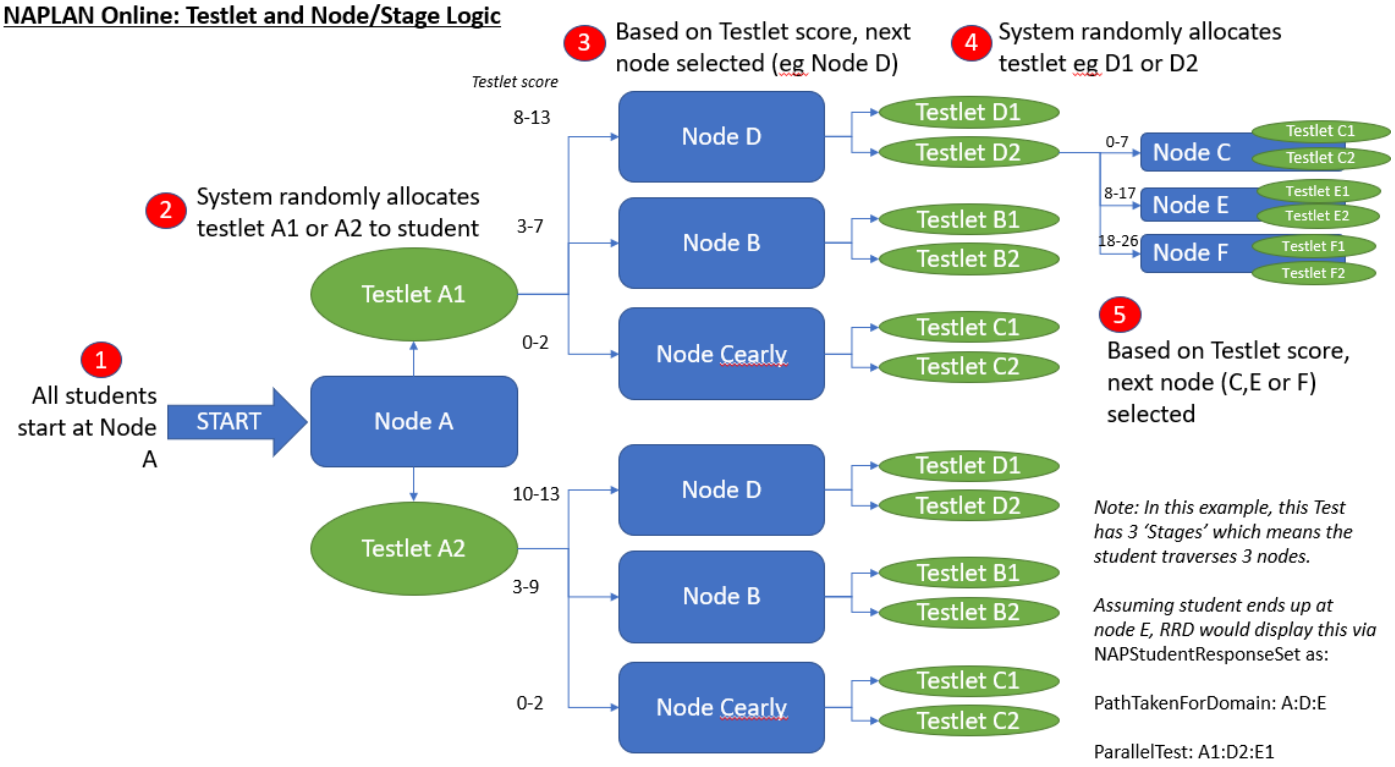
This may occur in the 2019 test but ACARA have advised this is unlikely.

3.6 Testlets, Nodes and the Codeframe

For 2018, the codeframe contained details of the test, testlets and test items (excluding direct references to substitute items, refer section 3.5.1 above). For the purposes of interpreting the codeframe, the NAPTestlet value for "Node" does not provide any meaningful value and will be reviewed. A "Node" is effectively a container for testlets and is an artefact from the test construction process.

When reviewing a student's response, the fields **Path Taken For Domain** and **Parallel Test** provide the following details as illustrated by the example below:

- Path Taken For Domain – details the nodes a student traverses as part of their test attempt
- Parallel Test – details the Testlets a student traverses as part of their test attempt



3.7 Caveats

- "TestletSubScore" (Testlet scores) are currently not being provided; but they can be calculated from the item scores in a response.
- In order to prevent cheating, at least two Writing tests are administered in a school per year level, so there are at least two Writing Test Score Summaries per year level for a school.
- Students whose participation status is Sanctioned Abandonment will not receive overall domain scores for the test, but may have scored individual item responses.

3.8 Disability Adjustment Codes

The following Disability Adjustment Codes (DACs) are available.

A) DACs selected by the school level administrator at the test level prior to test administration:

AIA: Alternative items - audio
AIV: Alternative items - visual
AST: Assistive technology
BNB: Colour contrast Black with Blue background (new for 2019)
BNG: Colour contrast Black with Green background (new for 2019)
BNL: Colour contrast Black with Lilac background (new for 2019)

BNW: Colour contrast Black with White background (new for 2019)*
BNY: Colour contrast Black with Yellow background (new for 2019)
COL: Colour contrast modification*
ETA: Extra Time - 5 mins per 30 min or part thereof
ETB: Extra Time - 10 mins per 30 min or part thereof
ETC: Extra Time - 15 mins per 30 min or part thereof
ETD: Extra Time – double total test time
OFF: Braille, large print, black and white, electronic test format
OSS: Oral sign/support
RBK: Rest break
SCR: Scribe
SUP: NAPLAN Support person
*Use BNW with COL and access screen inversion via device to provide a 'white with black background' theme
Refer: ACARA Principal's Handbook for more information.

B) DACs turned on at a system level prior to the test window:

CAL: Calculator Fit to Screen (new for 2019)
ENZ: Enable Zoom (new for 2019)
EST: Editor Sticky Toolbar (new for 2019)
LFS: Larger Font Sizes (new for 2019)
RZL: Remember Zoom Level (new for 2019)
ZOF: Zoomed Optimised Features (new for 2019)
ZTFAO: Zoom to Always On (new for 2019)

C) Previous DACs available but not used for 2019
AIM, AAM, AVM, ALL

3.9 Device details

Device details from systems used to complete NAPLAN Online tests will be supplied in the 2018+ RRD data. Examples include:

- <Device>Mozilla/5.0 (Windows NT 10.0; rv:41.0) Gecko/20100101 Firefox/41 SEB 2.1.8</Device>
- <Device>Mozilla/5.0 (iPad; CPU OS 10_3_3 like Mac OS X) AppleWebKit/603.3.8 (KHTML, like Gecko) Version/10.0 Mobile/14G60 Safari/602.1</Device>

No specific unique device (MAC address) or network details (IP address) are included in the <Device> details element.

3.10 Writing assessment

For the 2018 writing task, responses were not marked online, and ingestion of the externally-marked scores into the platform was not possible, consequently there are no writing scores in the platform, SSSR and RRD. The RRD does however include the students' responses to the writing prompts with which they were presented for students in Years 5, 7 and 9. Year 3 students did not undertake online writing tasks, so there are no responses and prompt information for this test level.

As mentioned elsewhere more than one writing prompt was used at each test level in 2018 These were presented separately in the RRD.

The rubrics or marking guides for the assessment of Writing are produced by ACARA who publish them online https://www.nap.edu.au/naplan/writing, and are not included in the tech spec. They apply to two task types,

narrative and persuasive, and to all prompts at all test levels. Within each writing genre, the same marking guide is used at all year levels to assess all students' writing, allowing for a national comparison of student writing capabilities across these year levels.

