

# Assessing Students

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An Introduction for IVE Teachers

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**An Introduction for IVE Teachers**

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# About This Guide

This guide has been written for Institute of Vocational Education (IVE) teachers who want to know more about assessment. It should be of particular interest to new teachers, as well as to newly appointed Subject Coordinators and Course Leaders who have a responsibility for developing a sound assessment package.

Assessment is a central element of any course of study because it drives student learning. More than anything else, our assessments tell students what we consider to be important. Assessment links the components of a course - its objectives, content, teaching methods, and skills development - together.

Just as every IVE module is different, so the assessment package that is appropriate will be different. However, as a teacher, you should consider a range of assessment strategies and be prepared to update your assessment approach from time to time. To help you get started, we have gathered together some practical advice and a range of ideas for you to consider. We hope that you will think about (and discuss with your colleagues) which assessment approach might be the most effective way for you to help your students get the most out of their time at IVE.

The guide was written with the **aim** of equipping you with ideas about ways of assessing student learning and helping your students become more reflective and effective learners.

The **objectives** are to:

1. Define and explain assessment terminology
2. Provide an introduction to the principles of good assessment
3. Explore some of the main issues involved in assessing students by working through a series of questions:
  - ◆ Why are we assessing?
  - ◆ What are we assessing?
  - ◆ How are we assessing?
  - ◆ Who is best placed to assess?
  - ◆ When should we assess?

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As well as reading this guide, you should familiarise yourself with some important documents.

You need to know the regulations that apply to assessment at IVE. Obtain and read the **General Academic Regulations (GAR)** and **Departmental Academic Regulations (DAR)** that cover the type of courses you teach. To find them on the intranet:

Log on to <http://intra.vtc.edu.hk> > Informative > IVE Academic Handbook

You will be prompted to input your Username and Password

Click on 6: IVE Academic Policy, Regulations and Guidelines > GAR (note: there are several)

In addition, you should read the academic policies, regulations and guidelines relevant to assessment. While you are logged onto the IVE Academic Handbook, look at any documents that relate to your teaching (for example, IVE Examination Regulations, IVE Appeals Regulations).

You also need to know any regulations that specifically apply to the course you are teaching - ask your Course Leader for a copy of the **Validated Course Scheme** document. Many (but not all) are now available on the intranet. Follow the link from the IVE Academic Handbook, click on 14: Approved Course Documents > By Discipline.

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## Why

# are we assessing?

As an IVE teacher, a significant part of your time is probably spent assessing your students. You will have to design and implement assessment packages that can give a valid indication of how your students are doing. In the process of doing this, you will also get feedback about how well they are learning what you are teaching them. Thinking about why you are assessing them is a good starting point. You also need to clearly distinguish between diagnostic assessment, formative assessment and summative assessment as they have quite different purposes.

### In this section, we look at two topics

- 1.1 The purpose of assessment
- 1.2 Diagnostic, formative and summative assessment

## 1.1 The purpose of assessment

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There are many reasons for assessing students' performance. In broad terms (according to Phil Race<sup>1</sup>) some of the reasons are:

- ◆ We live in a society where people are appointed and employed on the basis of their qualifications
- ◆ Students themselves need **feedback** to help them to find out how their learning is going
- ◆ Teachers need feedback on how well students' learning is going to adjust and develop their teaching
- ◆ **Assessment** is often the major driving force that gets students down to serious studying

**Feedback** is information about performance

**Assessment** is the process of gathering evidence and making a decision about student performance

Brown and Knight (1995)<sup>2</sup> provide a more detailed list of why we assess. Their reasons (among others) are that assessment:

- ◆ Motivates students
- ◆ Provides feedback
- ◆ Can help students remedy mistakes and build on achievements
- ◆ Guides selection and option choice
- ◆ Indicates readiness for progression
- ◆ Can help diagnose errors and deficiencies
- ◆ Consolidates student learning
- ◆ Classifies or grades student achievement
- ◆ Provides a performance indicator for staff and lets them know how effective they are at promoting learning
- ◆ Provides a performance indicator (statistics) for the course and the institution

These are all good reasons, but it is particularly important to think carefully about how assessment links to student motivation. Much traditional assessment (for example examinations and written projects) can be insensitive to the actual achievement or progress of individual students, particularly students at risk<sup>3</sup>. Research has shown that traditional evaluation systems do not adequately recognize the progress that educationally disadvantaged students make, because even dramatic improvement may still leave them near the bottom of the class in comparative terms and below the standard needed for a good grade. Motivating low achieving students can be very difficult - even finding ways to encourage 'average' students can be challenging. If one of your purposes of assessment is to motivate students (to try harder, to have an intrinsic interest in the subject, and to

<sup>1</sup> Race P 'The Art of Assessing' [Online] 2<sup>nd</sup> May 2002  
<http://www.lgu.ac.uk/deliberations/assessment/artof.html>

<sup>2</sup> Brown S and Knight P (1995) *Assessing Learners in Higher Education*. London, Kogan Page, Chapter 3

<sup>3</sup> 'At-risk' is a term for students at risk of academic failure. Teachers who have an interest in this topic may like to refer to 'At-risk Students' [Online] 2<sup>nd</sup> May 2002  
<http://www.ncrel.org/sdrs/areas/atOcont>



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improve their performance), then it is important that assessment provides for *individualised* incentive and reward structures that value students' incremental improvements.

Assessment is a highly complex topic, one with few 'rules'. As a teacher, you have to think really hard about 'why' you are assessing, before moving on to the 'what', 'how', 'who' and 'when' questions.



## 1.2 Diagnostic, formative and summative assessment

**Diagnostic assessment** is used at an early stage to identify students' strengths and weaknesses

**Diagnostic assessment**<sup>4</sup> is one form of assessment that is often overlooked, but which should be considered. As its name suggests, diagnostic tests are used at early stages in a course (often before formal study begins). They identify the strengths and weaknesses students have in a particular subject area, and can be used to give teachers guidance as to which teaching and learning strategies may be best. One obvious outcome might be to provide remedial help for some students, and extension activities for others. A more common use is in guiding teachers as they plan and modify the content or mode of presentation to suit the needs of their students.

**Formative assessment** aims to provide feedback to help students improve

**Formative assessment** aims to provide regular feedback to students during their studies. This should stimulate their learning and provide them with information to help them to judge the effectiveness of their learning strategies to date. It also alerts teachers to any parts of the course or approaches to teaching where students are having difficulties that may need further attention.

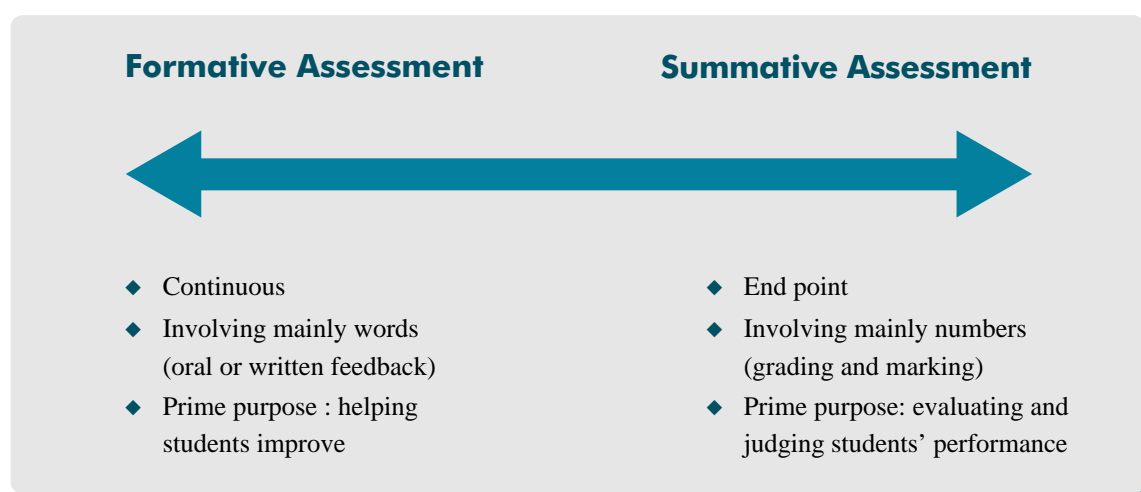
A series of assessed laboratory reports (a form of continuous assessment) is an example of formative assessment if the purpose is to help students prepare for an end of module written project (which is graded). Formative assessment can be ongoing and quite informal (for example, feedback comments to students at the end of tutorial presentations).

**Summative assessment** aims to measure a student's performance

**Summative assessment** is used to make judgements on students' performance. The results of the assessment are expressed as marks, percentiles, grades, etc. Summative assessment may also be defined as a measure of a student's performance or level of achievement at the end of a course of study.

End of course exams are a familiar example of a summative assessment.

Figure 1. Characterisation of formative and summative assessment



Source: Adapted from Brown and Glasner (1999)

<sup>4</sup>Miller A, Imrie B and Cox K (1998) *Student Assessment in Higher Education*. London, Kogan Page Limited, p30

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No form of assessment is purely summative or formative. For example, a summative final-year exam result gives first year students realistic feedback about how hard they need to work in year two.

Sometimes, teachers try to achieve both formative and summative purposes within the same set of assessments. This can only work if teachers (and students) know exactly what is expected. For example, in the case of coursework, students need to know how a teacher will give them feedback that can help them improve, as well as being given the **assessment criteria** that the teacher will use to give them a grade.

**Assessment criteria** are clearly-defined standards against which the student's performance is measured

This links to our next question - what are we assessing?



## What

# are we assessing?

IVE teachers generally work from existing assessment guidelines written in their module syllabuses. These will give you an outline assessment package to work with. Depending on your discipline, this may vary. Some disciplines only use continual assessment; others have an assessment package that comprises both coursework and exams. Coursework may be sub-divided into a number of staged activities or related tasks.

