

# Flexibility in Assessment - An Evaluation of Student Performance

*Louise Allsopp*  
*Adelaide University, Adelaide, Australia*

[louise.allsopp@adelaide.edu.au](mailto:louise.allsopp@adelaide.edu.au)

## Abstract

The purpose of this paper is to highlight an often-neglected area of teaching, namely assessment of student performance. Many courses now incorporate some form of continual assessment to establish the overall student grade. While the percentage weighting given to continual assessment and the final exam may vary, it is usual that all assessment components are compulsory. This paper reports the results for a course in which a *flexible* assessment technique is used. The student performance in a mid-term test and weekly seminars is potentially worth 30% of the overall grade with a weight of 70% given to the final exam. However, the final exam is then considered in isolation as potentially worth 100% of the assessment. The student is then awarded the higher grade from the two methods of calculation. This approach proved successful for a university course thus highlighting the importance of assessment technique in the education sector.

**Keywords:** Student Assessment, Flexibility, Education.

## Introduction

The purpose of this paper is to stress the importance of suitable student assessment policy in higher education. Although many lecturers now use some form of assessment throughout a course in addition to a traditional final exam, little thought is given to the nature of the overall assessment. Indeed, it is commonplace for each form of assessment (e.g. seminar attendance, assignments, mid-term tests etc) to be compulsory for the student and carry a fixed proportion of the overall assessment. This paper argues that a more suitable approach would be to introduce flexibility in the assessment procedure so that a poor performance in one element of the assessment need not significantly reduce the overall grade.

This approach is appropriate for a number of reasons. Firstly, students learn at different rates and in different ways. This has been shown by a number of academics investigating learning styles and teaching methods (Felder, 1996 and Felder and Silverman, 1988). Hence a compulsory mid-term test may be beneficial for students who learn at a fast pace but equally, it will place at a disadvantage the student who learns at a slower pace. Secondly, many students at university are part time students for whom flexibility in assessment is preferred. Thirdly, anecdotal evidence reveals that any form of assessment brings with it a rash of medical certificates explaining why a student could not attend a particular test. This then creates added administration for the lecturer and results in him/her (a) creating an additional mid-term test for that

student or (b) allowing the student to be assessed on the exam alone. Fourthly, compulsory continual assessment is often prone to low submission/attendance rates. Flexibility would, in a sense, take the pressure off and be an incentive to attend. After all, there is little to lose by attempting the work if this need not contribute to the final grade.

---

Material published as part of these proceedings, either on-line or in print, is copyrighted by Informing Science. Permission to make digital or paper copy of part or all of these works for personal or classroom use is granted without fee provided that the copies are not made or distributed for profit or commercial advantage AND that copies 1) bear this notice in full and 2) give the full citation on the first page. It is permissible to abstract these works so long as credit is given. To copy in all other cases or to republish or to post on a server or to redistribute to lists requires specific permission from the publisher at [Publisher@InformingScience.org](mailto:Publisher@InformingScience.org)

Flexibility in assessment is then popular with students since they get the higher mark of two different forms of evaluation yet easier to administer by the lecturer. This is supported by the following test that indicates that all types of student benefit from this approach.

### Literature

There already exists an extensive literature discussing the relative merits of different assessment techniques. For an excellent coverage of the possibilities see Gibbs et. al. (1986). This details a variety of innovative methods of assessment for students in higher education. The different types of assessment include essays, short-answer questions, objective tests, direct observation, oral tests and practical assessment. Educationalists have also discussed more contentious methods including team assessment (Lejk, 1994), self-assessment (Boud and Falchikov, 1989) and more active student involvement in assessment (Gray and Banta, 1997).

However, it has been noted (Cannon and Newble, 1995) that, with this collection of techniques at their fingertips, many teachers and lecturers lose sight of the purpose of assessment. In particular they note that the method employed should satisfy the following requirements:

- (1) Validity – Does the assessment technique measure what it is supposed to measure?
- (2) Reliability – Are the results consistent?
- (3) Practicality – Is it an appropriate technique in terms of time and resources?

