

Designing effective assessment instruments for Authority and Authority-registered subjects

January 2015

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Introduction

In the Queensland system of externally moderated school-based assessment, teachers develop and implement assessment instruments that cater for their school's unique context, resources and students.

Assessment instruments must meet the requirements of the relevant syllabus and of the assessment program described in the school's work program or study plan.

Teachers align syllabus requirements with the assessment program in the work program or study plan and with the teaching, learning and assessment experiences.

Purpose

This document describes the processes that teachers in schools could use when designing assessment instruments that effectively achieve syllabus and work program/study plan requirements and that reliably and validly assess learning experiences.

Resources

The following resources should be used in conjunction with this document:

- *Guidelines for Assessment Quality and Equity* developed by the Australasian Curriculum, Assessment and Certification Authorities (ACACA), <http://acaca.bos.nsw.edu.au/go/acaca-documents>
- QCAA annotated sample assessment and student responses available from the 'Assessment' tab for each subject, www.qcaa.qld.edu.au > Senior secondary > Years 11–12 subjects
- *Senior assessment evaluation tool*, www.qcaa.qld.edu.au/downloads/approach/qual_assur_snr_assess_tool.docx
- state review panel reports, www.qcaa.qld.edu.au/2135.html.

Scope

Assessment should provide opportunities for students to demonstrate the syllabus:

- **objectives**, described in **dimensions** (salient characteristics or properties of a subject)
- **standards** (descriptions of the expected qualities of student work that provides a basis for judging how well students have demonstrated what they know, understand and can do).

This document provides information to teachers in schools about:

- using syllabus objectives and standards descriptors to design assessment instruments, tasks and items
- developing assessment design processes.

This document does not provide detailed advice on instrument-specific standards descriptors.

Design process considerations

The assessment instrument design process should begin with a decision about which dimension/s will be assessed and which standards descriptors will be selected for use in making judgments about student achievement.

Syllabuses describe a range of **techniques** and **conditions** for assessment. The assessment instrument will be described in these terms in the school work program/study plan.

Suggested **learning experiences** are described in syllabuses; school documents should also detail these. Teaching and learning experiences will reflect syllabus suggestions and work program/study plan specifications.

The assessment design process should **align** all of these factors. This alignment will occur in the design of the assessment **task** or **item/s** and the **instrument-specific standards**.

Aligning teaching, learning and assessment

Alignment of teaching and student learning experiences with syllabus objectives and standards descriptors is achieved through the design of the:

- assessment **instrument** (a tool or device for gathering information about student achievement), which may include:
 - an assessment **task** (a type of assessment instrument that involves students applying and using relevant knowledge and theoretical and practical skills to create a product or a response to a meaningful problem or issue)
 - **item/s** (a subset or part of an assessment instrument)
- **instrument-specific standards matrixes** (a tool for making judgments about the quality of students' responses to an assessment instrument. It lists the properties or characteristics used to assess students' achievements).

Teaching and learning experiences

Student **learning experiences** (the activities teachers plan for students to achieve the syllabus objectives) are described in syllabuses and school documents. Teaching and learning experiences will reflect syllabus suggestions and work program/study plan specifications, as well as cater for the school's context, resources and the unique characteristics of each cohort of students.

Choosing techniques and conditions

Syllabuses describe a range of **techniques** (the methods used to gather information about student achievement) and **conditions** for assessment.

The assessment instrument will be described in these terms in the school work program/study plan. The assessment technique to be used should be determined from the syllabus and school documents.

The relevant syllabus should be consulted to ensure all specific requirements are met.

Determining the objectives and standards to be demonstrated

Using the syllabus and the school work program:

1. Determine which dimensions and objectives are to be assessed.
2. Draw appropriate descriptors from the syllabus standards.