However, you usually have some flexibility within the guidelines to create assessments that are meaningful for your students. You should certainly give careful consideration as to how you will give regular feedback to your students to help them improve (formative assessment). Teachers at IVE have heavy workloads, large classes and plenty of them! You have to be realistic about what you can do.

### In this section, we look at three topics

- 2.1 Choosing what to assess
- 2.2 Assessing theory and practice
- 2.3 Qualitative and quantitative assessment

## 2.1 Choosing what to assess

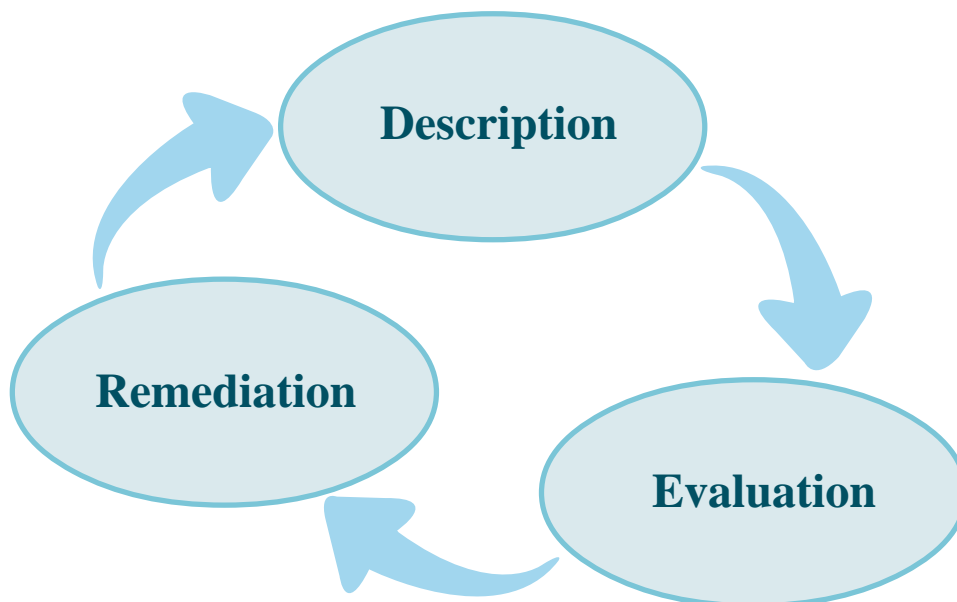
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Choosing what to assess is harder than it initially appears! Some things are easier to assess than others. For example, assessing a student's ability to recall a list of key points about teamwork is easier than assessing their ability to work collaboratively. If we reward information recall and repetition of what has been taught (as much traditional assessment does), then this is what our students will concentrate on doing.

If we want students to demonstrate teamwork skills, we cannot simply assess a product (give a grade for a written project) without also assessing the process they used. If we do not also address process, we will have to deal with student claims of unfairness (doing more/less or superior/inferior work than their group members) and inadequate assessment (not being given sufficient formative feedback and not being fairly graded). Assessing students in groups is a particularly hard task.

According to Sally Brown<sup>5</sup>, good assessment is about *description* (teachers and students know what is under discussion), *evaluation* (value judgements are available and meaningful to teachers and students), and *remediation* (so that improvements can be made). For students to really learn effectively, they have to see assessment not as an end point. They have to be able to look with new eyes at the work they have done and understand the reasons behind the assessment decisions that have been made. Students have to become reflective learners, and good assessment can help them enormously in this task.

Figure 2. Elements of good assessment



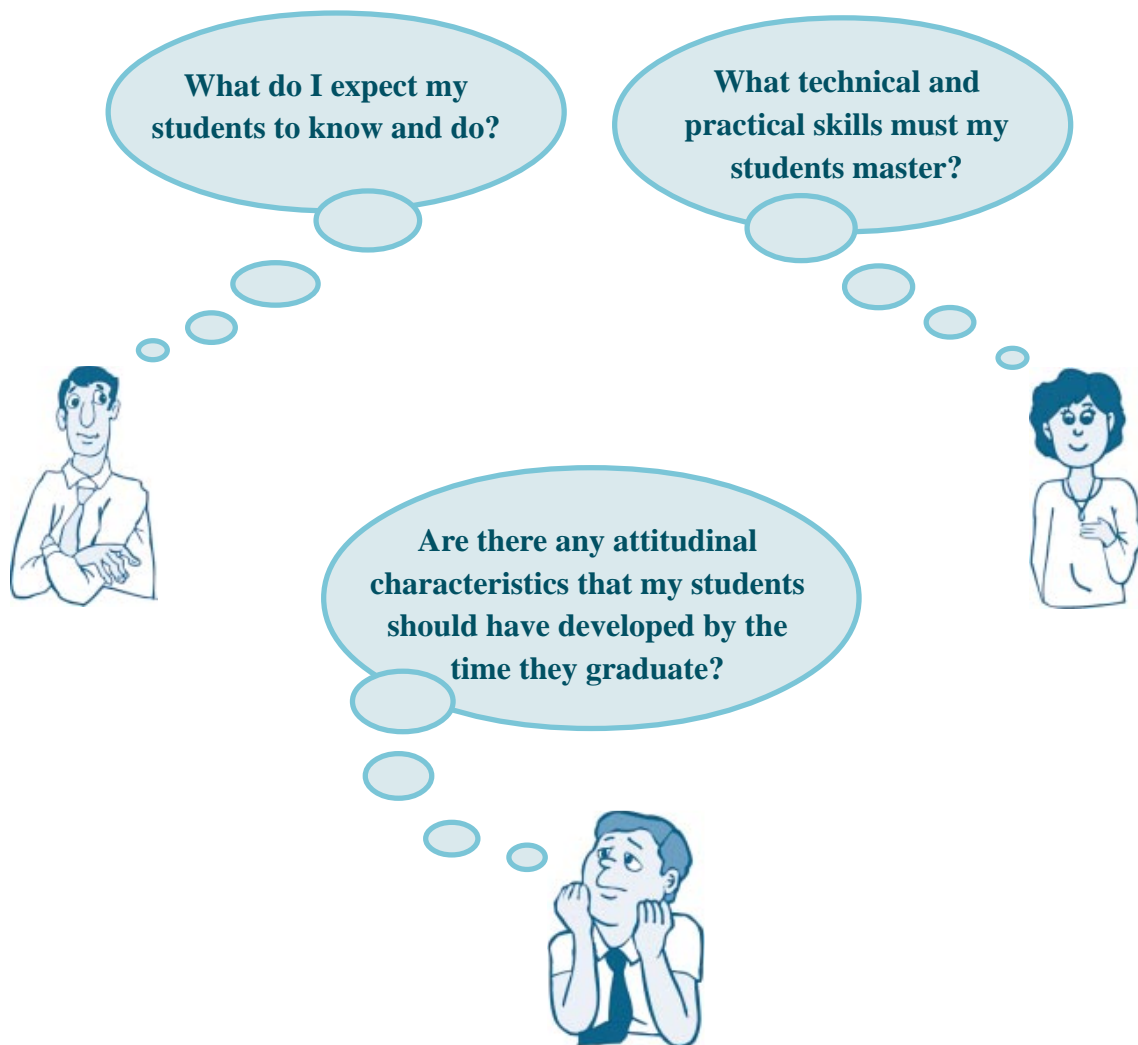
Source: Adapted from Brown and Glasner(1999)

<sup>5</sup>Brown S (1999) Chapter 1, Institutional Strategies for Assessment. In Brown S and Glasner A (eds.), *Assessment Matters in Higher Education*. Buckingham, SHRE and Open University Press

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In thinking about what to assess, it can be helpful to start by recognising that students should progress - first year students assessed early in a course know less and can do less than when they are assessed later in the year (or later in the course).

There are various ways of thinking about how students learn. Bloom's work is still widely discussed and used, and a summary of his taxonomy is included in **Appendix A**. Many teachers (and course teams) use this framework to ensure that their assessment moves students along from knowledge recall (memorisation) to higher levels of analysis, synthesis and evaluation. Bloom's work also recognises that alongside cognitive learning (intellectual skills) are affective learning (behaviour that indicates attitudes) and psychomotor learning (physical skills). Often students are expected to progress in all three areas of learning, and assessment must be designed to value all of these three areas.




## 2.2 Assessing theory and practice

Many forms of assessment offer scope for assessing both theory and practice. Practice can be assessed in a ‘real’ place of work, or in terms of students applying knowledge to a particular industry or work situation. All IVE courses have practical elements. The kinds of practical abilities being sought should be identified and the assessments designed accordingly. The general principle is that both theoretical and practical abilities should be examined in a proper balance, with their relative weight being proportionate to the course objectives.


Assessment of practice can be difficult, as there are practical problems that do not arise when assessing the more theoretical aspects of curriculum. For example, if your course helps students develop Key Skills such as communicating verbally, thinking and solving problems, working with others, or being responsible (by managing their own learning), then you are likely to need to assess these skills. There are many tried and tested ways<sup>6</sup> to do this. When students demonstrate skills and abilities, they need to provide evidence so that this experience is captured. In principle, assessment of practice should rely on evidence rather than assertion, which is, where possible, triangulated.

**Triangulation** involves using a number of sources to support a claim

**Triangulation** means using a number of sources to support a claim of competence. For example, students and their teacher could complete a competence checklist and students could be observed by their supervisors whilst they are on placement. In this example, three sources (students, teachers and workplace supervisors) are involved in assessment so the outcome may be seen as trustworthy (reliable and valid). Another example of triangulation is the common practice of moderating exam scripts by getting someone to second mark some (or all) of them. We will look at this issue in **Section 3.1**.



Do I have a good balance between assessing theoretical knowledge, and assessing application and understanding in my vocational context?



Does my assessment do more than test recall?

<sup>6</sup>Brown, S and Glasner, A (1999), *op cit*, p95

## 2.3 Qualitative and quantitative assessment

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When you start to think about what to assess, you should think broadly and not avoid qualitative assessment because you are worried about subjectivity. You may be able to minimise subjectivity if you develop a very quantitative assessment, but are you assessing the right things?