In short they advise that the teacher plans his/her assessment methods with these factors in mind.

In this paper it is argued that the best way to meet the aforementioned requirements is to introduce a degree of flexibility in assessment procedures. In part, this has been discussed before with the literature addressing scoring of tests and educational measurement (Lehmann and Mehrens, 1991, and Gronlund, 1989). Biggs (1992) also discusses the issue of measurement but notes that the possibilities are large and should be determined by educational policy while Brown, Bull and Pendlebury (1997) consider tactics for modular assessment in particular. However, Ma and Zhou take the idea one step further. They examine a fuzzy set approach to the assessment of student-centered learning. They argue that since assessment-criteria and their corresponding weights are usually determined by the lecturer, the result can often be reduced student participation and lower quality of learning. In their paper, a commonly agreed assessment criteria is used and then student learning is evaluated on a fuzzy grade scale.

This paper also aims at providing “an open and fair environment for assessment” in an *application* of assessment flexibility. It compares the end results with what would have happened had the assessment technique been rigid.

### Background

The flexible assessment technique was applied to a 2<sup>nd</sup> year Economics course at an Australian university. This course formed a compulsory unit for those students majoring in Economics but also an optional subject for students of other disciplines. It ran for one semester (12 weeks) and had an enrolment of 130 students. The students were required to attend two lectures per week for the duration of the course plus one weekly seminar. The teaching of these seminars was shared between the lecturer and a teaching assistant. The group of 130 was divided into 7 seminar groups each with approximately 18 students.

At the outset, the students were invited to an orientation lecture where they were given a course handbook. This contained a course schedule detailing the material to be covered each week, lecture notes, seminar questions, a sample mid-term test together with answers plus a sample examination paper. In addition, the students were given a course outline providing information on the text to be used, university regulations and importantly, the assessment technique for the course. During the orientation lecture, the

lecturer explained some of these points in greater detail and answered any student questions concerning the subject matter or the course in general.

## **Assessment Technique**

In order to justify the assessment technique used it is important to stress the learning objectives of this particular course. On completion of the course it was intended that each student would have a sound grasp of the subject matter (i.e. be well informed) but in addition, the aim was to produce young economists with good written and verbal skills. The reasoning here is that increasingly, employers are looking for graduates, not just with the knowledge, but also with the ability to express themselves clearly.

### ***Seminar Performance***

For the aforementioned reason, the lecturer chose to include a weekly seminar to discuss a set of problems relating to the material. As mentioned earlier, these were given in the course handbook at the start of the course and were related to the types of question seen in the mid term test and final exam. The lecturer stipulated that these seminars be run in a certain manner. In particular, it was stressed that each week a different sub group of the seminar be required to present the results for the week's questions. While the students worked in groups, their performance was graded individually on the basis of preparation and presentation skills. In total, the student could gain 10% of the final grade by seminar performance.

### ***Mid-Term Test***

As mentioned above, the lecturer was also seeking to test the students' written skills hence the use of a mid term test and final exam. The mid term test took place half way through the course and was designed to test students on their knowledge to date. It lasted fifty minutes and consisted of two short answer questions each worth 10 marks and one longer, structured question worth 30 marks. The students were advised to think of answering the questions in terms of 1 mark = 1 minute i.e. to spend 10 minutes on each of the smaller questions and half an hour on the longer question. They were also informed that this was a "cut down" version of the final exam in terms of the question style and content. This was potentially worth 20% of the final assessment with an additional 10% from seminar performance. It was, therefore, intended to be something of a practice run for the students as well as a "wake up call" for those who had not yet done any revision.

The lecturer graded the papers immediately after the test and returned these the following week with comments to the students. It has been noted that the speed and content of feedback is highly important (Brown and Knight, 1994). In the lecture time, she discussed the results plus some of the common mistakes made by students.

### ***Final Exam***

The final exam took place at the end of the course and was designed to cover material from the entire course. It lasted three hours with an additional ten minutes allocated for reading time. It consisted of two sections. In the first section, the student was required to answer 4 short questions out of the 5 provided. Each question was worth 10 marks. The second section consisted of longer answer questions and here the student was required to answer 2 out of the 3 provided. Each one was worth 30 marks. Clearly, the number of marks to be obtained from this exam summed to 100.