Standards associated with exit criteria

	A	B	C	D	E	
Knowledge and understanding	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a comprehensive range of factual information effective and consistent application and explanation of business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a substantial range of factual information effective application and explanation of business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information application and explanation of basic business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts.
Reasoning processes	The student work has the following characteristics: <ul style="list-style-type: none"> effective and consistent interpretation, analysis, synthesis and evaluation of information development of logically reasoned arguments, valid conclusions, appropriate and justified recommendations to business-related issues and problems communicates information consistently and effectively to a business standard for a variety of purposes and audiences. 	The student work has the following characteristics: <ul style="list-style-type: none"> effective interpretation, analysis, synthesis and evaluation of information development of logically reasoned arguments, valid conclusions and appropriate recommendations to business-related issues and problems communicates information effectively to a business standard for a variety of purposes and audiences. 	The student work has the following characteristics: <ul style="list-style-type: none"> basic interpretation, analysis, synthesis and evaluation of information development of reasoned arguments, conclusions and recommendations to business-related issues and problems communicates information for a variety of purposes and audiences. 	The student work has the following characteristics: <ul style="list-style-type: none"> basic interpretation, analysis, synthesis and evaluation of information provide conclusions and/or recommendations relevant to business-related issues and problems communicates information to an audience. 	The student work has the following characteristics: <ul style="list-style-type: none"> basic interpretation, analysis, synthesis and evaluation of information provide conclusions and/or recommendations relevant to business-related issues and problems communicates information. 	The student work has the following characteristics: <ul style="list-style-type: none"> basic interpretation, analysis, synthesis and evaluation of information provide conclusions and/or recommendations relevant to business-related issues and problems communicates information.
Skills and procedures	The student work has the following characteristics: <ul style="list-style-type: none"> effective and consistent use of a range of skills and capabilities relevant to business technologies to achieve the required output selection and application of appropriate business procedures to consistently produce accurate information presents information consistently and effectively to a business standard. 	The student work has the following characteristics: <ul style="list-style-type: none"> effective use of a range of skills and capabilities relevant to business technologies to achieve the required output selection and application of appropriate business procedures to produce relatively accurate information presents information effectively to a business standard. 	The student work has the following characteristics: <ul style="list-style-type: none"> uses appropriate skills and capabilities relevant to business technologies to achieve the required output selection and application of business procedures to produce information presents information to a business standard. 	The student work has the following characteristics: <ul style="list-style-type: none"> uses skills and capabilities relevant to business technologies to achieve an output selection and application of some procedures to produce information presents some information to a business standard. 	The student work has the following characteristics: <ul style="list-style-type: none"> uses technology to achieve an output produces some information presents some information. 	The student work has the following characteristics: <ul style="list-style-type: none"> uses technology to achieve an output produces some information presents some information.

Dimension and objectives chosen for a particular assessment instrument.

Standards descriptors are drawn from the syllabus dimension/s and standards to inform assessment design and instrument-specific standards matrixes.

3. Gather the selected descriptors to be assessed at standards A–E on the school's instrument-specific standards matrix.

Students should have access to the **instrument-specific standards** before the assessment, so that they know the standards that will be used to make a judgment. Students should understand how the qualities of their responses may be matched to standards descriptors.

4. Across the summative assessment program, opportunities must be provided to cover all the dimensions and objectives and demonstrate all syllabus standards.