What does a C grade, or a 57% tell you about a student's skills? Do these figures conceal as much as they reveal? As the range of skills and competencies students are expected to demonstrate broadens, assessment needs to be able to better capture students' achievements<sup>7</sup>. In **Section 3**, we shall consider how to assess, but for now you should think about being clear about what you feel students should know and be able to do.

Consider whether you need to assess any qualitative elements of student work. As well as assessing techniques, there may be an element of assessing how aesthetically pleasing the final outcome is. Another valid judgement might be how practical or functional the work is. Brown and Knight (1994)<sup>8</sup> remind us that it is not only in 'creative arts' where an element of aesthetic judgement is involved in assessment. In assessing computer programming and engineering, it is valid to give marks for the elegance of a solution.



<sup>7</sup> Brown S, Rust C, and Gibbs G (1994) *Strategies for Diversifying Assessment in Higher Education*. Oxford, Oxford Centre for Staff Development, p45

<sup>8</sup> Brown S and Knight P, *op cit*, p77



## How

# are we assessing?

No single assessment can be expected to assess a student's achievements in the full range of knowledge, skills, understanding and competencies appropriate to vocational education. IVE teachers need to use a set of different assessment methods so as to cover the wide range of student abilities. The assessment package described in IVE course documentation often addresses summative assessment in some detail, but leaves formative assessment largely up to individual teachers.

As an IVE teacher, you should think about the assessment of the module(s) you teach. Course Teams should periodically review the whole assessment approach to check that the assessments are appropriate.

### In this section we will look at four topics

- 3.1 Having reliable and valid assessments
- 3.2 Being able to discriminate
- 3.3 Approaches to assessment
- 3.4 Forms of assessment

### 3.1 Having reliable and valid assessments

**Validity** means that the assessment actually tests student understanding of material taught in the course, which in turn, is linked to the course objectives

It is a fundamental principle that assessments should be designed to reflect the aims and objectives that a course is intended to achieve. This principle is reflected in the concept of (content) **validity**. Validity is the degree to which the assessment contains a representative sample of the material taught in the course. A valid assessment measures what it is supposed to measure (how well students have achieved the module objectives).

For the content validity to be high, the assessment must sample the students' abilities on each objective. As these objectives are likely to cover a wide range of knowledge, skills and attitudes, no single method is likely to provide a completely valid assessment. For example, an essay written in an examination will hardly be likely to provide valid information about practical laboratory skills.

**Reliability** means that the assessment is both consistent and precise

The **reliability** of any assessment is a measure of the consistency and precision with which it tests what it is supposed to test. An unreliable assessment cannot be valid. The degree of reliability is affected by the assessment format itself, the quality of its administration and the marking. It is very important that marking/grading is consistent. If the student was assessed again (by the same teacher, or a different person) would it yield the same result?

Validity and reliability are terms that quantitative researchers use frequently. People who are more interested in qualitative issues would use the term 'trustworthiness', but the general principle is the same. However you choose to assess students, you must be confident you know what you are measuring and know you are doing so accurately and fairly.

**Verification** means that assessment is checked to ensure standards are comparable across campuses

In IVE, the process of **verification** is used. Staff managing courses that are taught on more than one campus, check and compare continuous assessment and coursework assessment during the year to ensure standards are comparable.

In exceptional circumstances, when one cohort of students seems to perform either much better, or much worse than the others, some further action may be needed. The Course Board/Examination Board will investigate the situation carefully and may feel justified in adjusting the irregularities in assessment marks. A technique sometimes used is **normalisation** which is a statistical method that adjusts irregular distributions of results against normal ones. There are other techniques which Course Boards may choose to use. Course Boards have the authority to adjust marks but they must always consider each case on its merits.

**Normalisation** is a statistical technique that adjusts irregular distributions of results against normal distributions

Am I confident my existing assessments are valid and reliable?



Can I have a valid assessment without clear (unambiguous) assessment criteria?



## 3.2 Being able to discriminate

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**Discrimination** refers to the ability of the assessment instrument (test, assignment, exam, etc.) to award high marks to those who can demonstrate attainment of the outcomes, and low marks to those who cannot. That means an assessment activity with high discrimination ability would have a wide range of marks rather than having all the marks falling within a narrow range.

**Discrimination** means that the assessment distinguishes good from poor performance and provides a wide spread of marks

When you think about how to grade student work (projects or essays written in exams), you should give some thought to the approach you will use. If you read something written by a student at two different times, the chances are that you would give it a different grade each time. If two or more people read it, their grades would probably differ. Eliminating this problem is difficult, but having a scoring guide helps. The two most common forms of scoring guides reflect two distinct approaches to grading: analytic and holistic.

**Analytic scoring guides** identify the important components of a piece of work and assign marks to each component. As you read, you assign marks up to the limit specified by the scoring guide, and then total the points to determine the grade.

**Analytic scoring guides** identify the important components of a piece of work and assign marks to each component

**Holistic scoring guides** assume that a piece of work is more than the sum of its parts. As you read, you compare the work to a range of characteristics that you have prescribed (often *excellent, good, adequate, poor, fail*).

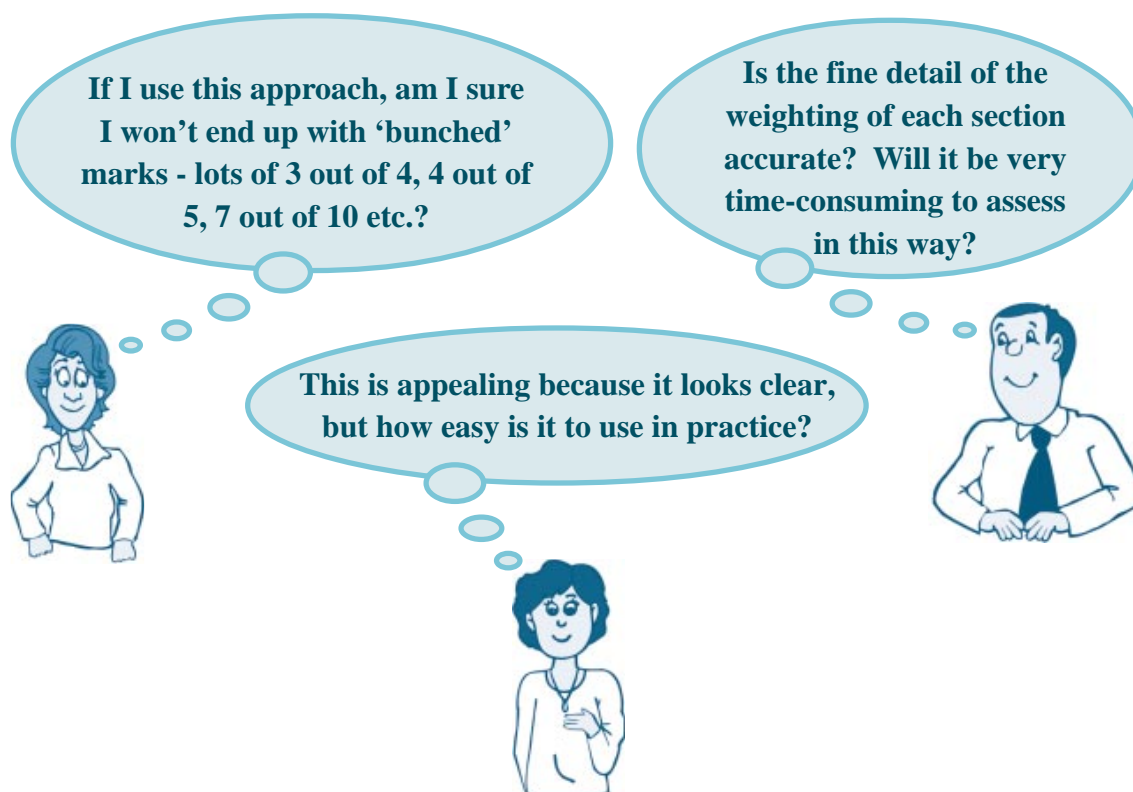
**Holistic scoring guides** prescribe a range of characteristics and assign a mark to the work as a whole

An example of each of these scoring guides is given on the following pages. Note that these are for projects done by individual students. Also note that the grading and marking systems in your department **MUST** be adhered to. The guides presented here are for information only. You should consult your Subject Leader/Course Leader for guidance.

## Example Analytic Scoring Guide for a written project

Assessment Criteria	Possible Mark
<b>Relevance to set topic</b>	
The scope of the project is identified	10
Key terms and issues are discussed	10
Relevant research material has been selected, and less relevant material discarded	10
The original work is appropriate	5
<b>Structure</b>	
Research and original work is balanced	25
The project appears to have been done in a logical way	10
Findings and opinions are supported by evidence	10
<b>Presentation</b>	
The style and tone are appropriate to academic work. Specialist words are used correctly	5
The format is suitable and clear	5
Referencing conventions have been followed, and material is sourced	5
The work has been carefully edited to avoid errors of grammar, spelling and punctuation	5
<b>TOTAL</b>	<b>100</b>

Note: this guide is for a project done by a single student (individual work)



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## Example Holistic Scoring Guide for a written project

### Assessment Criteria

#### Relevance to set topic

It is expected that your project will be clearly focused on the topic, and you will explore a range of related issues. You are expected to:

- ◆ Identify the scope of the project
- ◆ Discuss the key terms and issues
- ◆ Select relevant research material, and discard less relevant material
- ◆ Do appropriate original work

#### Structure

It is expected that someone reading your project could/would be able to understand how you approached the task. You are expected to:

- ◆ Balance research and original work
- ◆ Work in a logical way
- ◆ Produce evidence to support your findings or opinions

#### Presentation

It is expected that your written work will showcase what you have learned. You will be expected to:

- ◆ Adopt a style and tone appropriate to academic work
- ◆ Use specialist words
- ◆ Use a suitable, clear format
- ◆ Follow referencing conventions and source material clearly
- ◆ Edit your work carefully for errors in grammar, spelling and punctuation

### Grading Guide for Projects

Grades are given from A to F

A	An outstanding result awarded for performance well beyond course expectations. Excellent standard in every way.
B	An above-average result awarded for performance at a level beyond course expectations. Very good standard, but there are some areas where improvement could be made.
C	A result awarded for performance at the expected level of the course. A competent piece of work.
F	A result awarded for performance below the expected level of the course. The project has serious flaws.

