

# 80% of What ? – A Preliminary Investigation of Tutors Understanding of the 80% Pass Mark for DipBC Modules.

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## ABSTRACT

“I don’t take an awful lot of notice of the 80% thing”  
Tutor comment.

As new people are recruited to join the many teams of NDBC teaching staff throughout the country, “old timers” attempt to explain the concept of mastery that is supposed to form the basis of assessment procedures in the various modules. The concept is described in the NZQA approved document, commonly known as the Bluebook, which details the NDBC, and other, qualification requirements. In that document, a figure of 80% is suggested as a guideline pass mark for assessments which concern knowledge-based modules. This paper focuses on the meaning of that 80% guideline since, for many, both the explanation and the practice of assessing mastery provide a hurdle with an element of mystery. We attempt to unravel some of the mystery by examining what the current practice is in one Polytechnic and to suggest that our methods may be forcing a dumbing down of assessments which target the comprehension sections of modules.

The descriptors for the diploma modules categorise the learning required for each module using the RCAP model. It seems that even with Recall sections some tutors have trouble relating the 80% to the assessment. The Application and Problem Solving areas have largely become the things we assess using assignments. This paper examines how the 80% pass mark is being applied to assignments and to the comprehension elements of various courses, for it is in these areas of cognitive processing that competency (or 80% of competency) is harder to establish particularly in areas of original, creative thought.

The paper raises the question of honesty of assessment practices in terms of marking guides and suggests that we should be insisting on using both appropriate tools for generating valid evidence and appropriate means of judging student performance against a course’s learning outcomes, rather than trying to force pass marks to add up to 80%.

## 1. INTRODUCTION

After 15 years of DipBC modules with their inherent mastery requirement and the 80% pass guideline we could assume that tutors have adapted their assessments to reflect this and that the majority would have no problems with the 80% pass mark. Not so – if our findings are representative of the situation at other polytechnics.

This paper presents the results of a questionnaire administered to 15 tutors at Christchurch Polytechnic. The replies suggest we need to re-examine the 80% pass mark for DipBC modules and what this means in relation to mastery.



From discussions with individual tutors it was obvious that they coped with the 80% pass in different ways. It seemed to depend on the ratio of practical to theory in the module. For largely practical modules some tutors ignored the 80% - their assessments were criterion based – or they allocated lots of marks for doing things. For largely theory modules some had eased the pass back to 60% or 70% or an average over a number of assessments while others had simply made their tests easier often by asking many short answer questions worth 1 or 2 marks. In these days of greater accountability such tests are easier to mark and easier to justify but are they a valid test of comprehension at level 5 or level 6?

This investigation sought to sample a wider range of tutors and to answer the questions

“Do tutors at Christchurch Polytechnic have problems or concerns with the 80% pass mark?”

“Is it easier to allocate 80% to a pass for theory or practical subjects?”

## 2. METHOD

A questionnaire was developed and trialled with two tutors. Minor changes were made. Each questionnaire related to one module. Of the 18 tutors teaching on the DipBC 15 completed 25 questionnaires.

Questions 2 to Question 8 used a 5 point Likert scale. Because people are often reluctant to mark the end points of a range this makes it easier for respondents to mark the agree or disagree points. As this was but a preliminary investigation the responses for agree and strongly agree were added together and compared with the total of disagree + strongly disagree. The comments were grouped into themes.

## 3. RESULTS

### Question 1

What Type of assessments are you using for each category within this module?

- A 2-3 hour formal, written exam.
- B 1-2 hour test (may be a mix of theory and practical).
- C 1-2 hour open book test.
- D 1-2 hour observed practical tasks (with checklist).
- E 1-2 hour observed practical tasks with a hand-in report
- F Group assignment (task oriented).
- G Individual assignment (task oriented).
- H Individual investigation/research assignment
- I Other – state