4. Interface specifications

4.1 Export Results and Reporting Data for NAPLAN assessed students in a jurisdiction.

Business Functions Supported	Export complete set of NAPLAN Results & Reporting data for one, many or all schools in a jurisdiction.
Problem being solved	What is the record of the NAPLAN online assessment for all students across all year levels and all test domains for a given year?
Description	See diagram above (Section 2) of all the objects involved in the exchange of Results and Reporting Data. This describes the exporting of: • All of the relevant, Student and NAPLAN Results information and their relationships. The export is initiated manually by TAA administrator from the assessment platform and produces XML files
Process or Function Pre-conditions	1. Data about students registering for the NAPLAN Online assessment cycle has been imported into the Assessment Delivery System from the SRM 2. The students in scope are registered to participate in assessments delivered by the platform 3. ACARA has loaded the test information including item metadata and branching rules for the tailored assessments into the platform 4. TAA administrator generates a Results & Reporting Dataset within their scope.
Process or Function Post-conditions	1. The export will be available in XML: i) The XML file naming convention will NAPResultsReporting.xml ii) A file extension of .XML is required. iii) The XML will comply with the SIF AU (3.4.3) standard available here. iv) Students will be represented via the StudentPersonal object, and have any Participation Status from a linked NAPEventStudentLink Object; Results will be in the NAPStudentResponseSet object linked with the NAPTestItem object. The NAPTestScoreSummary, representing cohort comparison scores, is linked to the SchoolInfo object. The SchoolInfo object in turn is linked to individual students registered through that school via the NAPEventStudentLink. 2. Consumers of the results and reporting data will perform any necessary transformations on the data as required
Business rules	1. Refer section 1. 6 above – Operations and Timing

5. Data Validation

5.1 Test Data for Export

Test data for testing the bulk export of NAPLAN Online Jurisdictional Results and Reporting data can be accessed via the *NSIP HITS Testing Service* http://hits.nsip.edu.au (illustrating the use of the NAPLAN Results and Reporting API), the NSIP Github repository https://github.com/nsip/naplan-results-reporting (illustrating the export of RRD extracts as a single file), or via ESA. Every effort has been made to ensure that the test data matches the format of the XML data as presented by the National Assessment Platform.

5.2 Known Issues

While the National Assessment Platform has made an effort to align to the SIF-AU specification, there are a few instances in which the XML output from the platform does not currently follow the specification, and will result in validation errors if validated against the current SIF-AU schema. The following are known issues for the 2019 version of the National Assessment Platform; they are expected to be fixed for 2020.

- The SchoolInfo Address elements (SchoolInfo/AddressList/Address) may be missing their mandatory elements Street, City, and PostalCode. This issue may be mitigated in future by referring to the Australian School List or to local information sources for data about school addresses: the National Assessment Platform is not intended to serve as a source of truth about schools. ADST-5530 has been raised to address this issue in future.

5.3 Changes to the RRD XML from 2018 to 2019

The following changes were made to the RRD which will impact 2019 processing:

1. CR61: The fields “Student Item Response” and “Item Correct Answer” fields are set to null for all test domains except Writing. This change results in a revised dataset spreadsheet – refer v2.07 (previously 2.061)
2. ADST-5185: Missing item responses from dataset (caused by DAC code inconsistencies). Addressed for 2019. All student responses will be represented in the data regardless of DAC code combinations.
3. ADST-5524: Fields relating to QA from the SRM component of the platform are being represented in the RRD as 'other IDs' eg
    - <OtherId Type="DOBRange">false</OtherId>
    - <OtherId Type="PersonalDetailsChanged">false</OtherId>
    - <OtherId Type="PossibleDuplicate">false</OtherId>
    - <OtherId Type="PsiOtherIdMismatch">false</OtherId>

    Fields moved to: NAPEventStudentLInk object as new elements.
4. ADST-5526: The wrapper for the SIF XML message has been changed from <sif> to <NAPResultsReporting>. Additionally, all instances of the containers <NAPTestlets>, <NAPTestItems>, <NAPStudentResponseSets> have been removed.
5. ADST-5527: Nilled elements: If address not supplied, its elements should be omitted, not just nilled; if the elements are to be supplied and nilled, their mandatory attributes also need to be supplied.
6. ADST-5529: OtherLEA removed from XML payload.

6. Data Transport

The data format for exports of student results is SIF/XML. This will ensure that the complexity of results data can be captured properly, without devolving into a huge number of linked files for each result set, and that appropriate typing and validation can be built into data ingestion.

The extracts have initially been made available via a manual selection interface in the National Assessment Platform:

- The extract will deliver all the objects/entities via XML.
- All results objects will be wrapped within a single <NAPResultsReporting> wrapper tag.
- The results data may incorporate binary data, such as script images or exemplar items. Rather than include such data as blobs in the result data XML, it is preferable for the XML to reference such data as external files, through a URL or through a filename reference to a separately distributed file archive.
- NSIP is able to assist TAAs in consuming SIF formatted files into their existing systems, through its NIAS toolset (refer to section 7.2 below for resource links).

The capacity to enable a machine to machine API for the exchange of results data is being developed for 2019. Technical documentation on how to use the API is available from ESA.

7. Results and Reporting Data Set – Specifications

Refer to *"Online NAPLAN Reporting DataSet 2.07.xlsx"* located here:

https://github.com/nsip/naplan-results-reporting

7.1 Student Results Export File/s– XML:

Up to date sample XML exists in GitHub and is available for download here:
https://github.com/nsip/naplan-results-reporting/blob/master/sample.platform.xml.zip

7.2 Other resources:

XSD file:

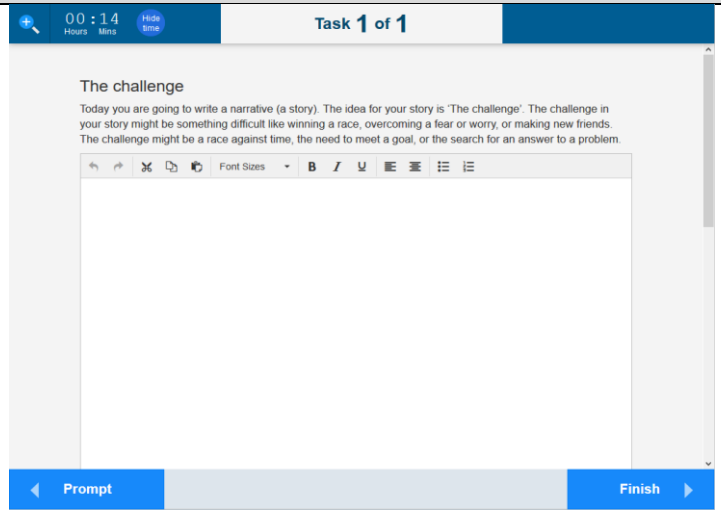
https://github.com/nsip/naplan-results-reporting/blob/master/SIF_MessageWithWrapper.xsd

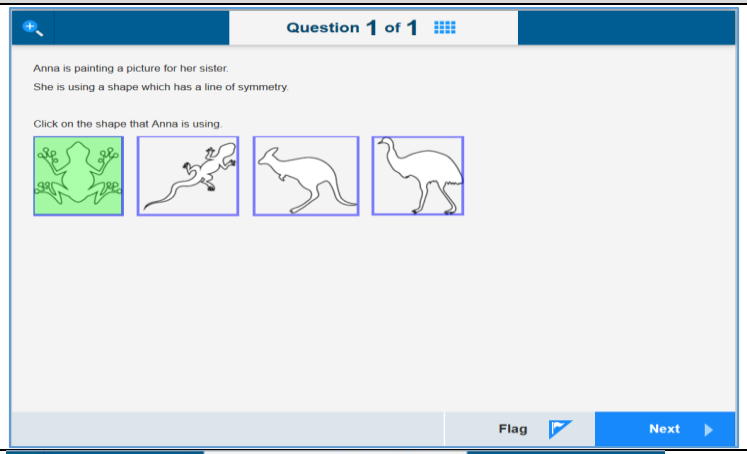
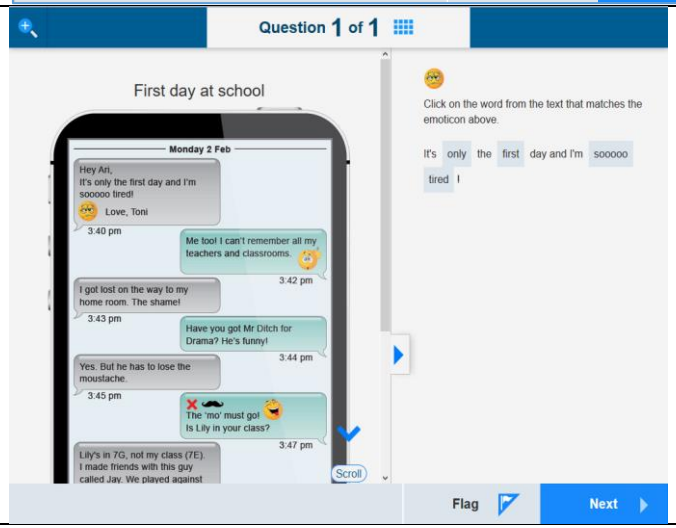
NSIP NIAS tool for Results and Reporting:

https://github.com/nsip/nias2

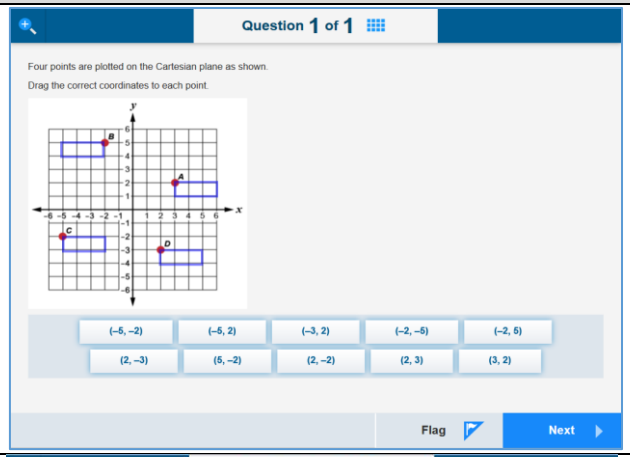
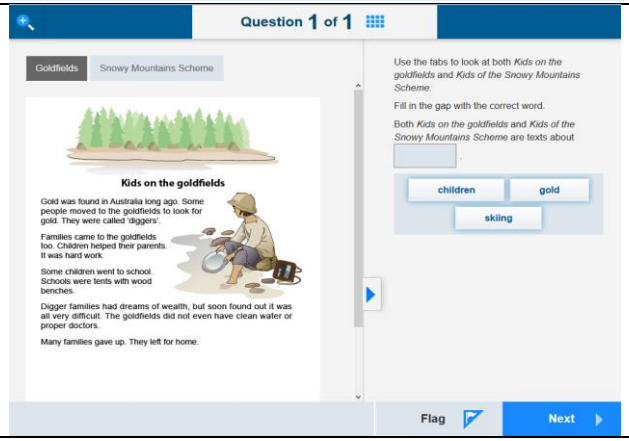
NSIP HITS Testing Service
http://hits.nsip.edu.au

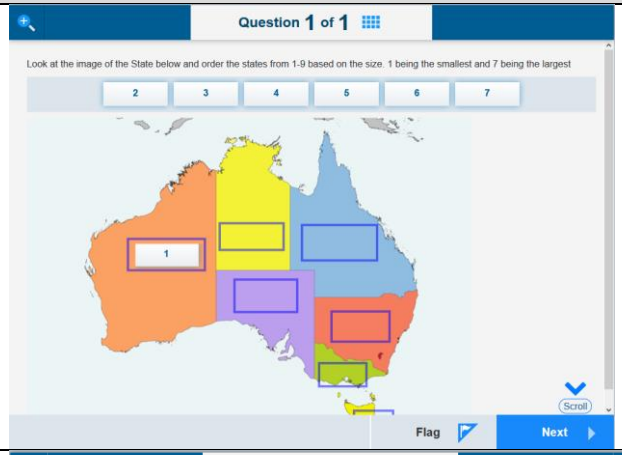
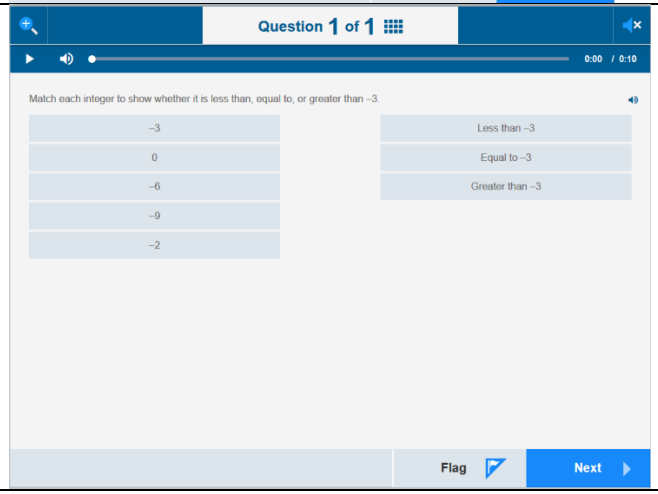
Appendix A: Test Item types and their representations in the R&R dataset

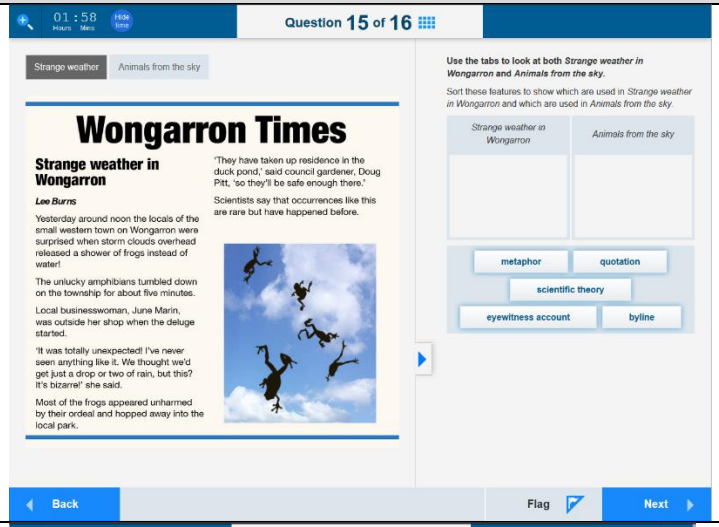
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
1	Extended text	ET		Writing Test Response RRD.txt Writing Test Response with HTML	Extended text only used for Writing assessment. The provided "Writing Test Response RRD.txt" is how the contents will appear in the RRD XML file. The HTML version provided shows how this would appear when converted from XML to HTML.

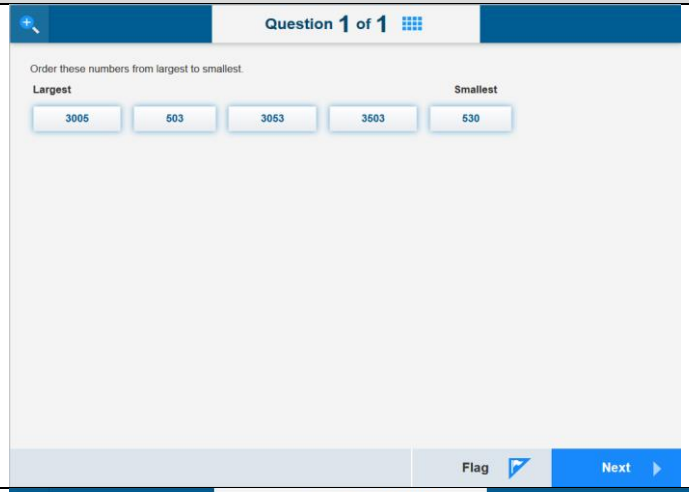
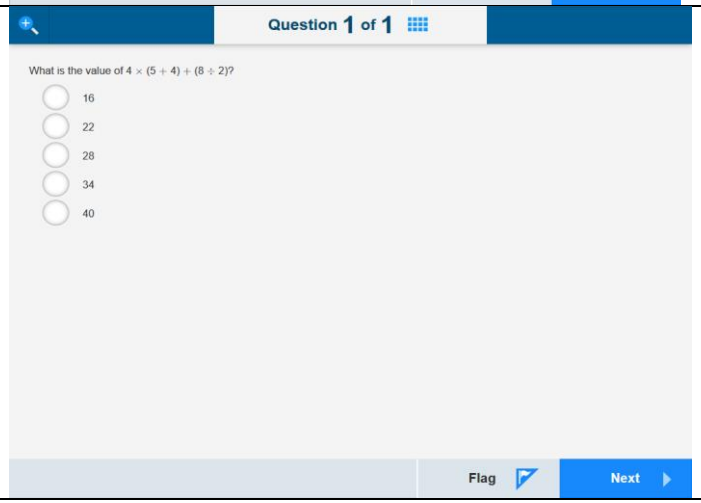
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
2	Hot spot	HS		1000 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	
3	Hot text	HT		0010 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	