Note: Holistic Scoring Guides are sometimes written in the form of matrices. The grades A-F form one axis, with different criteria on the other. In the cells are statements describing the performance of the criteria that merits the grade.

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Another distinction that you need to understand is between norm referencing and criterion referencing.

**Norm referencing** describes a student's performance in relation to a group of students

**Norm referencing** describes a student's performance in relation to a group of students. The group may (or may not be) 'typical' - some years, there may be an academically strong cohort of students; other years, most of the students may be quite weak. Being 4<sup>th</sup> in the class, or receiving a 'merit' grade may actually tell us very little about a student's level of knowledge, understanding and skills if the assessment is norm referenced.

**Criterion referencing** describes a student's performance in relation to pre-defined criteria

**Criterion referencing** describes a student's performance in relation to pre-defined criteria. These criteria must be carefully selected so as to be reliable and valid. The assessment must be done systematically and fairly, as cohort statistics cannot be manipulated to achieve 'standard' numbers of distinction, credit or pass students. An alternative use of criterion referencing is sometimes used for judging proficiency (is a student able to do something, or not?); and in this case, there may only be two possible outcomes (meets the criteria, or alternatively does not meet the criteria). This is the approach used in the Training Centres for trade testing.

Do my students know the "rules of the game"? Are my assessment criteria transparent, available and meaningful?

If I already use many assessment methods, am I sure I am not over-assessing?



Has my Course Team had a look recently at all the assessments students do?

Am I clear in my own mind as to how to distinguish between excellent - average - poor - fail? Do my students also know?



### 3.3 Approaches to assessment

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In order to decide how to assess, it is important to consider a range of approaches to assessment. Traditionally, teachers control assessment and allocate grades. However, for assessment to really help students learn, it is often beneficial to widen participation in assessment. We will examine this issue in more detail in **Section 4**.

Many IVE teachers encourage students to self assess, to peer assess and to use group-based assessments. Some also allow for a degree of negotiation over what assessment tasks students will undertake. As new technology impacts on teaching and learning methods, there may be more scope for computer-based assessment. Students who do work placements or work attachments will be assessed on the job, by employers and IVE teachers through the use of written work produced in, for example, reflective journals and investigative projects.

Each of these approaches has its benefits and challenges. Here we shall just briefly consider each in turn.

#### Self assessment

Assessment is all about making judgements. An argument put forward by Brown, Rust and Gibbs<sup>9</sup> is that involving students in assessment helps them develop the ability to make judgements about themselves and their work. If they can identify strengths and weaknesses in their own work, they should be able to improve it. This, in turn, enables them to become more effective learners who produce better quality work.

#### Peer assessment

In peer assessment, students are involved in assessing other students. They may give feedback in a variety of ways, but by talking with their classmates, by debating with them and asking them questions, they may be more involved in the subject and learn more. Giving and receiving feedback in a constructive and considerate manner is a useful (and practical) skill that all students benefit from practising.

#### Group-based assessment

Group work is a feature of many IVE courses, and there are sound educational reasons for organising students to work in this way. Students develop a range of useful teamwork skills. Good group-based assessments can save teachers' time (because they have to assess a small number of groups rather than a large number of individuals). However, it is very important to be fair to students and to take account of their individual contributions - you cannot simply mark the end product and give each member of the group the same grade.

#### Negotiated learning programmes

In some cases (such as work placements) where no two students can be treated the same, it can be beneficial to use negotiated learning programmes. These are commonly known as learning contracts or personalised learning plans. In a learning contract, students negotiate how they will progress through the course and how they will prove they have

<sup>9</sup> Brown S, Rust C and Gibbs G (1994), *op cit*, p21

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achieved the course's learning objectives. This may involve them developing, with their teacher and their mentor/supervisor, assessment that is relevant to their particular circumstances. Teachers have to ensure that even if students have negotiated an individualised assessment, they are still working to the same expected standards as their classmates.

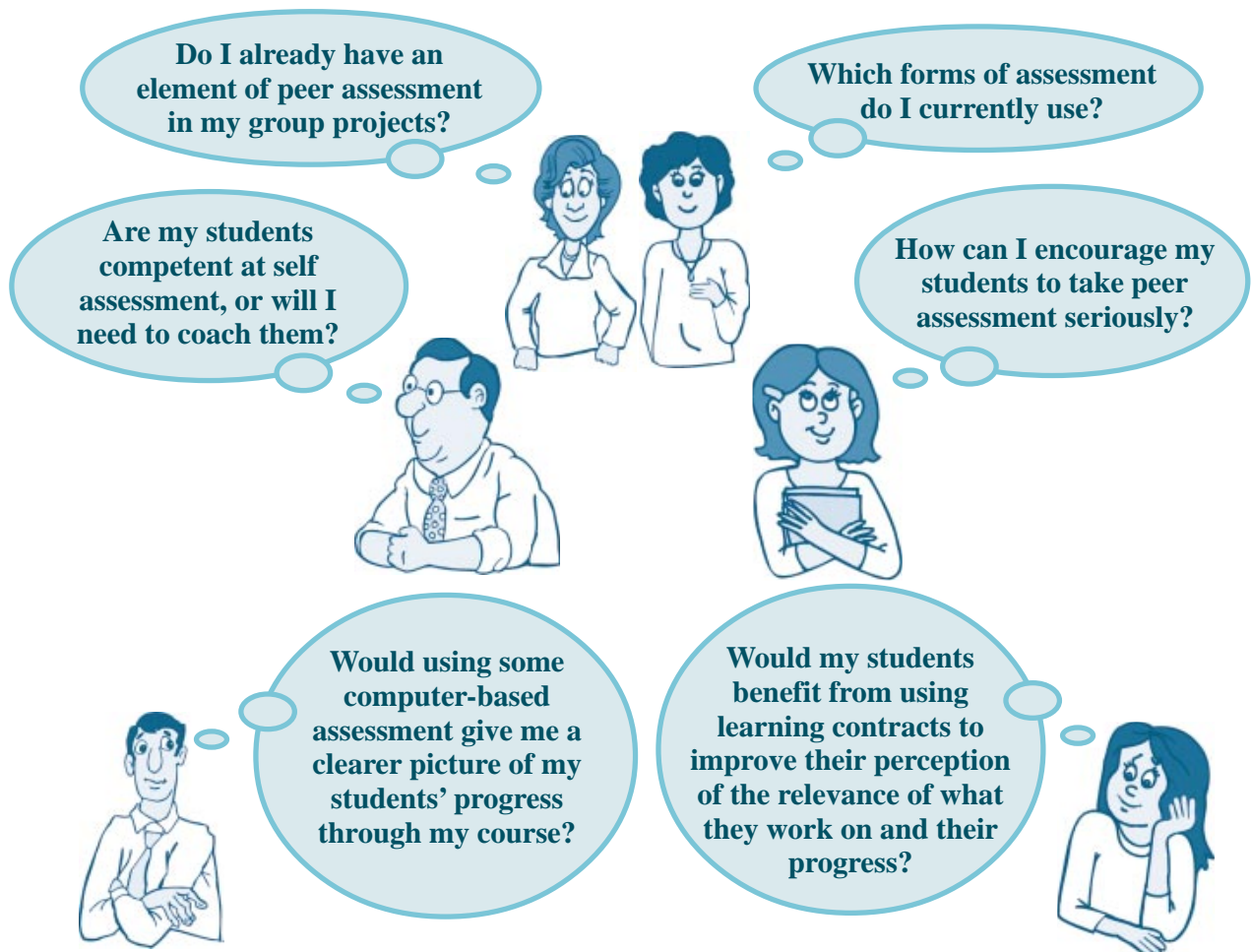
### **Computer-based assessment**

With technology in teaching becoming more widely used, computer-based assessment is becoming more frequent. Teachers who have sites on the IVE WebCT platform may develop online quizzes. These can be used by students to self assess their understanding of material, and by teachers to monitor student performance. Various tracking tools are available, which allow a teacher to check who has logged onto the site, what pages they have accessed, what activities they have attempted, and how well they did in them.

### **Workplace-based assessment**

For IVE students who spend some of their time off-campus, there is a need to use workplace-based assessment. Supervisors or line-managers are usually well placed to assess student achievement, although there are sometimes difficulties in maintaining standardisation where people who are insufficiently well trained to assess competently are assessing large numbers of students.

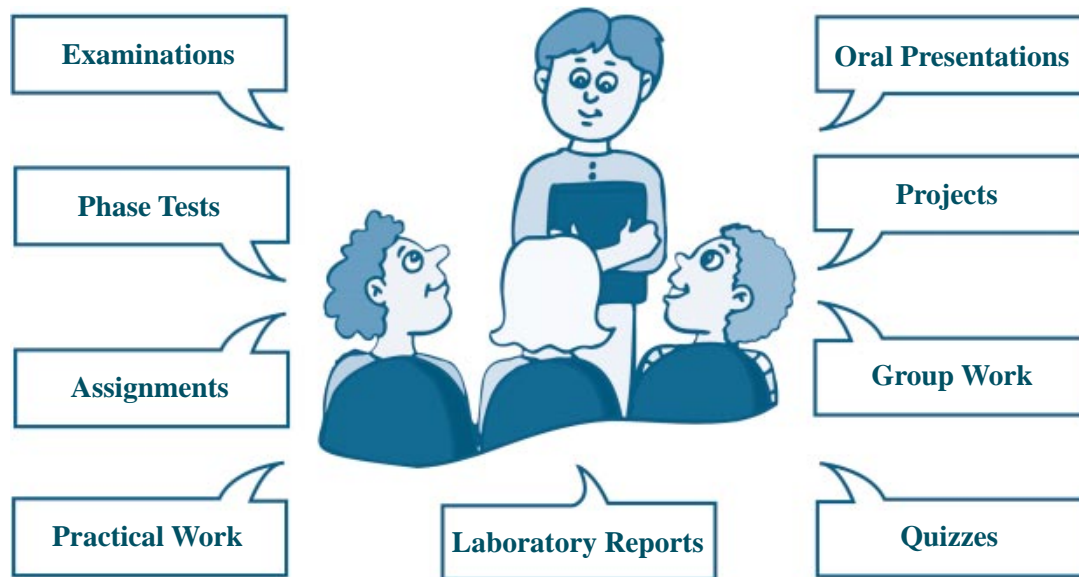
If you want to use any of these approaches to assessment with students, you need to check if they have done it before. 'Novices' will need training, support and guidance.





