The effects of changing from norm referencing to criterion referencing

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Before 1996 at The University of Queensland:

- Assessment was norm-based.
- There were University Guidelines on the proportions of a class who could gain various grades. Large variation from these guidelines had to be justified by the Head of Department to the Chair of the Academic Board.
- Heads of Departments required histograms showing the distribution of marks before signing off on grade allocation.
- Subject coordinators tended to look for "gaps" in the distribution to place the cutoffs between grades.

New policies were implemented in 1996

Overview

1.2 The specific assessment approach adopted at the University of Queensland and addressed by the various Teaching and Learning Committees is called 'criterion referenced assessment'. This method explicitly defines the relationship between assessment and the learning objectives, the standards to be met and the performance expectations held of students.

1.3 The 1996 Task Force on Assessment Policies and Practices formulated a set of recommendations that underlie the Assessment Rules and the following policy guidelines.

Description

2.1 Principles of assessment

All assessment planned by academic staff should be based upon the following principles:

(a) The primary focus of assessment is to encourage, direct and reinforce learning.
(b) Assessment should also be capable of indicating achievement, maintaining standards and providing certification.
(c) The assessment system should be as transparent as possible.
(d) The assessment methods used must be shown to achieve consistent and fair results.
(e) The assessment methods employed should reflect the variety of course and program goals.
(f) Where possible, assessment should be based upon the fulfilment of all goals in a curriculum or program of study rather than individual courses, and should take account of graduate attributes.
(g) Assessment requirements should be communicated clearly and accurately, with details included in course materials at the beginning of the semester.
(h) Marks and grades should be awarded by reference to predetermined standards.
(i) Timely and quality feedback is fundamental to the learning process and some form of feedback, should be offered on every item of assessment [see HUPP 3.30.6].
(j) The amount, mode and spread of assessment should be appropriate to meeting the stated objectives of a course and should measure the extent to which they have been achieved.
(k) When setting assessment, academic staff should be mindful of overall program/student workloads within the particular time frame, and the particular impacts on first year students.

(l) The aggregation of marks or grades within a course must be a deliberate process that is readily defensible, ensuring the validity of judgements made about student performance.
(m) Student performance in assessment should be viewed by staff as feedback on their teaching. Assessment is a means of learning about students' misunderstandings so teaching can be modified accordingly.
(n) To assure quality, there should be systematic scrutiny and monitoring of assessment criteria and standards by academic staff, colleagues, the School Teaching and Learning Committees and, where appropriate, the relevant accrediting bodies.
(o) Examination papers should be publicly available except where prohibition of access to a particular question paper has been sanctioned by the Assessment Working Party, in accordance with approved Exemption Guidelines [see HUPP 3.30.5].

2. Amount, mode and spread of assessment

There should be sufficient assessment, based on the course goals and predetermined assessment criteria and standards, to ensure that judgements made about student performance are as valid as possible. However, academic staff should not over assess students.

In the overall design of the assessment regime academic staff should adhere to the following guidelines.

(a) Progressive assessment, provision of feedback, and formative assessment are crucial for all students' learning.
(b) Account should be taken of the particular needs of first year students in relation to orientation to University assessment methods and standards.
(c) The assessment program alerts students to the relative importance of different types of learning and how their effort should be distributed. To help achieve this, staff need to establish a relationship between the objectives of the course and the proposed assessment, (e.g. the use of a planning grid may be helpful).
(d) The assessment methods should be carefully matched to the goals they assess. The assessment program should cover all important course goals.
(e) Where possible, a single method of assessment should not be relied upon.
(f) A final examination should not normally constitute more than two thirds of the total assessment for a course.
(g) The quantity and type of assessment should allow academic staff to provide accurate marks and/or grades, in a timely manner.
(h) Assessment should be spread across the semester and timely feedback should be provided that identifies 'what the student has achieved satisfactorily and ways in which the student can improve.
(i) If possible, the assessment demands on students should be coordinated across their program.