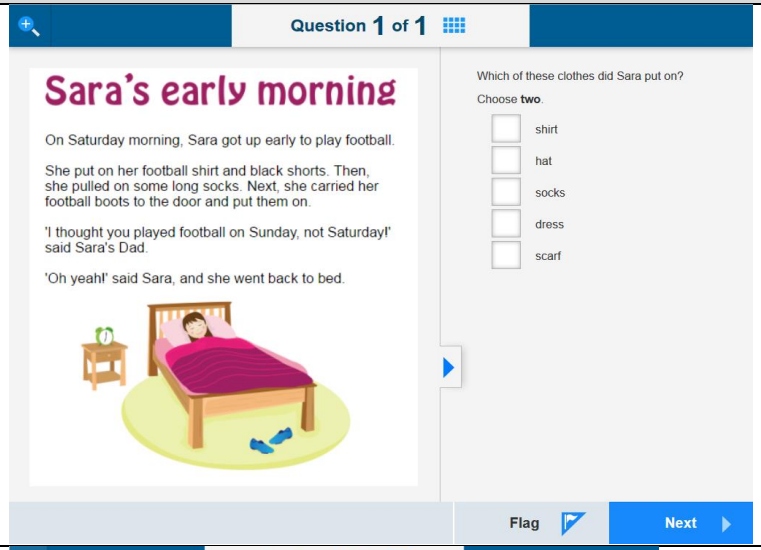
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
4	Interactive associate (**NOTE:** Will not be used in NAPLAN 2019)	IA		[{"ValueMatch":"xg00007830", "Australia"}, {"ValueMatch":"xg00007831", "Canada"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019
5	Interactive graphic associate **NOTE:** Will not be used in NAPLAN 2019	IGA		[{"ValueMatch":"Brisbane", "Adelaide"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019

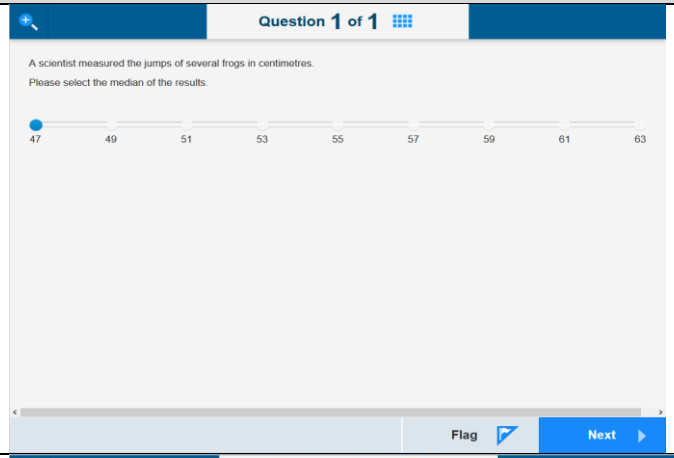
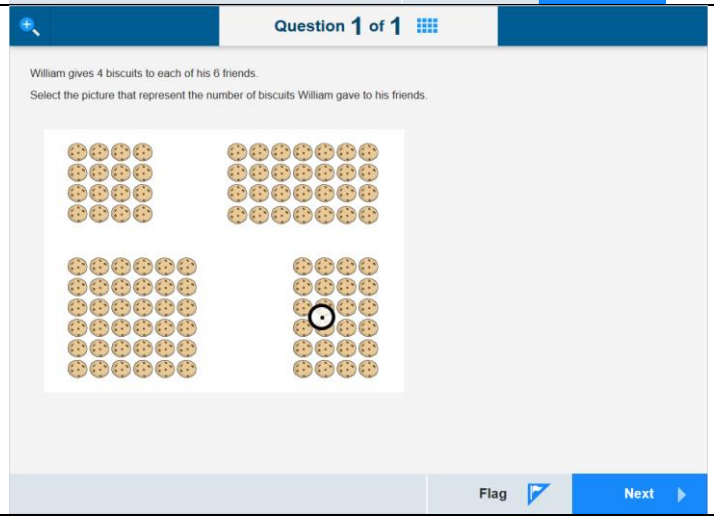
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
6	Interactive graphic gap match **NOTE:** Will not be used in NAPLAN 2019	IGGM		[{"ValueMatch":"(–5\, –2)", "C"},{"ValueMatch":"(–2\, 5)", "B"},{"ValueMatch":"(2\, –3)", "D"},{"ValueMatch":"(3\, 2)", "A"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019
7	Interactive gap match	IGM		[{"ValueMatch":"children", "Gap 1"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	

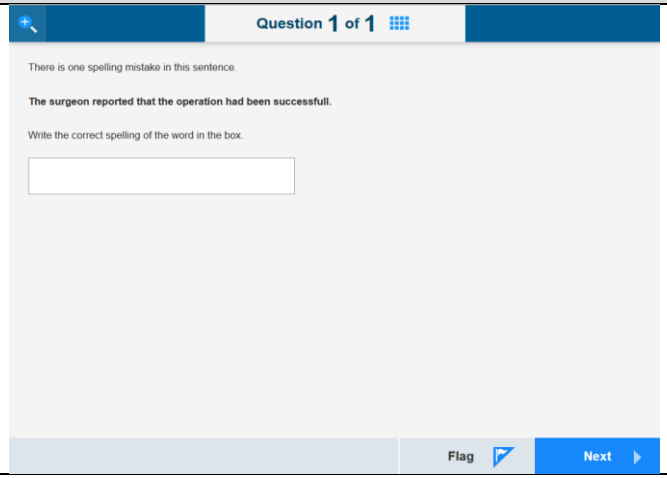
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
8	Interactive graphic order **NOTE:** Will not be used in NAPLAN 2019	IGO		["Western Australia", "Northern Territory", "Queensland", "New South Wales", "South Australia", "Victoria", "Tasmania"] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019
9a	Interactive match – Draw line **NOTE:** Will not be used in NAPLAN 2019	IM		[{"ValueMatch":"an historical recount", "The Rosetta Stone"},{"ValueMatch":"a persuasive article", "Whose rock is it\, anyway?"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019