### 3.4 Forms of assessment

There are many different forms of assessment, and a look at the IVE prospectus shows quite a range already in use (**Appendix A**). Most academic disciplines use examinations and coursework. Some advocate an approach based on continuous assessment and many stress that assessment covers academic study and practical work (theory and practice).



In IVE, **assessment algorithms** are written into the course documentation. An assessment algorithm shows the split between coursework and examination as a % or a ratio. For example, there might be an assessment algorithm of 60% coursework and 40% examination; this can also be expressed as 60:40 coursework: examination. Other algorithms, such as 60:40 or 100% coursework are used. Other variations may be acceptable in your teaching context.

**Assessment algorithms** show the split between coursework and examination as a % or a ratio

#### Examinations

Examinations are often believed to be an efficient form of assessment since all students sit the exam at the same time. Examinations are often seen as the real form of assessment with the reliable ‘gold standard’<sup>10</sup>. Examinations can play an important place in summative assessment, but care has to be taken to ensure they are effective. An obvious issue is deciding how much question choice to allow students. General advice is to avoid writing papers with only four or five questions, because examination papers comprising a good number of shorter questions lead to greater reliability<sup>11</sup>. Examinations that demand students’ factual knowledge can have the side effect of encouraging ‘surface’ learning.

Conventional examinations are familiar to us all, but there are two variations that you may not have considered using, but which are sound assessment methods. These are: examining based on prediscovered questions, and open book examinations.

<sup>10</sup> Brown and Knight, *op cit*, p67

<sup>11</sup> Brown and Knight, *op cit*, p6

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## Prediscovered questions

Conventional examination papers normally offer students choice. A consequence of question choice is that of ‘selective negligence’<sup>12</sup> where the students deliberately focus attention in preparing for the examination on selected parts of the course. A way around this is to construct an exam paper with a broad question on each of the major topics and to tell the students at the start of the term all these questions and that the exam paper will only contain a number of them.

Besides encouraging students to spread their efforts more evenly across the course, this approach is also likely to elicit higher order skills from the students since their answers will have to go beyond factual recall. If you use this approach, you should first check that prior disclosure does not breach the formally established examination regulations.

## Open book examinations

In an open book exam, students are allowed to bring into the exam room any books, notes and other materials that they choose. The main purpose is to allow students ready access to basic information, so as to reduce the extent to which examination performance is a test of memory. Open book examinations are a feature of some professional exams where students are sent case studies to prepare in advance of the examination. They are permitted (and encouraged) to bring in notes and supporting materials, but are not given sight of the actual exam questions in advance. Students will have had time to familiarise themselves with the case study, which is particularly relevant where students are non-native speakers of a language.

## Types of examination questions

Many IVE teachers set examinations in which students have to write a series of short essays. Standard forms of essays require students to:

- ◆ Discuss a quotation, or
- ◆ Write an essay on ....., or
- ◆ Describe, give an account of, compare, contrast, explain ....., or
- ◆ Assess, analyse, evaluate .....

While these types of questions give students the freedom to choose what they will concentrate on and to structure their work themselves, they may also leave weaker students in some dilemma as to what is required. In helping students to prepare for examinations, teachers should talk to them about what key words (apply - analyse - evaluate) actually require them to do. Teachers who set examination questions must be precise in their use of words. A list of key words and their meanings is given in **Appendix C**.

In addition to these types of questions, there is a range of alternatives which can be employed to fulfill certain roles or suit different objectives. Four of these are briefly outlined here.

<sup>12</sup>Gibbs G, Habeshaw S, and Habeshaw T (1986) *53 Interesting Ways to Assess your Students*. Bristol, Technical and Educational Services

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## Role-play essay questions

In role-play essays, students respond to an essay question from the perspective of a position given in the essay question.

### Examples

Outline for the manager of Tech4U software developers (by whom you have been employed as a consultant) the difficulties of producing .....

You are the Personnel Manager of the Mirage Hotel (a boutique, suite-only hotel in Hong Kong). Xyz happens. Describe what you would do in this situation .....

## Structured essay questions

Structured essays require students to respond to an essay question which contains specific areas or parts of the questions which require an answer.

### Example

Evaluate the impact of xyz on abc. In your answer you should:

- a) Define the following terms: x, y, z, chaos theory, probability. (5 marks)
- b) Explain the influences of these terms on abc. (10 marks)
- c) Write an evaluation of which *one* of these terms has the biggest impact on abc. (10 marks)

Total 25 marks

If the sections are not equally important, you should inform the students so that they plan their time wisely!

## Short answer questions

These questions vary in expected student response from one word or several lines to over a page, and include forms such as: complete the sentence, supply the missing line, problems and exercises in science-based subjects, short descriptive or qualitative answers, essay plans, diagrams with explanation, etc. Short answer questions require students to supply answers, rather than selecting or guessing from options supplied, as in the case of multiple-choice questions. Short answer, completion and multiple-choice questions can be useful for testing knowledge and comprehension. They are quick and easy to mark. They are less useful for testing 'higher-order' skills (analysis, synthesis and evaluation).

## Interpretation of evidence questions

Students are supplied with data or evidence. Using that evidence, students are asked to write an essay in which they address a question on that evidence.

**Example**

You have done a series of experiments on water quality in the Shing Mun River. The results of these experiments are (insert tables/raw data). Based on this information, evaluate the ecological status of the river.

The types of questions described here can, of course, be used in any combination that suits you. You should explain the format of your exam paper to your students well in advance of the examination. As with any assessment, knowing what to expect usually leads to improved performance. In addition to writing exam questions, you will need to write a **rubric**. This is the set of instructions printed on the examination paper. It tells the students such things as how many questions to attempt, which questions are compulsory and which they can choose, what materials and equipment (for example graph paper, tables and calculators) they may use. Ask your Course Leader for the standard rubric in your Discipline.

**The rubric** is the set of instructions printed onto the examination paper

As well as writing an exam paper, you will also have to produce a clear marking scheme. In IVE, final year exam papers and marking schemes have to go out to the external examiner. You might like to look at **Section 3.2**, to review the information about analytic and holistic scoring guides before you write your marking schemes.



**When do I brief my students on the format of the exam and the style of questions they will have to answer?**



**What examination experience do my students have?**

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## Coursework

At IVE, coursework is the term used to cover everything that is not an examination! This can lead to some confusion, as coursework can have formative and summative purposes. Coursework can also come in many different forms (such as projects, practical work, oral presentations, laboratory reports, reflective journals and many more). Coursework can involve written and oral tasks, and it can also involve making things and doing things. In assessing coursework, teachers often have a complex task because they are interested in both processes and outcomes.

Many types of coursework are particularly suitable for assessing practice<sup>13</sup>. Some methods are:

- ◆ Competence checklists
- ◆ Practicals (observation of students demonstrating what they can do)
- ◆ Projects
- ◆ Case studies
- ◆ Logs, diaries, reflective journals, critical incident accounts
- ◆ Portfolios
- ◆ Artefacts
- ◆ Testimonials (from employers or industry partners who are ‘expert witnesses’)
- ◆ In-tray exercises
- ◆ Posters and presentations
- ◆ Oral assessments
- ◆ Learning contracts or personalised learning plans

Cox (1994)<sup>14</sup> states that coursework is as much about teaching as assessment. The assessment element motivates students to assimilate course content as it is taught, encourages them to work steadily, and build up their mark/grade over a period of time. At the same time, they receive formative feedback. Some teachers prefer to give regular, small amounts of coursework while others prefer one large piece of work near the end of the course. Coursework must be linked to the module objectives. Coursework should reinforce the main topics and the Key Skills specified in course documents.

**Continuous assessment** is an umbrella term that is usually applied to the ongoing monitoring and measuring of work students do throughout a course. It means that the assessment is spread over a whole course. It usually implies that students are given marks or grades for a range of assessment tasks (for example, a written project, an oral presentation and a poster display). Spreading the assessment over the course can motivate students (as it reinforces their learning) and can allow for a wide sampling of student work. However, there is danger of overload for both students and teachers. The Course Leader and/or the Year Tutor are usually responsible for producing an assessment calendar and ensuring the assessment load is spread evenly.

**Continuous assessment** means that the assessment is spread over the whole course. It usually implies that students are given marks or grades for a range of assessment tasks

<sup>13</sup> Brown, S (1999) in Brown S and Glasner A (Eds) *Assessment Matters in Higher Education*. Chapter 8, Assessing Practice, pp95-105

<sup>14</sup> Cox B (1994) *Practical Pointers for University Teachers*. London, Kogan Page, p86

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Continuous assessment should not be a series of tests or “mini exams”. This negates one of the major benefits of continuous assessment - the greater freedom to select appropriate techniques and procedures to ensure greater validity in the systematic appraisal of each student’s ability<sup>15</sup>.

Both teachers and students can get useful feedback from continuous assessment, but the workload can be heavy for teachers, resulting in the feedback being delayed and the benefits being reduced.

Course Teams need to check carefully that the coursework deadlines and/or continuous assessment activities in different subject disciplines are staggered. This helps students schedule their efforts, especially if they have group work. Students should be given a copy of the **assessment timetable** as early as possible.