**Question 1** showed that most tutors use a combination of 1-2 hour tests and individual assignments.

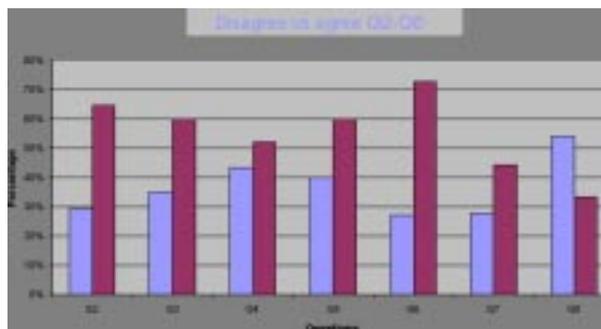


Figure 1. graph of percentages for responses to questions 2 – 8

	S disagree	disagree	neutral	agree	S agree	Disagree	%	Agree	%
Q2	3	2	1	3	8	5	29%	11	65%
Q3	4	3	1	4	8	7	35%	12	60%
Q4	5	5	1	5	7	10	43%	12	52%
Q5	4	0	0	3	3	4	40%	6	60%
Q6	3	3	0	4	12	6	27%	16	73%
Q7	3	2	5	4	4	5	28%	8	44%
Q8	9	4	3	4	4	13	54%	8	33%

Table 2.

module	R		C		A		P	
	Assessment %	Assessment Type(s)						
DT100			60	B,G,H	40	B,G		
ID100			50	G,H,I	35	G,F,I	15	G
PP114					70	B,D,G	30	B,C,D,G
SO100			100	B,G,H				
SD200			20	B	80	F		
IN200			20	B,D,G	80	B,D,H		
DB100	15	B	25	B,G,H	60	B,G		
DB200			20	B	25	G	35	G,I
DC100			100	G,H				
PP117					70	B,G,H,C,E	30	B,G,H,C,E
PR211							100	B,F,G,H,I
PD100			20	B	45	B	35	A
SF100			10	B	90	B,G		
QA200					100	G,H		
IG200							100	G,H
ID100			50	G,I	35	G	15	F
OS100	30	B			70	B		
HF100			100	B				
PD100			20	B	45	I	35	I
PP100	5	B			95	B,I		
IN100			50	B,G,H	50	C,H		
TR200					100	D,G		
MA200			20	B,G,H	80	C,F		
IN100			50	B, H	50	B, C		
SF100			10	B	90	B,G		

**Table 1.**

**Question2** For the Recall category I have no problems applying the recommended 80% pass rule.

**Question3** For the Comprehension category I have no problems applying the recommended 80% pass rule.

**Question4** For the Application category I have no problems applying the recommended 80% pass rule.

**Question5** For the Problem Solving category I have no problems applying the recommended 80% pass rule.

**Question6** Because of the recommended 80% pass requirement I write assessments that are prescriptive in terms of my ability to allocate defensible marks.

**Question7** I acknowledge the level of this module and look for the student's ability to problem solve and reason – and then try to make the mark allocation fit this.

**Question8** I find the recommended 80% pass mark restricts my ability to assess validly.

**Question 9** Comments  
The comments have been grouped into three themes.

**Criterion based**

- ◆ I work on the principle that a student may pass only if they know/can do/have done/understood either all of what I think is essential or 80% of essential
- ◆ I make the range of abilities/achievements observed fit the marking scheme
- ◆ I don't use the 80% pass mark for this module. I look to see if learning outcomes have been met - then allocate marks.

- ◆ I don't take an awful lot of notice of the 80% thing
- ◆ Lots of students get Merit. If they meet the specified outcomes they get the marks.
- ◆ I don't put % on final results - they can either do it or they can't - much more criterion based

### Problems

1. Short answer questions in particular are difficult to award a pass mark that equates to 80%. E.g. multichoice - may get 7 correct out of 10 and have to fail them - yet really quite good.
2. I find I can't use 80% as a pass for comprehension questions
3. I use a 70% average as a guideline for a pass.
4. I adjust marking so that 50% is easy, next 30% harder - they need to understand it - next 20% tougher questions
5. Main problem is the research assignment - difficult to score 80% or above.
6. 80% good for practical tasks - not good for theory
7. The major problem lies in classes that are made up of students of a wide range of ability.
8. Topic with a lot of theory - makes it hard to allocate lots of marks

### Others

- ◆ 80% provides a defensible grade where a tutor is removed (to some extent) from subjective judgment of Pass/fail.
- ◆ I note that Novell, MCSE etc require a high pass mark
- ◆ My assessments have evolved to meet the 80% pass mark.