### ***Flexibility***

Each student's final grade was established as follows. The student performance in a mid-term test and weekly seminars was potentially worth 30% of the overall grade with a weight of 70% given to the final

## Flexibility in Assessment

exam. However, the final exam was then considered in isolation as potentially worth 100% of the assessment. The student was then awarded the higher grade from the two methods of calculation.

As an example consider student X who obtained 20/50 in his mid term test, 7/10 in his seminar performance but 65/100 in the final exam. In the first method, he would earn a grade of

$\left(\frac{20}{50} \times 20\right) + 7 + \left(\frac{65}{100} \times 70\right) = 60.5$ . However, using the second method where the final exam grade is calculated in isolation, he would earn 65%. The flexibility in assessment allows him to earn the higher grade of the two thus allowing him to discount his earlier poor performance in the mid term test.

Now consider a second example. This student earns 35/50 in her mid term test, 9/10 in her seminar performance but only 50/100 in the final exam. Under the first method, she would earn

$\left(\frac{35}{50} \times 20\right) + 9 + \left(\frac{50}{100} \times 70\right) = 58$ . However, when the final exam grade is taken in isolation she only earns 50%. In this circumstance, the flexibility in assessment allows her to take advantage of her good performance throughout the semester, rather than rely solely on her final exam grade.

The argument for this type of approach lies in the fact that some students under-perform throughout the semester, for a whole host of reasons, but then improve for the final exam. Conversely, some students perform comparatively well during continual assessment before submitting a disappointing exam paper. This method does not punish them for one poor test or exam performance but allows the examiner to consider their overall performance throughout the semester.

## Results

A thorough investigation of the data involves an analysis of the seminar performance, mid term test results and final exam results. In this section, the author considers each of these in light of the students' overall grades plus what they would have earned if a rigid form of assessment had been in place. Demographic profiles would have been valuable here but this information was not available to the author through the student information system and is regarded as confidential. As noted by a referee, it would have been useful to examine student age, their full time/part time status and grades obtained in prior courses.

### ***Seminar Performance***

The results here were very encouraging but there were still some underlying problems. Out of a total of 130 students, 100 made a seminar presentation during the semester and gained a grade. The mean grade obtained was 8.25/10 with a standard deviation of 1.13. However, of the 30 who did not attend tutorials, 19 failed overall. Clearly, there is a positive correlation between non-attendance and succeeding in this course. This raises the issue of whether seminar attendance be made compulsory. This could be achieved while still maintaining the same flexibility in assessment.

### ***Mid-Term Test Results***

In the Australian system, the degree lasts 3 years with honours being a separate one-year course at the end of this. For each course during the degree a grade is awarded based on the following system:

High Distinction	85% +
Distinction	75% - 84%
Credit	65% - 74%
Pass	50% - 64%
Fail	< 50%

The mid-term test produced the following results. Firstly, attendance was high with 114/130 students attempting the paper. However, the pass rate was disappointing at 55.3%. The breakdown of grades was as follows:

High Distinction	2
Distinction	11
Credit	14
Pass	36
Fail	51

Anecdotal evidence revealed that the students felt that they had nothing to lose by attending the test since a poor grade could be overcome by an improvement in the final exam. This explained the high attendance but low overall performance.

### **Final Exam Results**

The attendance was marginally higher than that for the mid-term test with 120/130 students attempting the paper. This implied 10 absentees of which 4 had medical/compassionate reasons for not attending. The pass rate of 70.8% was considerably higher than for the mid-term test and the breakdown of results was as follows:

High Distinction	9
Distinction	17
Credit	23
Pass	36
Fail	35

## **Evaluation of Assessment Technique**

The overall conclusion is that all students benefited from the flexibility in assessment approach. This may be demonstrated by way of a simulation that shows what the students *would* have earned if they had been assessed on (a) the final exam alone or (b) a compulsory continual assessment component plus final exam.