**Assessment timetable** provides students with a list of the coursework deadlines and the exam periods

If the module I teach on has 60 hours of timetabled student effort, how long should I expect them to spend on coursework?



What does my course documentation say about coursework?



How clearly written are my assessment criteria?



If I set lots of coursework that is graded, will my students have time to do other homework for me?



When I set assignments, have I thought about the time I have available to mark them?



<sup>15</sup> Clift J C and Imrie B W (1981) *Assessing Students, Appraising Teaching*. London, Croom Helm Ltd., p2

**Who**

## is best placed to assess?

In IVE (as in other institutions), the person assessing students is usually the teacher. However, as we saw in **Section 3.3**, there may be other options, particularly in relation to formative assessment. Some teachers are comfortable with involving students in grading, but many are worried about losing control of something that is a great responsibility (and a professional duty). As with so many of the issues surrounding assessment, there is no perfect answer - it is a question of making a choice that is appropriate to your specific teaching context.

### In this section, we look at these topics

- 4.1 Teachers - and others
- 4.2 Criteria and evidence

## 4.1 Teachers - and others

There is a range of people who have a legitimate involvement in assessment<sup>16</sup>. Let's look at each in turn.

Figure 3. People involved in assessment.

<b>These people</b>	<b>are good at assessing ..</b>	<b>It is called ...</b>
Teachers	when their subject expertise or evaluative judgement is needed.	<b>teacher assessment</b>
Students	<p><b>themselves</b> in order to review their own development and performance. They have to be involved in assessment if they are doing any form of coursework that has a reflective component, and where progression and added value are discussed.</p> <p><b>their classmates.</b> This is particularly good for formative assessment and for tasks that are not marked/graded, such as tutorial presentations, posters and exhibitions (of work 'in-progress'), students' draft reports.</p> <p><b>their group members.</b> This is particularly useful in allowing teachers to access areas that they can't 'see', such as the process of learning, rather than just the outcome.</p>	<p><b>self assessment</b></p> <p><b>peer assessment</b> - more accurately <b>interpeer assessment</b> (where students assess other students)</p> <p><b>peer assessment</b>-more accurately <b>intrapeer assessment</b> (where students assess other students with whom they have been working)</p>
Clients or industry partners	when they have received or experienced something the students have created or done. Their evaluative judgement is important.	<b>workplace-based assessment</b>

Source: Adapted from Brown and Glasner (1999) pp10-11

<sup>16</sup>Brown, S and Glasner, A, *op cit*, p10



## 4.2 Criteria and evidence

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In **Section 1.1**, we saw a range of reasons why we assess. Assessment can motivate and guide students where to direct their efforts. If they don't have clear assessment criteria, then they may work at the wrong things or present what they have learned in an inappropriate way. The general principle is that students should be helped to prove what they do know and can do. They should also feel that they know how (and what) to improve. When the grades are finalized, students should not be surprised at the grade they receive. Whether they are pleased or disappointed by their marks, they should understand why they got the grade they did.

As we saw in **Section 1.2**, assessment criteria are clearly defined standards against which the student's performance is measured. It is very important that teachers write criteria and explain them to their students at the same time as they brief students on the assessment. Teachers must (of course) use these same criteria when they assess work, and give feedback to students that relates to these same criteria. Some teachers produce an **attachment sheet** that they fill in as they mark a piece of work, and that is returned to the student to give them feedback. Two example attachment sheets are included for reference in **Appendix D**.

**Attachment sheet** is a feedback form to show students how well they have met the assessment criteria

There are good reasons for making criteria explicit<sup>17</sup>

- ◆ To be fair to the student
- ◆ To avoid students' (who are faced with unclear criteria) drifting and emphasising what they assume to be the key criterion
- ◆ To encourage staff to adopt common standards in marking, and give a clearer basis for discussion of any disagreements (either between staff, or between students and staff)

Having explicit assessment criteria is particularly important when the teacher is doing more than checking students' knowledge/comprehension. Recall is important, but many IVE students are expected to work at a more advanced level: to apply, analyse, synthesise and evaluate what they learn. Teachers recognize this and set projects and other assignments that have a range of components within them. Because assessing complex skills is hard, there is a danger of it becoming quite subjective. Teachers may be tempted to use a narrow band of marks (in the 55%-70% range) rather than marking across the complete range. Having explicit marking guidelines should help.

However, assessment criteria should be written to allow for some flexibility. This is because when setting tasks to assess higher-level cognitive abilities (such as problem-solving for example), it is unlikely that there is only one correct answer. Students may interpret a question in a slightly different way than was intended by the question setter, or may bring an unusual (creative) perspective to the task. Assessment criteria must be written to allow for this.

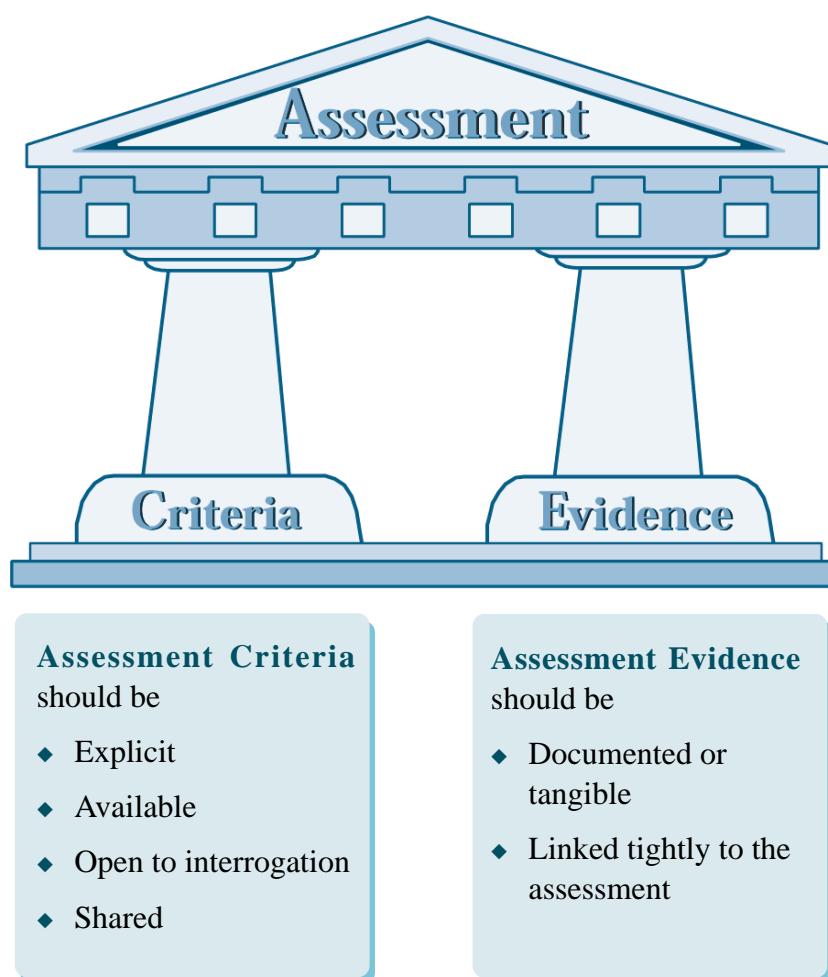
<sup>17</sup> Brown S, Rust C and Gibbs G, *op cit*, p10

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There are many different ways of writing assessment criteria and attachment sheets. There is also a great variety of sheets for marking essays, projects, reports, seminars, laboratory reports and oral presentations. You will find some examples in Gibbs (1992) and Brown, Rust and Gibbs (1994).

As an IVE teacher, you must ensure that you adhere to the marking procedures used in your department. You must also use the mark/grade conversion guidelines that are specified in the Validated Course Scheme. Your department will have guidelines about when to release marks/grades to students, and you must respect these. This does not mean, however, that you cannot still give students useful (qualitative and formative) feedback.

Figure 4. Robust assessment.



Source: Adapted from Brown and Glasner (1999) p11

Sally Brown (1999)<sup>18</sup> is clear that the twin pillars supporting good assessment are *criteria* and *evidence*. Assessment that is supported by criteria and evidence is robust. Everyone involved (especially students and teachers) should be confident that it is sound.

<sup>18</sup>Brown S (1999) in Brown S and Glasner A (1999), *op cit*, p11

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**Has my Course Team checked  
that both the criteria and  
evidence are well documented?**



**Do my students understand the  
assessment criteria and know  
what evidence to produce?**



**When**

## should we assess?

IVE teachers work within a range of guidelines, and some assessment timings are fixed (for example, examination periods). However, in looking broadly at assessment, it is obvious that Course Teams do have some discretion about when to assess students. Teachers may also be able to schedule formative assessment into their module at times they think suitable.

**In this section, we look at one topic**

### 5.1 Timing issues

## 5.1 Timing issues

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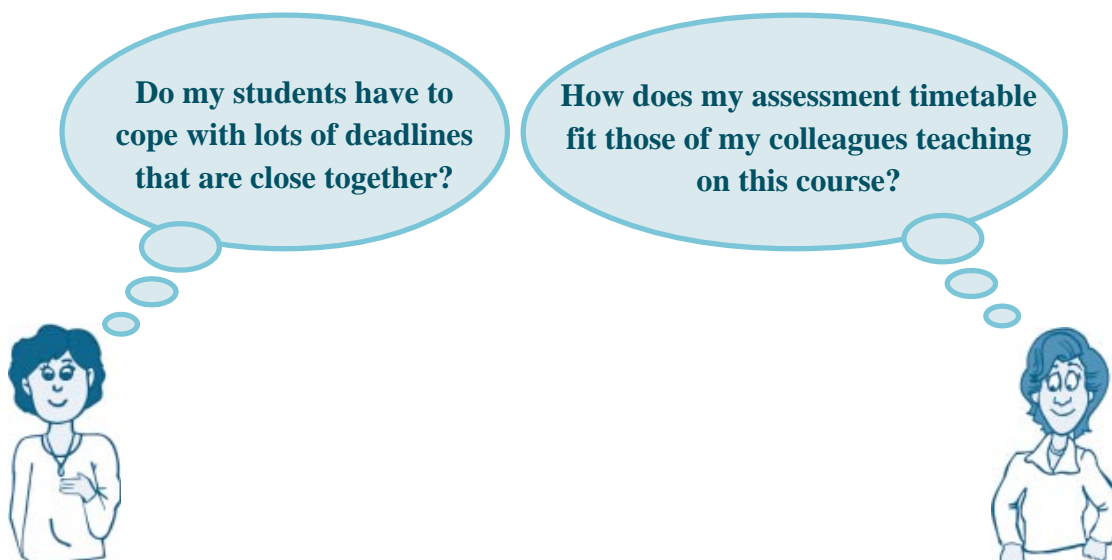
An important general principle is that assessment should be incremental. If students only have a single piece of assessed work at the end of a course, they have no time to put right any problems or make improvements. At IVE, this extreme approach to assessment is not used. Equally, continuous assessment, as we saw ([Section 3.4](#)), can have some drawbacks.