2.1 Final course results

After final course results have been determined, students will, on request to the course coordinator, the head of school, or the director of studies of the relevant faculty, as appropriate, be provided with:

(a) detailed criteria and standards against which their work was assessed;
(b) a copy of the question paper(s), except where they have been exempted from release [see HUPP 3.30.5].
(c) feedback

(d) the final percentage marks in the courses they have completed, where such marks have been used and have been recorded by the examiner
(e) where numerical marks and final percentage marks have been used, the numerical marks . obtained in the courses where the numerical mark differs from the final percentage mark, and with the numerical marks recorded for the various components of assessment that make up the numerical mark;
(f) the distribution of grades in the course and, where percentage mark cut-offs have been used, the percentage mark cut-offs at the grade boundaries; and
(g) the distribution of marks in a course where such a distribution has been produced.

Where schools and faculties post grades and marks on noticeboards, individual results are to be listed by student number only.

Effects of the policy change at The University Of Queensland

- Despite the urging of our Teaching and Educational Development Institute (TEDI) full-criterion-referenced assessment has not been widespread.
- In most science courses, marks for the various components are simply added to give a total mark,
  BUT mark ranges for various grades are advertised at the beginning in course profiles.
- Course profiles do give some lip service to standards.

The final grade

Final grades will be allocated as follows:

- Grades of 1 or 2 will normally be awarded on the basis total mark as follows:

Grade	Total mark
1	Less than 30
2	30-44

- To achieve a grade of 3 or higher, a student must meet the minimum requirement for Laboratory and CMT components, and the following minimum total marks must be obtained:

Grade	Total Mark
3	45-49
4	50-64
5	65-74
6	75-84
7	85-100

Students who obtain a total mark greater than 44, but who do not meet the minimum requirements for the Laboratory and CMT components will be awarded a grade of 2.

These assessment tasks are designed so that:

To obtain 7 in this course a student will have demonstrated deep understanding of all the subject matter, with complete proficiency in process and content elements, and high proficiency in interpretative aspects of the material (e.g., ability to solve problems based on the lecture material).

To obtain 6 in this course a student will have demonstrated strong understanding of a wide, but not complete, range of the subject matter.

To obtain 5 in this course a student will have demonstrated a good understanding of most of the subject matter.

To obtain 4 in this course a student will have demonstrated a basic understanding of most aspects of the subject matter.

To obtain 3 in this course a student will have demonstrated a limited understanding of the subject matter. To obtain this grade or higher, attendance at, and a satisfactory performance in, laboratory classes is required.

To obtain 2 in this course a student will have demonstrated a very limited understanding of the subject matter and/or will have failed to fulfil the laboratory requirements.

To obtain 1 in this course a student will have demonstrated very little understanding of the subject matter and/or will have failed to fulfil the laboratory requirements.

- All courses in the Faculty of Biological & Chemical Sciences comply with the guideline that no more than two-thirds of the marks in a course come from the final examination.
- Marking "on the curve" and arbitrary cutoffs between grades have disappeared.
- All students in a course could, in principle, obtain grade "7" or grade "2" without intervention by higher authority.
- There is a greater tendency for academic staff to indicate in detail the criteria applied in marking an assignment.
- There is a greater tendency to use assessment procedures to enhance student learning.

Conclusion

In CHEM1013, failure rates were, until 2001, typically 12%. In 2001 they were < 2%. This is due to:

1. The small reduction in weight of final exam to comply with guidelines, from 70% to 60%;
2. The introduction of a pass peer assisted learning system; and
3. Computer-managed tests (4 through semester) which formerly counted 15%, and were voluntary, are now worth 20% and are compulsory, forcing students to work through semester (I believe that this is the most important factor).

The proportion of "7" and "6" grades is now higher (36%) than would have been allowed in the old system.

Analysis of the final examination performance indicates that students perform better there, on average, on examinations of similar standard, than was once the case.