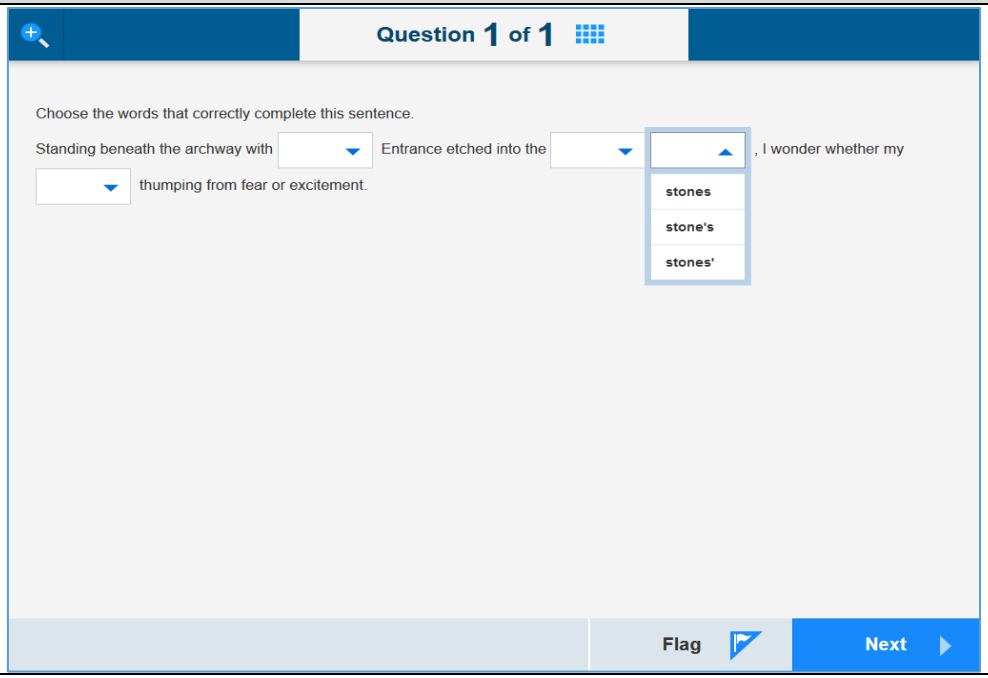
#	Item Type	Short name	Student Player view	Sample “Correct Answer” Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
9b	Interactive match – Drag and drop			[{"ValueMatch":"a current account", "Wongarron Times"},{"ValueMatch":"a persuasive article", "Whose rock is it\, anyway?"}] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	
9c	Interactive match – Checkbox				

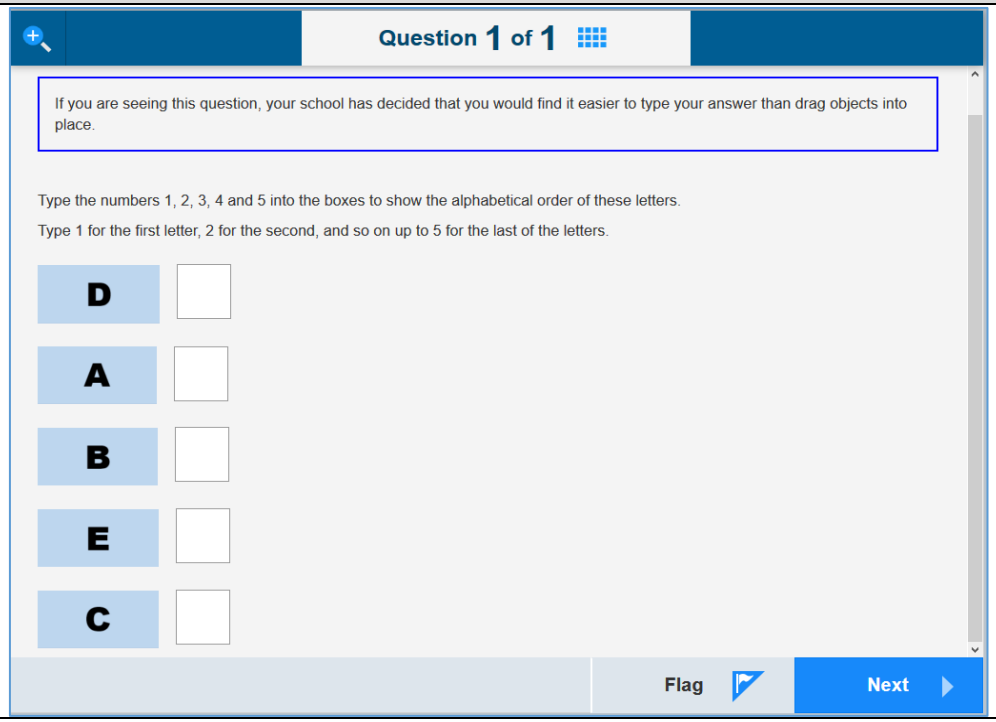
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
10	Interactive order **NOTE:** Will not be used in NAPLAN 2019	IO		3503,3053,3005,530,503 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019
11	Multiple choice	MC		1 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	

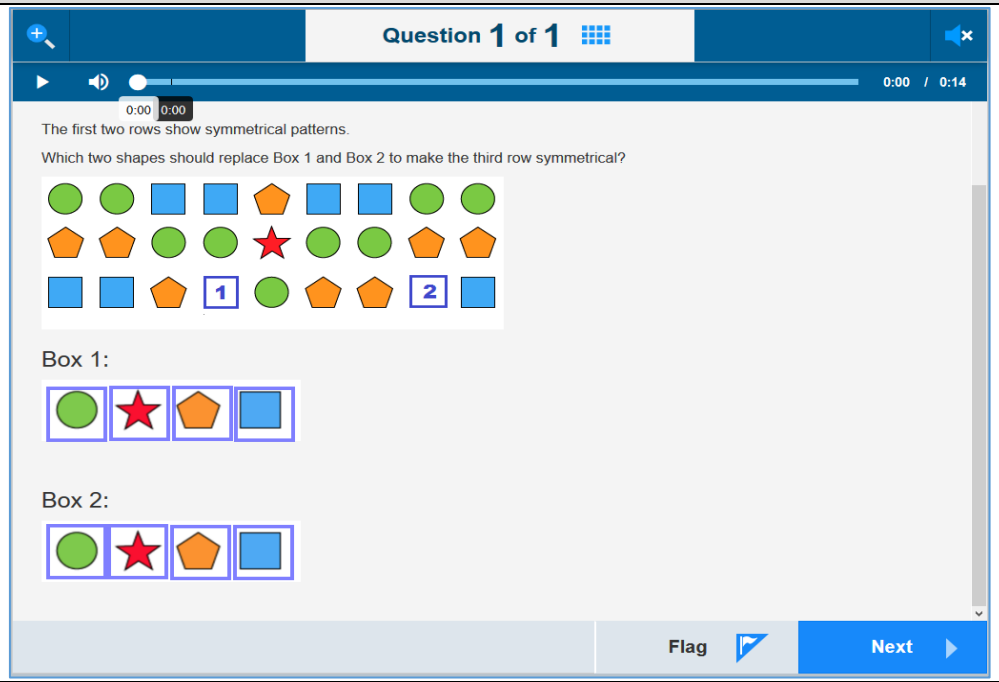
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
12	Multiple choices	MCS		10100 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	
13	Position object **NOTE:** Will not be used in NAPLAN 2019	PO		aia01-aia01-000011,aia01-aia01-000012 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019

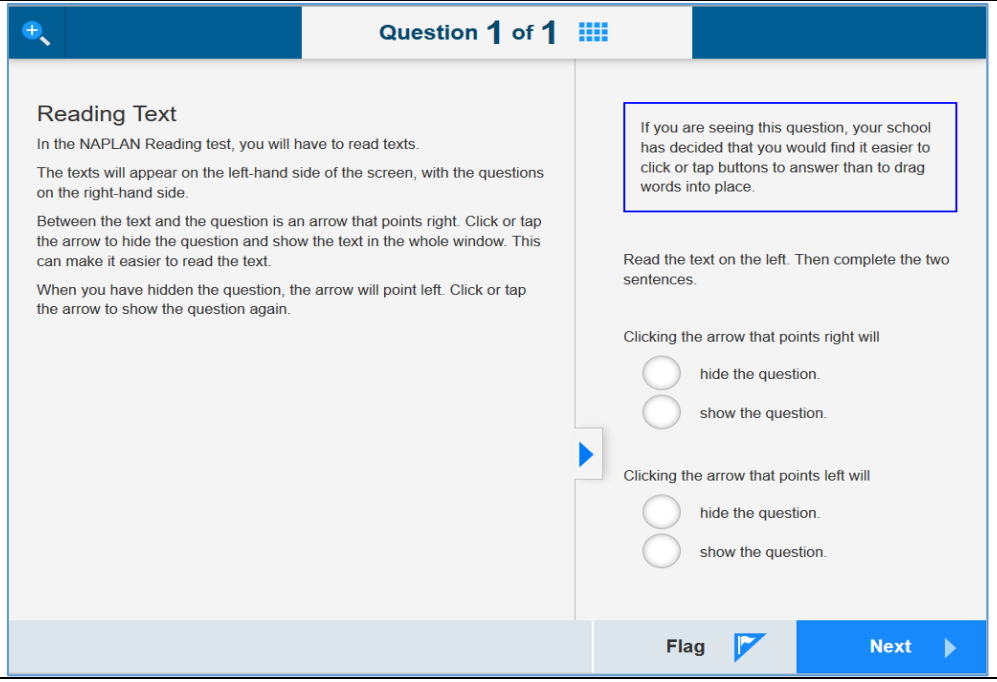
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
14	Slider **NOTE:** Will not be used in NAPLAN 2019	SL		0.4 (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019
15	Select point **NOTE:** Will not be used in NAPLAN 2019	SP		["ValuePoint":"421","276"] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	**NOTE:** Will not be used in NAPLAN 2019