It is important that teachers and their Course Teams think hard about what is a reasonable workload for students. An IVE module (value of one) is equivalent to 60 hours of timetabled student effort in the module<sup>19</sup>. The course objectives, content, teaching and learning methods, skills development and assessment must all be realistic. If every teacher (with the best intentions of helping their students progress) expects students to produce work (for grading) that is very time consuming, then students may either not do it well, or sacrifice doing well in other parts of the course, or get very stressed! Spreading the assessment throughout a course should help to minimise this problem.

Another approach is to allow the students some say in when they are ready to be assessed. Rather than rushing to be prepared for a predetermined day, or waiting for it to arrive they may be given some flexibility. Obviously, this presents some practical difficulties. A less extreme version is allowing student groups to negotiate a time to present their assessed work (some may prefer to ‘go first, and get it over with’ while others may prefer to ‘go last’).

Assessments (both formative and summative) should be timed strategically to give students a pretty good idea of their progress and level of achievement. Better still, students should track their own progress and keep an on going record of their marks.

Students and teachers should also be aware of the regulations concerning ‘late submission’ of work and the impact of this on grades. Check your Departmental Academic Regulations (DAR) for details.



<sup>19</sup> Summary of Curriculum Development Guideline, 3rd Version: July 1999, p4, D1

## Final words

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IVE teachers have a professional responsibility to choose and use assessment strategies that promote learning. It is important to think carefully about the ‘why’, ‘what’, ‘how’, ‘who’ and ‘when’ questions in relation to assessment. Teachers and Course Teams need to have a clear rationale for each decision made. Assessment is an integral part of curriculum design, not an add-on.

Assessment plays an important role in the learning experiences of students. Assessment is about more than grading and examinations. It is about getting to know your students and the quality of their learning, and using this understanding to their benefit. Assessment should accommodate individual differences in students and encourage creativity and originality. Assessment should be valid, and the methods used (and the way they are administered) should be reliable and consistent. Assessment should provide teachers and students with opportunities to reflect on their practice and their learning. Monitoring and adjusting assessment is an important quality control process.

If you would like to see a more detailed list of values that might underpin assessment, look at “*An Assessment Manifesto*” [Online] 8<sup>th</sup> October 2001

<http://www.lgu.ac.uk/deliberations/assessment/manifest.html>

### The final topic is

#### 6.1 Characteristics of sound assessment



## 6.1 Characteristics of sound assessment

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The following characteristics of a sound assessment system are worth considering:

- ✓ There will be clarity of purpose
- ✓ Assessment will enable the student to review progress and plan further learning
- ✓ Assessment will allow teachers to review progress and judge teaching effectiveness
- ✓ Assessment will be clear on what is being assessed and how judgments are reached
- ✓ Assessment will essentially assess what it claims to assess
- ✓ It will appear credible to teachers, students and the institution
- ✓ It will be cost-efficient
- ✓ An outcome will be clear records of attainment, which are useful to third parties
- ✓ The assessment system itself will be subject to quality assurance procedures

Source: UK Employment Department paper (1992) cited in Brown and Knight, *op cit*, p22

## References, further reading and resources

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### References

Brown S and Glasner A (1999) *Assessment Matters in Higher Education; Choosing and Using Diverse Approaches*. Buckingham, SHRE and Open University Press.

Brown S and Knight P (1995) *Assessing Learners in Higher Education*. London, Kogan Page.

Brown S, Rust C, and Gibbs G (1994) *Strategies for Diversifying Assessment in Higher Education*. Oxford, Oxford Centre for Staff Development.

Clift J C and Imrie B W (1981) *Assessing Students, Appraising Teaching*. London, Croom Helm Ltd.

Erickson B L and Strommer D W (1991) *Teaching College Freshmen*. Oxford, Jossey-Bass.

Gibbs G (1992) *Assessing More Students*. Oxford, Oxford Centre for Staff Development.

Jones G and Grant B (1991) *Writing, Setting and Marking Essays*. Higher Education Research Office, University of Auckland.

Miller A, Imrie B and Cox K (1998) *Student Assessment in Higher Education*. London, Kogan Page Limited.

### Further Reading

If you would like to consider other conceptual issues relating to assessment (such as: cognitive educational objectives, learning outcomes and levels of testing; measuring the outcomes of non-cognitive educational objectives; stages of intellectual and ethical development) or if you want more in-depth commentary on a range of assessment methods, this book will be of interest.

Miller A H, Bradford W I, Cox K (1998) *Student Assessment in Higher Education: A Handbook for Assessing Performance*. London, Kogan Page Limited. [Available in the CLT Library]

For a practical guide (containing lots of pro-forma assessment forms that could be adapted) that discusses issues relating to: assessing group work; diaries, logs and journals; using projects; assessing skills and competencies; using learning contracts and negotiated assignments; using self and peer assessment; using profiles and using portfolios, try this book.

Gibbs G (1995) *Assessing Student Centred Courses*. Oxford, The Oxford Centre for Staff Development. [Available in the CLT Library]



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## Online Resources

“*Deliberations*” is a comprehensive site that contains materials and links to a wide variety of teaching and learning information. To access these, log on to <http://www.lgu.ac.uk/deliberations> and then type “*Assessment*” into the box headed “*Generic Learning and Teaching Resources and Issues*.”

The Oxford Centre for Staff and Learning Development (OCSD) at Oxford Brookes University has produced a comprehensive guide to teaching and learning - their “*First Words*” Online handbook. Section 2 “*Assessing Student Work*” is particularly useful.  
<http://www.brookes.ac.uk/services/ocsd/firstwords/fwconts.html>

## Online Sample Assessment Instruments/Rubrics

It is unlikely that an assessment rubric developed by someone else is perfect for you. However, for some ideas that you can adapt, browse the following sources:

For assessment criteria checklists (oral presentations, group projects, essays, written examinations and transferable skills), try here:  
<http://www.lgu.ac.uk/deliberations/seda-pubs/Donaldson.html>

For a simple oral presentation scoring guide, try these:  
<http://www.curriculumfutures.org/assessment/a05-02.html>  
<http://www.le.ac.uk/hi/teaching/HS100/Weeks/week10a.htm>

This practical site contains plenty of links and examples of rubrics:  
<http://edweb.sdsu.edu/webquest/rubrics/weblessons.htm>

Note: All online links worked 27<sup>th</sup> May 2002

## Assessment glossary

Term	Definition	Section	Page
Analytic scoring guides	Identify the important components of a piece of work and assign marks to each component	3.2	p15
Assessment	The process of gathering evidence and making a decision about student performance	1.1	p2
Assessment algorithm	Shows the split between coursework and examination as a % or a ratio	3.4	p21
Assessment criteria	Clearly defined standards against which students' performance is measured	1.2	p5
Assessment timetable	Provides students with a list of the coursework deadlines and the exam periods	3.4	p26
Attachment sheet	A feedback form to show students how well they have met the assessment criteria	4.2	p29
Continuous assessment	The assessment is spread over the whole course. It usually implies that students are given marks or grades for a range of assessment tasks	3.4	p25
Criterion referencing	Describes a student's performance in relation to pre-defined criteria	3.2	p18
Diagnostic assessment	Used at an early stage to identify students' strengths and weaknesses	1.2	p4
Discrimination	The assignment distinguishes good from poor performance and provides a wide spread of marks	3.2	p15
Feedback	Information about performance	1.1	p2

<b>Term</b>	<b>Definition</b>	<b>Section</b>	<b>Page</b>
Formative assessment	Aims to provide feedback to help students improve	1.2	p4
Holistic scoring guides	Prescribe a range of characteristics and assign a mark to the work as a whole	3.2	p15
Norm referencing	Describes a student's performance in relation to a group of students	3.2	p18
Normalisation	A statistical technique that adjusts irregular distributions of results against normal distributions	3.1	p.14
Reliability	The assessment is both consistent and precise	3.1	p14
Rubric	The set of instructions printed onto the examination paper	3.4	p24
Summative assessment	Aims to measure students' performance	1.2	p4
Triangulation	Involves using a number of sources to support a claim	2.2	p10
Validity	The assessment actually tests student understanding of material taught in the module which, in turn, is linked to the module objectives	3.1	p14
Verification	Assesment is checking to ensure standards are comperable across campuses	3.1	p14

## Appendix A

### Bloom's Taxonomy

In 1956 Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behaviour important in learning. This became a taxonomy that included three overlapping domains: the cognitive, psychomotor, and affective.

**Cognitive learning** is demonstrated by knowledge recall and the intellectual skills (comprehending information, organising ideas, analysing and synthesising data, applying knowledge, choosing among alternatives in problem-solving, and evaluating ideas or actions. Within the cognitive domain, Bloom identified six levels, from simple recall or recognition of facts (the lowest level) through increasingly more complex and abstract mental levels to (at the highest level) evaluation.