Grade	Assessment Method		
	Final Exam Alone	Compulsory Assessment + Final Exam	Flexible Assessment
High Distinction	9	6	9
Distinction	13	13	17
Credit	25	24	23
Pass	34	34	36
Fail (40-49)	19	21	18
Fail (30-39)	15	15	12
Fail (<30)	5	8	5
Pass Rate	67.5%	64.2%	70.8%

**Table 1: A Comparison of the Grades Earned Under Each Assessment Technique**

## Flexibility in Assessment

The lecturer examined the grades that would have been earned in each scenario and compared these with the end result using the flexible assessment technique. The results are tabulated as follows.

The numbers in columns 2-4 indicate the number of students obtaining that particular classification. Note also that the fail category is divided into three sections. Some tutors find it valuable to examine the degree to which a student has failed an exam. It is important to find out if students are failing at the margin or if they are failing dramatically. Column 2 illustrates the grades that would have been earned if the exam had counted for 100% assessment alone. Clearly, there are fewer distinctions but more credits earned under this method. Furthermore, the failure rate is increased and the number of people obtaining a Pass grade (50-64) is reduced. Similarly, in the 3<sup>rd</sup> column, with compulsory continual assessment and a final exam, the number of distinctions and high distinctions is reduced. The number of credits has increased slightly but the pass rate is again smaller than under the flexible assessment approach. The final column shows the circumstance under which weekly seminars and the mid-term test are potentially worth 30% of the overall grade with a weight of 70% given to the final exam. However, the final exam is then considered in isolation as potentially worth 100% of the assessment. The student is then awarded the higher grade from the two methods of calculation. This gives the larger pass rate (as one might expect). However, the interesting feature concerns the type of student benefiting from each form of assessment. Table 2 notes the proportion of students in each grade category (High Distinction, Distinction etc) who obtain a higher grade in the final exam than in the combined continual assessment/exam component.

<b>Grade</b>	<b>No. (and Proportion) of Students with a Higher Final Exam Grade Relative to their Continual Assessment</b>
High Distinction	6/9 (= 66%)
Distinction	12/17 (= 70.5%)
Credit	13/23 (= 56%)
Pass	13/36 (= 36%)
Fail	20/35 (=57%)

**Table 2: No. of Students Obtaining a Higher Grade in the Final Exam than Under the Combined Assessment Approach**

Consider the first two rows of Table 2. Notably, the students who end up with the higher grades of high distinction and distinction are largely the ones who give a stronger performance in the final exam relative to their continual assessment. Conversely, the students obtaining a Pass level (as indicated in the third row of Table 2) perform relatively poorly in the final exam compared with their continual assessment grades. Thus it would appear that in general, the students benefiting from using the final exam grade alone are the relatively stronger ones whereas continual assessment benefits the relatively weaker student. It follows that each student benefits from the flexibility in assessment.

Student feedback to the assessment technique employed has not taken any formal structure. The lecturer has relied on anecdotal evidence and informal discussion with the students. In each case, the student has been enthusiastic about the assessment technique pointing out the way it has benefited him/her. This was certainly the case following the mid-term test. Many students noted that their performance was disappointing and were glad that this need not contribute to their overall grade.

## ***Disadvantages of the Flexible Approach***

Until now, no mention has been given to the disadvantages of using such a technique in a university course. The first point to note is that the flexibility itself may encourage laziness in that students feel that they do not need to make an effort mid term since they can compensate for their poor performance in the final exam. This is implied by Brown, Bull and Pendlebury (1997). Furthermore, while differences in scoring may help to accommodate different styles in learning, it is difficult to control for other characteristics such as student procrastination. It could also be argued that the outcomes from each method are so close as to make choice of assessment technique immaterial. However, it should be noted that the use of the flexible assessment technique produced a higher pass rate as well as a larger number of students obtaining High Distinctions and Distinctions than would have been earned had the mid term assessment been compulsory. Furthermore, it could be argued that whether the difference is great or small is immaterial, the important issue is student perception. While it is difficult to measure student enthusiasm, the end-of-course evaluations revealed that the students were more than satisfied with the organization of the course. Finally, it may be argued that the assessment procedure is not flexible enough. Mention has been made to different learning styles and student types and hence assessment should be flexible enough to capture these subtle differences. It is debatable whether the approach discussed here achieves these goals.