Criteria sheet

Criterion	A	B	C	D	E	
Knowledge and understanding	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a comprehensive range of factual information effective and consistent application and explanation of business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a substantial range of factual information effective application and explanation of business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information application and explanation of basic business concepts, principles, processes and practices. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts. 	The student work has the following characteristics: <ul style="list-style-type: none"> recall, definition and description of a range of factual information explanation of basic business concepts.
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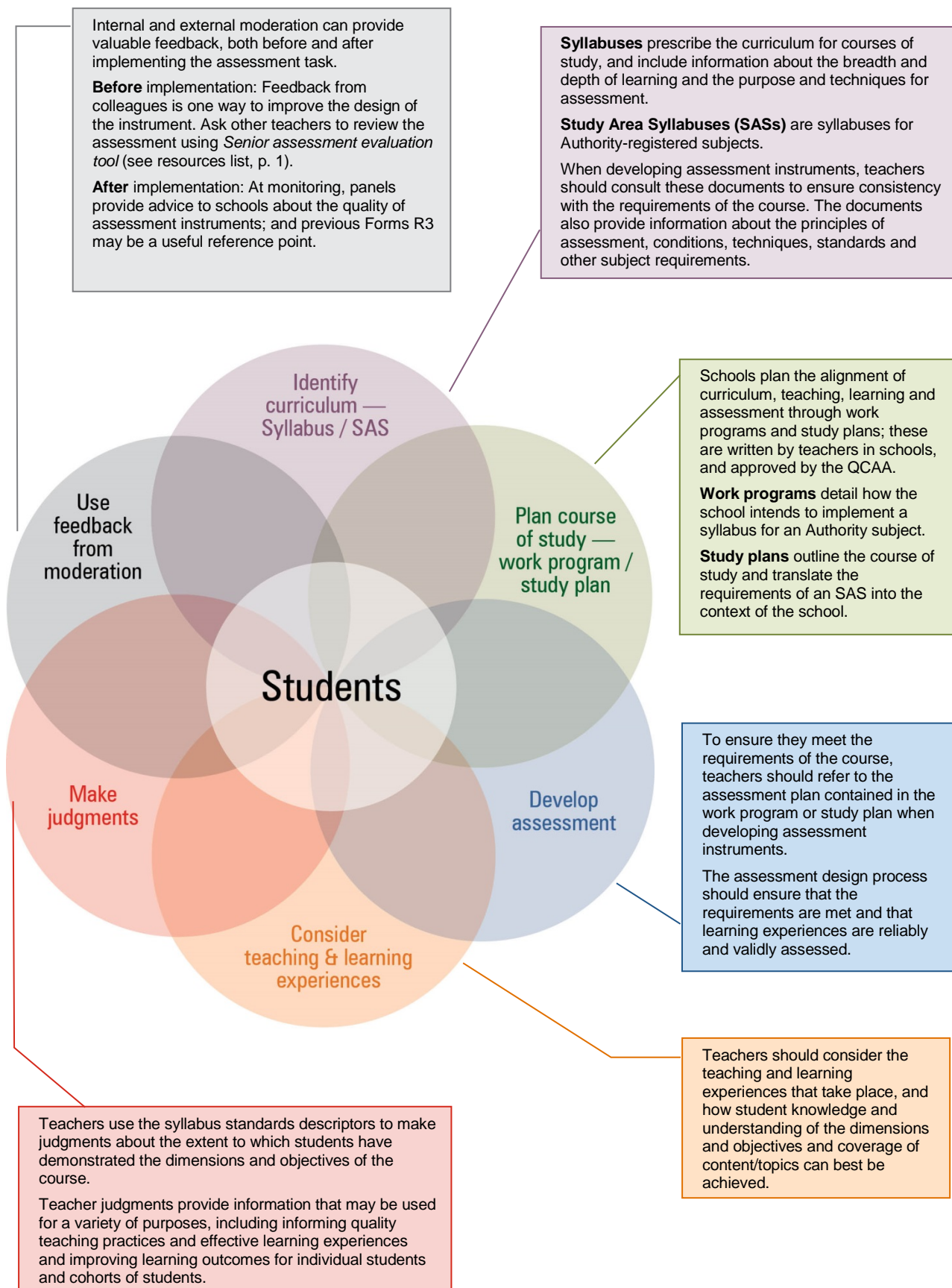
Designing assessment instruments

Described below is the approach to designing assessment instruments that is explained and used in QCAA senior syllabus assessment workshops. Assessment decisions should be made before starting teaching and learning experiences.