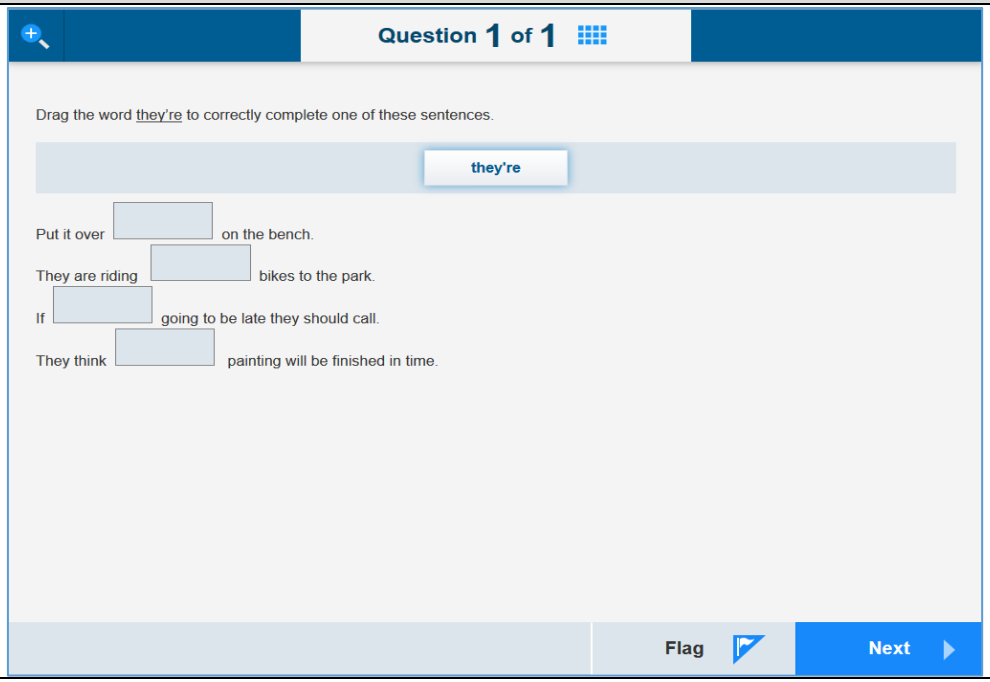
#	Item Type	Short name	Student Player view	Sample “Correct Answer” Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
16	Text entry	TE		["successful"] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	
17	Inline choice	IC	Refer composite	Refer composite	Always contained within a composite item type, by virtue of being an inline interaction

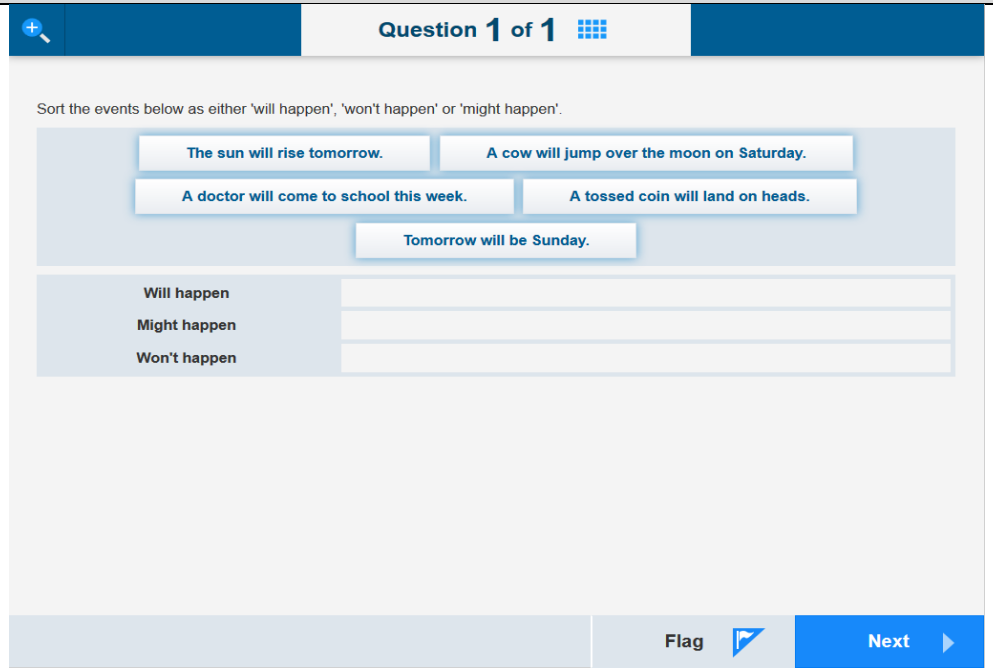
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
18	Composite (Composite with inline choice interactions) – 4 interactions shown	CO		[Pupils', centuries-old, stones, heart's] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

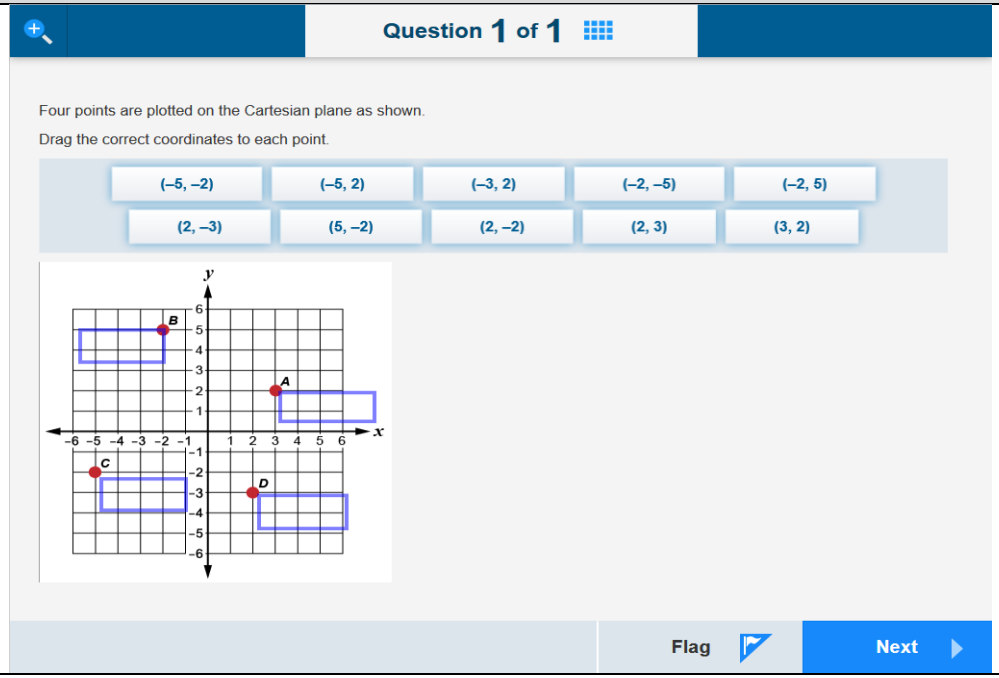
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
19	Composite (Composite with text entry interactions) – 5 interactions shown	CO		[["4", "1", "2", "5", "3"]] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