## 4 DISCUSSION

In the days before metrication, if someone didn't know very much it was said that they knew "5/8 of f... all".

There are times when, even though they pass a particular module and especially if they gained this pass on a resit, we wonder just how much our students know about that subject.

When the 80% pass mark was introduced in 1985 there was much discussion as to what this would mean for tutors and for students. If the pass mark is 80% does this mean that it is harder to pass than a subject where the pass mark is 50%? What does the 80% mean for a module that is assessed on the basis of a student project?

The descriptors for the diploma modules categorise the learning required for each module using the RCAP model. It would be expected that we should not have problems relating the 80% to the assessment of the Recall sections. If there are 10 points to know about an RDBMS then students are expected to remember at least 8 of them. Our survey showed that even here 30% of tutors have problems with the 80% pass mark. The Application and Problem Solving areas have largely become the things we assess using assignments. How do we apply the 80% pass mark to assignments? How do we apply it to the Comprehension elements?

In the early days of CBC there was much talk of "You can either fly the plane or you can't". And that means being able to take off – manoeuvre – and safely land again. Being able to do only 2 of these three things was not good enough. Some may be able to land the plane more smoothly than others but there was a minimum standard required for a pass. These ideas were already implicit in the practical requirements for NZCDP papers.

15 years ago mastery was a new idea – so was an 80% pass mark. However we knew that we, and the industry, wanted students who were work-ready, students who could "do things". The idea of mastery was appealing

So assessments for Application and Problem Solving sections tend to be specified in terms of minimum criteria that must be met for a pass. e.g. "The program works and is bug free", "The code uses meaningful variables", etc. Sometimes criteria are specified for a Merit – sometimes it is gained by going beyond the minimum requirements.

If a set of minimum performance criteria must be met for a pass does this mean a student must achieve 100% (i.e. meet all the criteria) to pass such an assessment?

Our assessment procedures are different for the different categories. For the Recall elements it may well be appropriate to use an 80% pass mark. However Recall is the lowest level of cognitive taxonomy and would suggest a "need to know" level. Therefore all of the Recall section should be known i.e. a 100% pass is required. If we are using a criterion-based assessment for the Application and Problem Solving sections what does an 80% pass mean?

Of greater concern what does 80% mean for the Comprehension elements if we have reduced the questions to essentially recall (so as to make the 80% achievable)? And so a student who barely understands the topic is still able to pass.

It is time we were more honest about our assessments. A pass mark of 80% appears to indicate a

high level of competency and knowledge – especially when people expect the average student to be at the 50% level based on their historic journey of assessment. Some students achieve a Merit. They are seen as better than those who gain a Pass. But what of those who gain a Pass – are they all of similar ability and knowledge?

Some modules have a large Comprehension component e.g. SO100, DB200. I like to ask more searching questions to test their understanding e.g. “What is normalisation and why is it important in database design?”. The answers I receive indicate a wide range of understanding. Some have a rough idea and get it about half right. That’s what I’d accept for a pass – but of course it’s 50% right not 80%. So what do I do? I don’t stop asking the hard questions – and I mark accordingly. Some of the better students gain a mark of 70% - and they are devastated because they have been conditioned to believe that anything less than 80% is a failure. So I average their marks over assignments and tests and I lower the mark required for a Pass and a Merit (the Blue Book states that 80% is only a guideline).

But that’s not the point. In some areas, particularly Comprehension, we have adapted our assessments to meet the 80% pass requirement. In other areas we have criteria that must be met for a Pass, to which we then allocate a mark of 80%. In particular we have changed the way we assess the Comprehension category. Assessment of Comprehension has become a Recall exercise with many small questions worth 1 or 2 marks. If the student answer mentions the required keyword then they gain full marks. We have a limited number of such questions. We give the students practice tests and go through previous tests. The Comprehension questions become a Recall exercise. Such assessment is not appropriate at level 5 or 6.