Levels	Definition	Sample Verbs
<b>Knowledge</b> 	<b>Students can recall facts</b> They can recognise information, ideas, and principles in the approximate form in which they were learned.	Arrange, Define, Duplicate, Label, List, Memorise, Name, Order, Recognise, Relate, Recall, Reproduce, State
<b>Comprehension</b> 	<b>Students can understand information</b> They can translate, comprehend or interpret information based on prior learning.	Classify, Describe, Discuss, Explain, Express, Identify, Indicate, Locate, Recognise, Report, Re-state, Review, Select, Translate
<b>Application</b> 	<b>Students can use previously learned information in a new situation</b> They can select, transfer and use data and principles to complete a problem or task with a minimum of direction.	Apply, Choose, Demonstrate, Dramatise, Employ, Illustrate, Interpret, Operate, Practise, Schedule, Sketch, Solve, Use, Write
<b>Analysis</b> 	<b>Students can explore relationships between components of information</b> They can distinguish, classify, and relate the assumptions, hypotheses, evidence or structure of a statement or question.	Analyse, Appraise, Calculate, Categorise, Compare, Contrast, Criticise, Differentiate, Discriminate, Distinguish, Examine, Experiment, Question, Test
<b>Synthesis</b> 	<b>Students can combine various pieces of information to form a new product</b> They can originate, integrate and combine ideas into a product, plan or proposal that is new to him or her.	Arrange, Assemble, Collect, Compose, Construct, Create, Design, Develop, Formulate, Manage, Organise, Plan, Prepare, Propose, Set up, Write
<b>Evaluation</b> 	<b>Students can judge the value of the new information and make predictions</b> They can appraise, assess, or critique on a basis of specific standards and criteria.	Appraise, Argue, Assess, Attach, Choose, Compare, Defend, Estimate, Judge, Predict, Rate, Score, Select, Support, Value, Evaluate

**Affective learning** is demonstrated by behaviours indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate these attitudinal characteristics or values in their field of study or place of work.



#### SAMPLE VERBS

Accept, Attempt, Challenge, Defend, Dispute, Join, Judge, Praise, Question, Share, Support, Volunteer

**Psychomotor learning** is demonstrated by physical skills: coordination, dexterity, manipulation, grace, strength, speed-actions which demonstrate the fine motor skills such as use of precision instruments or tools; or actions which evidence gross motor skills such as the use of the whole body in a performance or activity.



#### SAMPLE VERBS

Bend, Grasp, Handle, Operate, Reach, Relax, Shorten, Stretch, Write, Differentiate (by touch), Express, Perform (skillfully)

Source: Adapted from Lane C, *The Distance Learning Technology Resource Guide "Bloom's Taxonomy"* [Online] 19th April, 2002

[http://www.gsmweb.udallas.edu/iep/immweb/blooms/Blooms1/Blooms?%20TAXONOMY%20\(Cognitive%20Domain\).htm](http://www.gsmweb.udallas.edu/iep/immweb/blooms/Blooms1/Blooms?%20TAXONOMY%20(Cognitive%20Domain).htm)

Other material from Maffei N "*Bloom's Taxonomy*" [Online] 19th April, 2002

<http://fog.ccsfcc.ca.us/~nmaffei/Syllabus/bloom.htm>

During the 1990s, Lorin Anderson (a former student of Bloom) led a team of cognitive psychologists in revising the taxonomy. They changed the names of the six major categories from noun to verb forms and made other changes. Despite this, Bloom's taxonomy is still widely used as a basis for discussing progression in learning in education.

## Appendix B

### Forms of assessment used at IVE

<b>Applied Science</b>	Students' progress is assessed by a combination of examinations, tests and coursework including laboratory reports and assignments. Towards the end of the final stage of the course, assessments include oral presentations.
<b>Business Administration</b>	To enhance course quality and recognition by outside bodies, there is a complete system of assessment. Students are assessed by a variety of means on the full-time courses offered. Most modules have an assessment structure containing a mixture of continuous assessment and an examination. The more "skill-based" subjects, including Putonghua and computing, are assessed on a continuous basis to reflect the particular competencies required in the various module areas. Assessments range from tests/quizzes to take-home assignments and projects.
<b>Child Care</b>	Students' progress is assessed by a combination of examination and coursework, including assignments. Emphasis is placed on the assessment of both practical training and academic studies.
<b>Computing and Mathematics</b>	Students are assessed through a combination of coursework and examinations. The courses are focused on developing practical skills, and there is an emphasis on project or extended practical work that requires students to use the material taught in formal classes.
<b>Construction</b>	Students' progress is assessed by a combination of examination and coursework, including assignments. Emphasis is placed on the assessment of both practical skills and academic performance.
<b>Design, Printing, Textiles and Clothing</b>	A system of continuous assessment monitors and guides student progress throughout the course. Coursework is project based, assessed collectively by Course Teams and subject to constant staff appraisal, feedback and review with reference to stated criteria. An essential part of the process is the views of the design profession and External Examiners' reports.
<b>Electrical and Electronic Engineering</b>	Students are assessed by a combination of examination and coursework, including heavily emphasised practical training. Most of the training will take place in Industry Training Centres or various campuses.

<p><b>Hotel, Service and Tourism Studies</b></p>	<p>The personal and professional development of students is assessed through a range of individual and group-based coursework activities. These include practical work, projects, assignments, quizzes, phase tests and presentations. Most modules culminate in a final examination. Professional experience is assessed by employers as well as academic staff.</p>
<p><b>Mechanical, Manufacturing &amp; Industrial Engineering</b></p>	<p>Students' progress is assessed by a combination of examination and coursework, including assignments. Emphasis is placed on the assessment of both practical work and academic studies.</p>
<p><b>Foundation Courses</b></p>	<p>The English programme has a heavy vocational bias to prepare students for work, and competency based assessment is used. In all other subjects, students are assessed by a combination of continuous assessment and end-of-course examination.</p>

Source: Adapted from IVE Prospectus 2001

## Appendix C

### Key Structural Words (commonly used in essay questions)

Key words	Similar words	Meanings
<b>Analyse</b>	Explore, Examine, Consider	To separate the subject into its parts in order to identify them and their inter-relationships, i.e. to study its structure closely. To examine and interpret.
<b>Compare and contrast</b>	Distinguish between	To examine the character or qualities of ... especially for the purpose of discovering resemblances or differences. To view in relation to something or someone else, for the purpose of showing or establishing contrast or similarity.
<b>Describe</b>	Survey, Present, State, Identify, Define, What/Which/Who	To give a detailed account of ... To present distinctly by means of properties and qualities. To deliver formally for acceptance. To make an overall inclusive generalised study. To establish the identity of ... To formulate one or more precise statements of meaning.
<b>Discuss</b>	Argue, Debate, Support, Justify, Examine, Critically examine, Is it true?	To investigate (as a question) by reasoning or argument: argue by presenting the various sides (the pros and cons) of ... To prove or try to prove by giving reasons, grounds or evidence for ...
<b>Evaluate</b>	Critically examine, Examine, Review, Comment on, Consider, Do you agree, Assess, Evaluate, Appraise, Criticise, Write a critique	To act as a critic: consider and estimate value or significance or status of ... To seek to ascertain: to make an observation, expressing an opinion or attitude. To reflect on: think about ...
<b>Explain</b>	Account for, Describe, Why/How/What/Which/Who?	To make plain or understandable. To give the meaning or significance of ... To give the reason or cause for ...
<b>Illustrate</b>	Demonstrate, Give an example	To make clear by giving examples or instances. To make clear by reason of being an example or instance. To make evident or reveal as true by reasoning processes, concrete facts and evidence or repeated examples.



<b>Outline</b>	Indicate, Summarise, List	To indicate the principle features or different parts of ... To state or express in a brief or cursory way.
<b>Relate</b>	Integrate	To establish the connection between one thing and another.
<b>Suggest</b>	How, Show how, Hypothesise, Generate	To mention something as a possibility. To offer (as an idea or theory) for consideration. To present as an hypothesis.

Source: Adapted from Jones and Grant (1991) pp12-23

## Appendix D

### Example Attachment Sheet (analytic scoring approach)

<b>Course:</b>	<b>Assignment Ref. No.:</b>
<b>Name:</b>	<b>Date In:</b>
<b>Marker:</b>	<b>Date Back:</b>

	Possible marks	Your marks	Comments
<b>Relevance to set topic</b>			
The scope of the project is identified	10		
Key terms and issues are discussed	10		
Relevant research material has been selected	10		
The original work is appropriate	5		
<b>Structure</b>			
Research and original work is balanced	25		
The project appears to have been done in a logical way	10		
Findings and opinions are supported by evidence	10		
<b>Presentation</b>			
The style and tone is appropriate to academic work. Specialist words are used correctly	5		
The format is suitable and clear	5		
Referencing conventions have been followed and material is sourced	5		
The work has been carefully edited to avoid errors of grammar, spelling and punctuation	5		
<b>TOTAL</b>	<b>100</b>		

**Marker's view of the project (overall):**

Note: These attachment sheets relate to the scoring guides in **Section 3.2**. They are only examples, and you would need to adapt them!

### Example Attachment Sheet (holistic scoring approach)

<b>Course:</b>	<b>Assignment Ref. No.:</b>
<b>Name:</b>	<b>Date In:</b>
<b>Marker:</b>	<b>Date Back:</b>
<b>Grade:</b>	
<b>Marker's view of the project (overall):</b>	

	Excellent	Good enough	Not good enough yet	Comments
<b>Relevance to set topic</b>				
The scope of the project is identified				
Key terms and issues are discussed				
Relevant research material has been selected				
The original work is appropriate				
<b>Structure</b>				
Research and original work is balanced				
The project appears to have been done in a logical way				
Findings and opinions are supported by evidence				
<b>Presentation</b>				
The style and tone is appropriate to academic work. Specialist words are used correctly.				
The format is suitable and clear.				
Referencing conventions have been followed and material is sourced.				
The work has been carefully edited to avoid errors of grammar, spelling and punctuation.				
<b>Areas for improvement</b>				
1.				
2.				