## **Conclusion**

This paper provides an application of a flexible assessment technique using a 2<sup>nd</sup> year economics course in an Australian university. It has been shown that a flexible approach to assessment leads to higher student grades than would otherwise be observed. While this may seem an obvious conclusion, the interesting feature of these exam results concerns the *type* of student benefiting from each assessment technique. The students who obtain the higher grades are generally the ones who improve their performance in the final exam as compared with their continual assessment. The implication here is that if the final grade were based on a combination of compulsory continual assessment and final exam, these students would not have achieved such a high overall grade. Conversely, if the assessment were based on a final exam alone, the relatively lower scoring students (in the Pass category) would receive lower overall grades. This in turn would increase the failure rate in this circumstance.

The author acknowledges that simulations of this sort can be flawed since students are told about the flexible assessment technique in advance hence their behaviour may change accordingly. However, despite this, a pattern has emerged in the data indicating that different student-groups benefit from different assessment techniques. It thus follows that a flexible approach to overall assessment of a course is a fair and just way to assess all student types.

Notably, this paper does not address the issue of weighting of different assessment components i.e. seminar performance was given a 10% weighting, the mid-term test was given 20% and the final exam 70%. These weights were chosen according to the lecturer's preferences but this, in itself, is a matter for debate. Therefore, this could be a possible future line of research.

In summary, the paper draws attention to the importance of assessment in higher education. It is highly important that the assessment used reflects the student's true performance. As Cannon and Newble stress, "Many assessment and examination procedures leave much to be desired". Hence it is vital that "the assessments will measure what they are supposed to measure in as fair and as accurate a way as possible".

## **References**

- Biggs, J. (1992). A Qualitative Approach to Grading Students. *HERDSA News*, 14 (3), 3-6.
- Boud, D. & Falchikov, N. (1989). Quantitative Studies of Student Self-Assessment in Higher Education. *Higher Education*, 18, 529-549.
- Brown, S. & Knight, P. (1994). *Assessing Learners in Higher Education*. London, Philadelphia: Kogan Page.

## Flexibility in Assessment

- Brown, G., Bull, J. & Pendlebury, M. (1997). *Assessing Student Learning in Higher Education*. Routledge.
- Cannon, R. & Newble, D. (1995). *A Handbook for Teachers in Universities and Colleges*. London: Kogan Page.
- Felder, R.M. (1996). Matters of Style. *ASEE Prism*, 6(4), 18-23.
- Felder, R.M. & Silverman, L.K. (1988). Learning Styles and Teaching Styles in Engineering Education. *Engr. Education*, 78(7), 674-681.
- Gibbs, G., Habeshaw, S. & Habeshaw, T. (1986). *53 Interesting Ways to Assess Your Students*. Plymouth: Plymbridge Distributors Ltd.
- Gray, P.J. & Banta, T.W. (1997). The Campus-Level Impact of Assessment: Progress, Problems and Possibilities. *New Directions for Higher Education*, 25(4).
- Gronlund, N. E. (1989). *Measurement and Evaluation in Teaching*. New York: MacMillan.
- Lehmann, I. J. & Mehrens, W. A. (1991). *Measurement and Evaluation in Education and Psychology*. New York: Holt, Rinehart & Winston.
- Lejk, M. (1994). Team Assessment, Win or Lose. *The New Academic*, Summer 1994, 10-11.
- Ma, J. & Zhou, D. (2000). Fuzzy Set Approach to the Assessment of Student-Centered Learning. *IEEE Transactions on Education*, 43(2), 237.

## Biography

Louise Allsopp is a lecturer at Adelaide University, where she teaches courses in Finance and Economics. Dr. Allsopp has authored papers on the subjects of currency crises, experimental economics and education in finance and economics.