We have learning outcomes specified for each module. If a student meets these outcomes then they pass the module. Right? So what has 80% got to do with it?

With the advent of unit standards we are much more aware of criterion-based assessment. While we are not keen on the extremism of unit standards the idea of a list of minimum criteria for a Pass – and another list for a Merit would sit easily with the learning outcomes of DipBC modules.

In the early days of CBC there was much confusion over the 80% pass mark. Our survey shows that tutors are just as confused today.

P10 of the Blue Book gives what is best described as a Programme Aim. What is required is a programme aim AND a graduate profile which gives broad strands or themes which are characteristics of a successful graduate

and thus form the underpinning strands or themes of the programme philosophy and delivery realities. Without a realistic graduate profile it is very difficult to determine programme intentions eg the assessment rationale.

#### **For example:**

If the intention of a programme is to produce a graduate capable of working in a routine, structured environment, doing supervised repetitive tasks with high accuracy components one would expect an assessment rationale based on repeatable, competency criteria with compliance to line management as an attitudinal characteristic.

On the other hand, if the intention of a programme is to produce a graduate capable of working in a highly creative, “client and time restricted response” environment where specialised independent skills are utilised in project or task teams then a competency based assessment rationale has very limited use. Much more likely to have assessments which provide evidence in behaviour and/or characteristic “bands” (grades) which broadly categorise student performances without exact (singularly differentiating) mark allocations.

Mixes of:

- ◆ independent learning contracts
- ◆ independent and group project assessments (designed to provide evidence of both group process and group product)
- ◆ self analysis and review processes such as learning journals
- ◆ research, analysis, problem solving and “purpose-appropriate” communication combinations” routine AND creative applications of both underpinning and specialised knowledge and skills would feature in the methodologies of such programmes.

Such assessments generate highly subjective responses and require banded descriptions of required performances without the detailed “checklist mentality” or single mark by mark allocation of a percentage summations. Making a judgement (of what is validly evidenced) against a description of what a graduate might be expected to do in a real world setting is more professionally and educationally valid (and time efficient) than agonising over the distinction between a 74% and 83% mark allocation (Particularly when a guideline of an 80% pass mark is suggested).

## 5 CONCLUSIONS AND RECOMMENDATIONS

The use of purpose-written, graduate profile related, achievement based assessment scales is recommended.

Suggested changes to programme aim statements p10, Blue Book

### **CBC**

To produce graduates who are useful and productive in a structured work environment, able to apply a broad base of underpinning knowledge and skills appropriately and accurately, and identify areas of potential specialisation for their skill sets.

**NB** Predominantly competency based (Practical observation checklists, high recall and comprehension tests with designated mark allocations – resits expected in order to gain full marks) emphasis on repeatability and accurate response to instructions

### **Dip BC**

To produce graduates who are useful, productive, adaptable and imaginative in a range of supervised and unsupervised working environments, able to select from and apply a broad base of knowledge and specialised skills in order to meet both routine and unfamiliar tasks within demanding time frames.

**NB** some competency in practicals and new theoretical – “need-to-know” material

Move to ABA scales for other work (Could simply be a distinction between PASS and MERIT in some cases eg quicker completion time frames, or imaginative solutions rather than repeat-what-tutor-provided type solution. Written work might have a competency component AND a “tolerance” component together. Eg some questions 5/5 and others 6/10 generating a reasonably “high” Pass mark towards competency but not all or nothing.

Tutor able to define what is appropriate in each case rather than have a programme guideline

Emphasis is on selection, adaption and application of appropriate knowledge and skills – student has a broad base of underpinning k and s as well as some specialisation and can draw from this and apply efficiently, effectively but with some individuality. Can justify and take responsibility for their decisions.

Assessments should be matched to learning outcomes. After 15 years it’s time we re-examined the way we assess the DipBC modules. Criterion-based assessment would seem to best fit our requirements for a Pass or Merit. Marks and percentages may well still be appropriate for some assessments but let’s not try and equate a module pass with 80%.