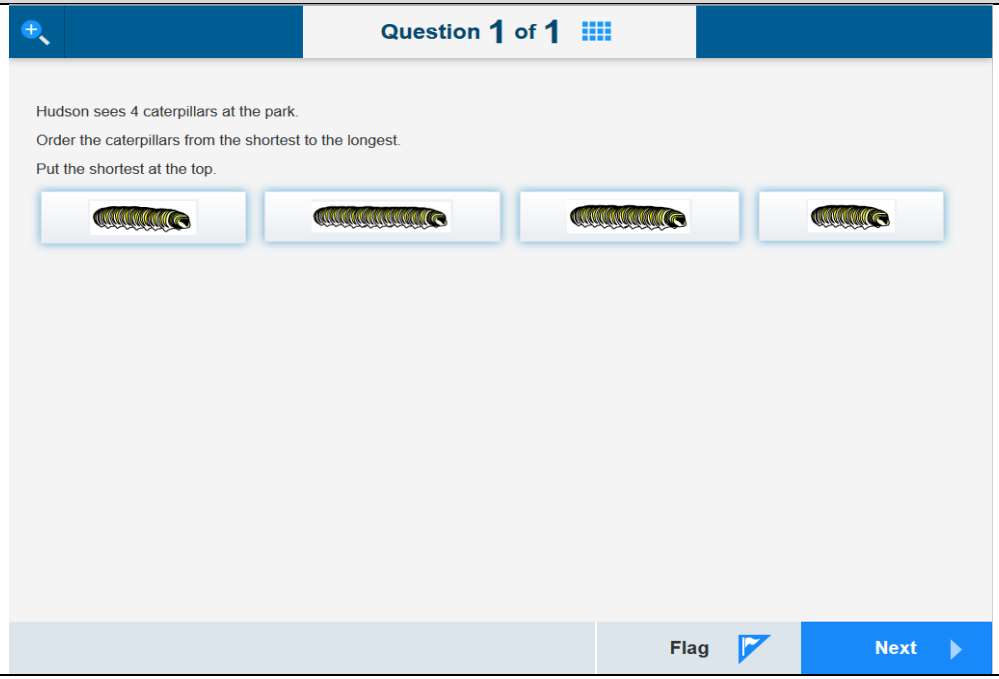
#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
20	Composite (Composite with Hot Spot Item Interaction) – 2 interactions shown	CO		[0010, 0001] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
21	Composite (Composite with Multiple choice item interaction) – 2 interactions shown	CO		[1, 2] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
22	Composite (Composite with Interactive Gap Match interaction) – 1 interaction shown	CO		[[{"ValueMatch": "they're", "Gap 3"}]] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
23	Composite (Composite with Interactive Match (Drag and Drop) Item interaction) – 3 interactions shown	CO		[[{"ValueMatch": "The sun will rise tomorrow.", "Will happen"}, {"ValueMatch": "A doctor will come to school this week.", "Might happen"}, {"ValueMatch": "A tossed coin will land on heads.", "Might happen"}, {"ValueMatch": "A cow will jump over the moon on Saturday.", "Won't happen"}, {"ValueMatch": "Tomorrow will be Sunday.", "Won't happen"}]] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
24	Composite (Composite with Interactive Graphic Gap match item interaction) – 1 interaction shown	CO		[[{"ValueMatch": "(-5\, -2)", "C"}, {"ValueMatch": "(-2\, 5)", "B"}, {"ValueMatch": "(2\, -3)", "D"}, {"ValueMatch": "(3\, 2)", "A"}]] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

#	Item Type	Short name	Student Player view	Sample "Correct Answer" Note: for reference only. Correct answer will not appear in RRD beyond 2018	Notes
25	Composite (Composite with Interactive Order item interaction) – 1 interaction shown	CO		[Smallest, Third Largest, Second Largest, Largest] (note: correct answer will not be provided for NAPLAN 2019+, instead the element will be set to nil)	Composite is a wrapper for other interactions, with answers related to the individual interactions, separated by commas and enclosed in square brackets.

Note: Composite items are containers for one or more interactions of any type. They may contain: one text entry interaction; two multiple-choice interactions; one interactive match plus one interactive gap match; any other combination and number of interactions. In 2018 they will be scored as 0/1.

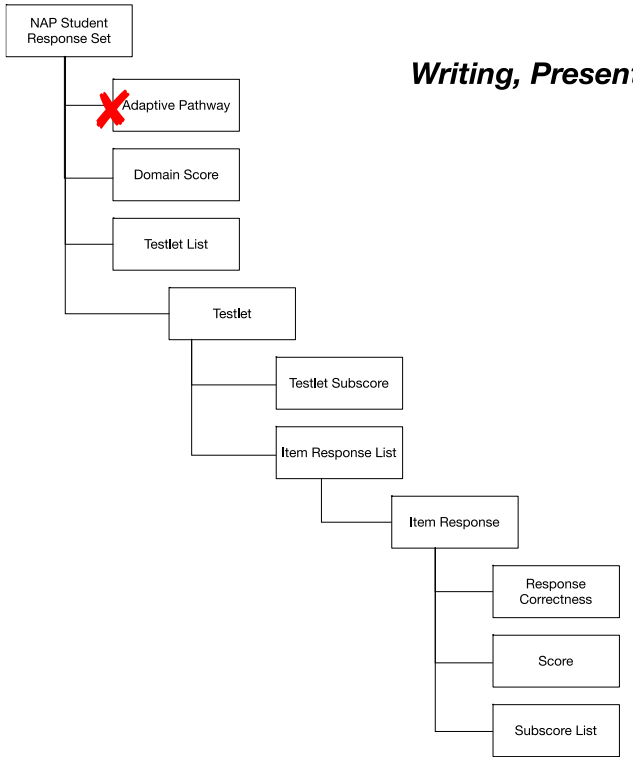
Appendix B: NAPStudentResponseSet impacts

The **NAPStudentResponseSet** object contents returned in the Results & Reporting dataset is determined by both the student test participation code and the test domain.

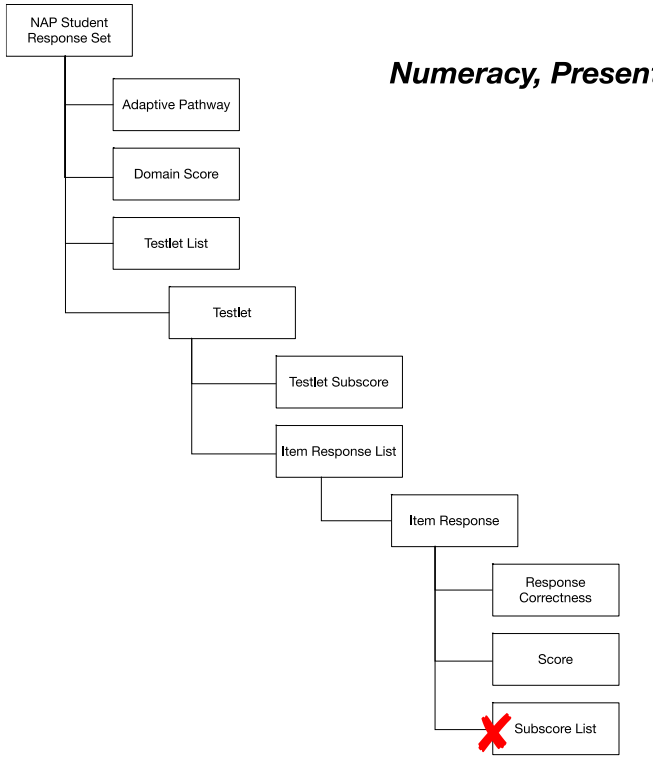
Different fields are returned based on different participation codes:

- If the participation of the student is P, all fields may appear
- If the participation of the student is A, E, W, X, the object is not created at all
- If the participation of the student is R, the object is populated with (overall) scores (0), but with no responses
- If the participation of the student is S, the object is populated with responses, but with no scores (NULL)

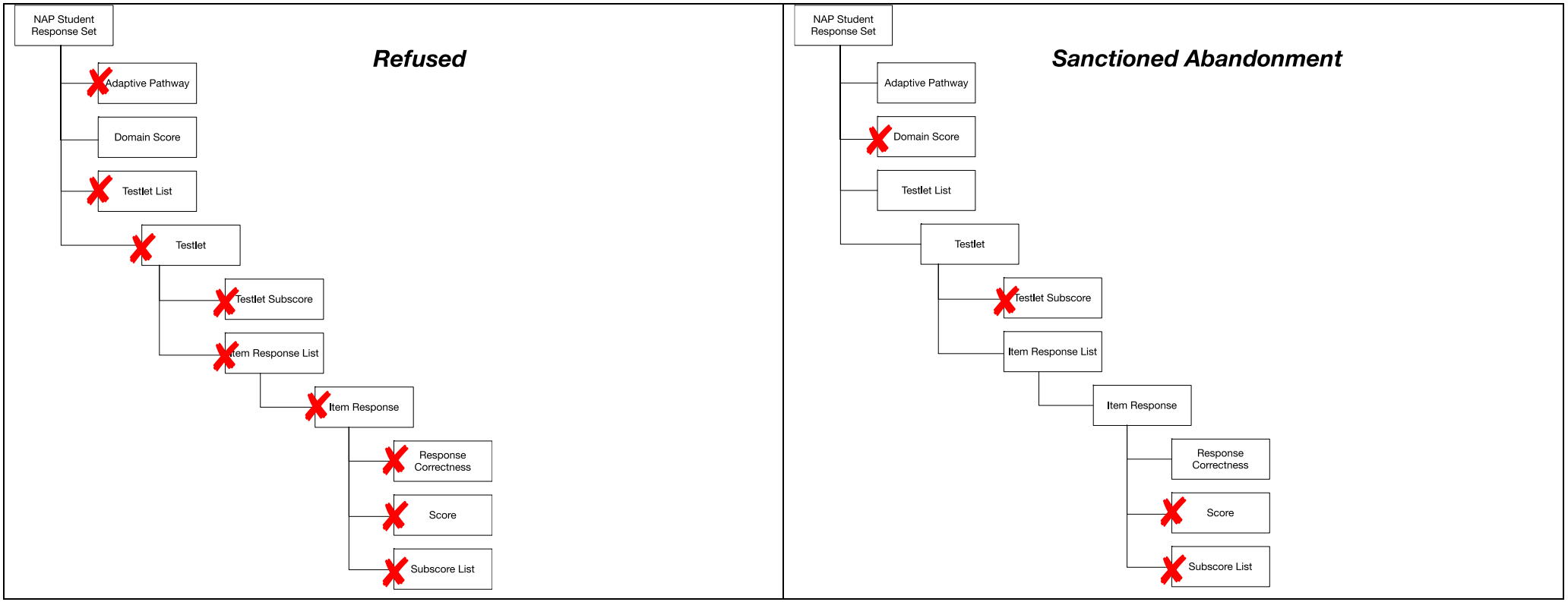
Different fields are provided for the test domain of Writing, which is not an adaptive or tailored test.



Writing, Present



Numeracy, Present


NAP Student Response Set
Refused
Adaptive Pathway
Domain Score
Testlet List
Testlet
Testlet Subscore
Item Response List
Item Response
Response Correctness
Score
Subscore List
NAP Student Response Set
Sanctioned Abandonment
Adaptive Pathway
Domain Score
Testlet List
Testlet
Testlet Subscore
Item Response List
Item Response
Response Correctness
Score
Subscore List

Data set impacts based on student participation code

Note: M – Mandatory, MR – Mandatory repeating (expect multiples), O – Optional, C- Conditional, X – Not supplied

NAPStudentResponseSet Element Name	Obligation	Refused	Sanctioned Abandonment	Writing	Numeracy (or any other non-writing test)
@RefId	M	M	M	M	M
ReportExclusionFlag	M	M	M	M	M
CalibrationSampleFlag	O	O	O	O	O
EquatingSampleFlag	O	O	O	O	O
PathTakenForDomain	C	X	C	X	M
ParallelTest	C	X	C	X	M
StudentPersonalRefId	O	O	O	O	O
PlatformStudentIdentifier	M	M	M	M	M
NAPTestRefId	O	O	O	O	O
NAPTestLocalId	M	M	M	M	M
DomainScore	C	M	X	C	C
DomainScore/ RawScore	M	M	X	M	M
DomainScore/ ScaledScoreValue	M	M	X	M	M
DomainScore/ ScaledScoreLogitValue	M	M	X	M	M
DomainScore/ ScaledScoreStandardError	M	M	X	M	M
DomainScore/ ScaledScoreLogitStandardError	M	M	X	M	M

NAPStudentResponseSet Element Name	Obligation	Refused	Sanctioned Abandonment	Writing	Numeracy (or any other non-writing test)
DomainScore/ StudentDomainBand	M	M	X	M	M
DomainScore/ StudentProficiency	M	M	X	M	M
DomainScore/ PlausibleScaledValueList	M	M	X	M	M
DomainScore/ PlausibleScaledValueList/ PlausibleScaledValue	MR	MR	X	MR	MR
TestletList	C	X	M	C	C
TestletList/ Testlet	MR	X	MR	MR	MR
TestletList/ Testlet/ NAPTestletRefId	O	X	O	O	O
TestletList/ Testlet/ NAPTestletLocalId	M	X	M	M	M
TestletList/ Testlet/ TestletSubscore	O	X	X	M	M
TestletList/ Testlet/ ItemResponseList	M	X	M	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse	MR	X	MR	MR	MR
TestletList/ Testlet/ ItemResponseList / ItemResponse / NAPTestItemRefId	O	X	O	O	O
TestletList/ Testlet/ ItemResponseList / ItemResponse / LocalId	M	X	M	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / Response	O	X	O	O	O
TestletList/ Testlet/ ItemResponseList / ItemResponse / ResponseCorrectness	M	X	M	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / Score	O	X	M (for items completed)	O	O
TestletList/ Testlet/ ItemResponseList / ItemResponse / LapsedTimeItem	O	X	O	O	O
TestletList/ Testlet/ ItemResponseList / ItemResponse / SequenceNumber	M	X	M	M	M

NAPStudentResponseSet Element Name	Obligation	Refused	Sanctioned Abandonment	Writing	Numeracy (or any other non-writing test)
TestletList/ Testlet/ ItemResponseList / ItemResponse / ItemWeight	M	X	M	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / SubscoreList	O	X	X	M	X
TestletList/ Testlet/ ItemResponseList / ItemResponse / SubscoreList/ Subscore	MR	X	MR	MR	X
TestletList/ Testlet/ ItemResponseList / ItemResponse / SubscoreList/ Subscore/ SubscoreType	M	X	M	M	X
TestletList/ Testlet/ ItemResponseList / ItemResponse / SubscoreList/ Subscore/ SubscoreValue	M	X	M	M	X

As an example and for the purpose of simplicity, high level indicative fields are as follows:

NAPStudentResponseSet	Obligation	Participation "Refused"	Participation "Sanctioned Abandonment"	Writing with participation "Present"	Numeracy with participation "Present"
Adaptive Pathway	C	X	C	X	M
DomainScore	C	M	X	M	M
TestletList	C	X	M	M	M
TestletList/ Testlet/ TestletSubscore	O	X	X	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / Response (Note: Response provided for Writing tests only)	O	X	O	O	O
TestletList/ Testlet/ ItemResponseList / ItemResponse / ResponseCorrectness	M	X	M	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / Score	O	X	X	M	M
TestletList/ Testlet/ ItemResponseList / ItemResponse / SubscoreList	O	X	X	M	X