

In this article a teacher presents their HSC assessment program and discusses the thinking that underpinned the development of the program.

The teacher, Sheryl Thornthwaite of Galston High School, and Sally Bannerman acting as a critical friend worked through the steps for developing assessment programs described in Curriculum Support 2000, Volume 5, Number 1, page 9

Agriculture assessment program

The aim of the workshop was to develop an assessment program suitable for use in my school for the HSC course in agriculture. Sally Bannerman, my “critical friend” for the workshop, and I followed a series of steps detailed on pages 9-12 of **CURRICULUM SUPPORT** 2000 Vol. 5, No. 1, to develop an internal assessment program, eventually culminating in the assessment grid provided in this article (see p. 12).

Mapping course outcomes

The new HSC focuses on outcomes. It is important to get an overall picture of how the syllabus outcomes sit in relation to the components or topic areas of the course content.

When I mapped the outcomes in the mapping grid it became apparent that most of the nine HSC outcomes occurred only once, that is H1.1, H2.1, H2.2, H3.1, H3.2 and H3.3. In contrast H3.4 occurred in four content components and H4.1 and H5.1 occurred in each of the electives and the research project.

Although it was not a part of the original process, I added to the mapping grid the compulsory weightings for each content component, as specified in the Agriculture Syllabus. This gave me a better understanding of when, where and how each outcome needed to be assessed.



Sheryl Thornthwaite working with Bill Blake at the Curriculum Support Directorate

Where the outcomes occurred only once my teaching and assessment program would need to provide sufficient opportunities to allow students to develop and to demonstrate achievement of the outcomes. For example, even though outcomes H1.1, H2.1 and H2.2 appeared only once each, together they account for 45% of the course weighting. The importance of these three outcomes needs to be represented in the HSC assessment program. Assessment of these three outcomes will need to be spread over a few tasks.

Outcomes such as H3.4 occur in the Farm/Product Study as well as the Optional Research Project and all the electives. This frequency is not a measure of greater relative importance. It just means that there will be more opportunities to assess student achievement of the more frequent outcomes.

The other major issue to arise at this point was the assessment of the project and electives. As I will have students doing either the project or the electives, I would have to devise a common task to allow me to assess the three shared outcomes: H3.4, H4.1 and H5.1.

The table below shows the mapping of outcomes against content components for the HSC agriculture course.

HSC outcome	COMPULSORY		OPTIONS			
	Plant/ Animal Production	Farm/ Product Study	Research project	OR	Elective 1 and	Elective 2
	45 %	25 %	30 %		15 %	15 %
H1.1	✓					
H2.1	✓					
H2.2	✓					
H3.1		✓				
H3.2		✓				
H3.3		✓				
H3.4		✓				
H4.1			✓		✓	✓
H5.1			✓		✓	✓

Developing the assessment program

In order to develop the assessment program I reviewed general Board assessment requirements such as:

- 3-5 tasks
- all course outcomes addressed
- a range of task types included
- weighting of individual tasks to reflect their relative importance
- syllabus and component weightings addressed
- minimum task weighting of 10 % and maximum 40 %
- the weighting allocated to tasks should increase progressively through the period of assessment, that is later tasks more heavily weighted
- tasks scheduled to allow students adequate structured learning experiences prior to undertaking the task.

I also reviewed the specific requirements articulated in the syllabus, such as the inclusion of a minimum of 30 % of allocated course time to practical experiences. Practical experiences will need to be represented in some of my tasks.

With all this in mind, I began by discussing the sequence in which I would teach the content components. Plant and Animal content would be

- covered first, the Product Study next and finally the Elective Study. Those students doing Projects would have been working on this since the beginning of the HSC course but much of the writing up will take place whilst elective students worked on their topics.

- The structure of the syllabus, the component weightings, and the decision to teach the content components in the order presented in the syllabus mean that the 3-5 tasks will closely align with the content components and associated HSC course outcomes.

- The first decision on tasks was that the trial exam would be the last task undertaken and that it would assess all outcomes. I allocated the trial an overall weighting of 20 %. Component weightings in the trial were designed to reflect the HSC examination specifications. One exception with this was the students doing a research project. They will not have an external examination on the optional content; however I decided to include a section for them in the trial HSC.

- The Animal/Plant content is 45 % of the HSC course and taught in the first half of the course, Terms 4 and Term 1. I wanted to assess mainly the three associated outcomes in two tasks weighted at 35 out of 45 marks and scheduled towards the end of this teaching time.