Before designing		
Assessing what students know, understand and can do	Allowing for optimal participation	
<p>The assessment instrument must:</p> <ul style="list-style-type: none"> • assess: <ul style="list-style-type: none"> – what it is designed to assess (e.g. in order to match a standard about “evaluation” the assessment item must require students to make judgments about the quality or effectiveness of something) – what it is intended to assess (e.g. an assessment that purports to assess evaluation must actually assess evaluation) – the breadth and depth of student knowledge and skills • include the standards that are to be used to judge student responses. These must be shared with students during the teaching and learning experiences. 	<p>The assessment instrument should engage students with:</p> <ul style="list-style-type: none"> • clear and definite instructions • language suited to the reading capabilities of the students for whom the instrument is intended • clear presentation through appropriate choice of layout, cues, visual design, format and choice of words • clear, definite and specified conditions that are appropriate for all the students whose achievements are being assessed • minimal reproduction of gender, socioeconomic, ethnic or other cultural stereotypes — these should only be used if careful consideration has deemed that use as necessary. 	
Designing		
Phase	Considerations	Actions
Planning the scope and intent of the assessment	Consider the teaching and learning experiences that will have taken place by the time of the assessment, and how to best represent students’ knowledge and understanding of the dimensions and objectives through the content and topics that will have been covered.	
	Consider how and whether the assessment technique may determine the dimensions that can be covered and the extent to which opportunities to demonstrate the standards can be provided.	Determine from the syllabus and school documents the assessment technique to be used.
	Refer to <i>Determining the objectives and standards to be demonstrated</i> (p. 6 of this document) and to the syllabus for assessment instrument requirements. Descriptors on the criteria sheet should be drawn only from the syllabus standards.	Use the syllabus and school work program to determine the dimensions and objectives, described as syllabus standards to be assessed and demonstrated at standard A–E.

Designing (cont.)		
Phase	Considerations	Actions
Designing the assessment	<p>Consider:</p> <ul style="list-style-type: none"> the teaching and learning experiences to be covered key ideas and/or topics to be covered ways to ensure that the students have an opportunity to demonstrate the full range of standards through the choice of technique: <ul style="list-style-type: none"> question/item/task type open or focused items the choice of descriptors which must be drawn from the syllabus standards to inform assessment design and instrument-specific standards matrixes. <p>Check that the assessment instrument:</p> <ul style="list-style-type: none"> assesses: <ul style="list-style-type: none"> what it is designed to assess what it is intended to assess the breadth and depth of student knowledge and skills includes the syllabus standards descriptors to be used must be shared with students during the teaching and learning experiences. 	<ul style="list-style-type: none"> Write the assessment task/items. Choose a technique that will provide opportunities for students to demonstrate the qualities that may be matched to standards descriptors. Provide opportunities for all standards to be demonstrated. Refer to the syllabus for clearer and more specific information about the relationship between techniques and opportunities.
Formatting the assessment instrument	<p>Consider the audience for each assessment instrument, and then use appropriate language and design to make the meaning clear.</p> <ul style="list-style-type: none"> Make a list of: <ul style="list-style-type: none"> clear and definite instructions about what students are to do clear and specific requirements for the task (mode, length, duration, etc.). Devise a format and layout for the assessment instrument that helps students see what is expected of them in terms of demonstrating what they know and can do. Ensure that students have access to the standards that will be used to make judgments before they undertake the assessment task. Ensure that the task allows for equitable participation by all students it is intended for. 	<p>Write and format the assessment instrument using language that allows students to understand both the requirements of the assessment and its purpose, and to participate in and engage with valid, authentic and reliable assessment.</p>
Evaluating		
<p>The effectiveness of the assessment instrument may be determined:</p> <ul style="list-style-type: none"> before or after its implementation using a variety of approaches, including internal moderation or externally-moderated school-based assessment using QCAA resources such as <i>Senior assessment evaluation tool</i> (see list of resources, p. 1). 		

Context framework for assessment



Adapted from Queensland Studies Authority 2008, *Building Student Success: A guide to the Queensland Curriculum, Assessment and Reporting Framework*, QSA, p. 45