- The Board advises that tasks later in the course should have greater weighting. This is to ensure that students have ample time and opportunity to develop their knowledge, skills and understanding before assessment judgements are made.

I was concerned that my planned assessment tasks for the Animal/Plant component might conflict with the Board's advice. After seeking advice from the Board I proceeded with the planned tasks, since they will provide the fullest information about what the students know and can do regarding these outcomes, at the most appropriate time in the agriculture course. A further assessment of the three Animal/Plant outcomes at the trial (10 marks) will give a final opportunity to assess student achievement.

The Product Study will occur in Term 2 and is a fairly discrete component, with only one outcome in common with another content area. A task of 20% will be scheduled during Term 2 covering all the Product Study outcomes as well as a further 5% from the trial examination, producing a total weighting of 25%.

The Electives/Project will be assessed in early Term 3 before the trial because of constraints within the school. Allocating a task weighting of 25% to this task, plus a further 5% weighting in the trial, will enable the syllabus requirement of 30% weighting to be met.

This once again created a problem with the advice that the tasks later in the course should carry heavier weighting. The trial needs to be scheduled as the last task in the course. However I did not believe it was

appropriate to weight the trial at more than 20%. In discussion it was felt that the assessment program and the scheduling of tasks were appropriate and provided students with the best opportunity to demonstrate achievement of the outcomes as late as possible in the teaching cycle.

Designing the tasks

Having decided the number, weighting and sequencing of tasks for the assessment program and the associated outcomes, I had to design the tasks. The following information was important to consider:

- What type of task would best allow students to demonstrate achievement of the specified outcomes?
- Is a range of task types being used to allow all students to demonstrate achievement in a variety of ways?
- Are task types appropriate to the overall teaching and learning program at the school?

At this point I went back to the Step 2 activity of brainstorming task types most suited to assessing each outcome. I carefully focused on the designated outcomes for each task. I also reviewed the syllabus content and looked for practical applications that could form the basis of assessment tasks.

The assessment program and an outline of each of the tasks is shown below.

Syllabus components, weighting and related outcomes	Task 1: Diagrammatic representation and experiment design	Task 2: Written & practical test	Task 3: Product study seminar and summary	Task 4: Evaluation of research	Task 5: Trial HSC written exam
Outcomes	H1.1, 2.1, 2.2	H1.1, 2.1, 2.2	H 3.1, 3.2, 3.3, 3.4	H 3.4, 4.1, 5.1	all
Content	Animals/plants	Animals/ plants	Product study	Project/ Electives	all
Timing	Term 1: Week 2	Term 1: Week 8	Term 2: Week 5	Term 3: Week 2	Term 3: Week 5
Plant/Animal Production: 45 %	15 %	20 %	-	-	10 %
Farm product study: 25 %	-	-	20 %	-	5 %
Research Project or Elective 1 & 2: 30 %	-	-	-	25 %	5 %
Total 100 %	15 % marks	20 % marks	20 % marks	25 % marks	20 % marks

Task 1: 15%

- (a) Presentation of a diagram to demonstrate the influences on, and interactions within, a sustainable farming system as appropriate to the available teaching resources
- (b) Selection of one aspect of an influence described in (a) and designing a suitable simple experiment to test its impact.

Task 2: 20%

- (a) Written test using HSC-style questions (10 %)
- (b) A practical test (10 %) where a number of stations are set up covering the “students learn to” content, ensuring an equal coverage of plant and animal production

Task 3: 20%

Students choose a product and present:

- (a) a five-minute talk to the class using appropriate aids or materials on the marketing of the product, available technologies employed in the production and marketing of the product, and an evaluation of the management options available to producers of the product
- (b) a written summary of the oral presentation and demonstrating an understanding of general business principles and decision-making processes necessary in successful, sustainable farm management.

Task 4: 25%

A common task will be used to assess the achievement of both elective and project students. It will focus on outcomes H3.4, H4.1, H5.1. Students will apply their learning from the electives or project to evaluate a sample piece of research that contains an introduction, raw data and recommendations. The task will assess their understanding about experiment design, appropriate use of raw data, table and graph construction, calculations, conclusions of experiments, potential ethical issues, management activities, and the impact of innovation in their own study area. They will have two weeks to prepare for an in-class response.

Task 5: 20%

Trial HSC, a simulation of the HSC exam using questions of the same style and generally in the same proportions as the HSC, i.e. 50 % Plant/Animal, 25 % Product Study and 25 % elective. A section of the examination, worth 25 %, will cater for those students who have completed the project as well for those who have undertaken the two electives.

After finalising the scheduling of the tasks I checked that the assessment program met all requirements.