Teaching Facilities Management to Graduate Students.

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This paper deals with an educational perception of teaching graduate students by course-work in intensive study mode.

The paper specifically deals with an emergent profession - facility management (FM) - for which no undergraduate degree currently exists in Australasia. Generally part time students are recruited from either architecture graduates or from industry where student's backgrounds come from a wide range of prior learning experience and technical knowledge.

The feature in common is that to be prepared for a professional role students need to acquire a platform of basic skills, tools, processes and procedures which they can subsequently apply to a range of real-life problems.

This paper presents a case study of constructive alignment of and within the Facility Management programme to ensure that students cover all of the basic ground and are equipped with the mental attitude enabling them to utilise their new knowledge as FM professionals.

(This paper is a synthesis of my learning in the ITL PGDipEd (Tertiary Education) course currently being undertaken).

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Introduction

I started university lecturing in 1984. In retrospect I believe that I was appointed to teach on the basis that, having a doctorate, I was a resource – just as is a library book. It was up to the students to drag information out of me. It is only recently that university lecturers have been considered as ‘teachers’. One consequence is the introduction of the requirement for new
academic appointments at the University of Sydney to undergo the three day course on the ‘Principles and Practice of University Teaching and Learning’ run by the Institute of Teaching and Learning.

I am a Registered Architect and would describe this as my profession. This course made me reflect – for the first time – on my perceptions and attitudes to my ‘profession’ as a lecturer.

I coordinate and teach the Facilities Management stream in the Master of Building Science programme. Facilities Management deals with the strategic (long term) and tactical (short term) operation of an organization’s workplace. The premises must assist the organisation to accomplish it’s mission, not merely be run cost-effectively. There is no undergraduate degree in Facilities Management, so that students enrolled in units come from a diverse range of educational and professional backgrounds. Tradespeople without formal qualifications can enrol in the PG.Certificate and if they can prove themselves by a high enough grade point average, can proceed to the Masters.

A Model of an Individual’s Knowledge

For simplicity I can envisage knowledge, or skill sets, as being crudely divided into those necessary for understanding the world and for taking ones place as a thinking citizen, and those necessary for some specialised aspect of expertise.
I like to think of a person’s knowledge as depicted in the above diagram. Each of us has a stock of facts (both correct and incorrect), tools and procedures, and habits of thought that constitute the continuum depicted as the white part of the diagram. It might compose of a range of areas of expertise, but it is always a limited sub-set. (Notably, in previous centuries it was thought that ‘Rennaisance man’ could acquire all of the knowledge in the world eg. Leonardo da Vinci). This knowledge and understanding is constantly being applied to enable the individual to understand and navigate the real world.

Where similar problems are resolved by similar methods and means of understanding, one’s knowledge continuum is reinforced (similar to today’s Neural Networks). When new situations (boundary conditions) are encountered, the individual then has to apply his/her techniques to solve the novel problem presented. It is the application of one’s knowledge to new situations that challenges, changes and extends one’s stock of knowledge.

The individual has to assess the boundary condition: what does it most resemble that has been encountered before? If it has a likeness to this previously encountered problem, can the tools that they have in this new situation be used; are they relevant; are they valid?

Successful solutions to the problem are added to the canon of knowledge. Indeed, unsuccessful solutions are also useful in restricting the decision space in future, eliminating unsuccessful approaches.

**Depth and Range**

One can also consider a student’s knowledge in terms of depth and range. An analogy here might be the difference between a general practitioner who knows a limited amount over a wide range, and the specialist who knows a great deal over a narrow range. This may be illustrated in Figure.2 below.

In the above case, both students could be considered equally knowledgeable. Another analogy is to consider that the student with the narrow range and great depth possesses a bright monochromatic spotlight, whilst the other has a duller white floodlight. I could extrapolate this analogy to suggest that science and technology students are trained to be the former, and arts and humanities students the latter.
Levels of Education

‘Student learning’ means that he/she is following a determined course of study with the intention of acquiring knowledge and tools that will allow him/her to deal with a set of boundary conditions the student was unable to deal with adequately previously. The idea that one can deal with a problem adequately recognises differing levels of competence in a field of study. It also presupposes that the course of study’s syllabus is a reasonable summary of the skill and expertise required of a practitioner at a specific level.

As mentioned previously, the basic ‘thinking citizenship’ skill set would map to the secondary school syllabus (to which I would add aspects of social science and humanities).

Undergraduate studies are directed towards laying the foundation of facts, tools and techniques that comprise the knowledge continuum (the white area in my fig.1) pertaining to a specialised area of study.

Graduate education concentrates more on increasing ones range of tools and techniques, and the application of this knowledge to a new range of boundary conditions.
Product & Process: The knowledge students have vs. their ability to deal with problems.

There are two sides to this ‘journey of discovery’: the product and the process.

The product is generally the result obtained by formal examination. It is the outward proof that students at the end of their studies not only have the facts, tools and procedures and can apply them to boundary conditions as described in the exam questions. Whilst this shows that they have absorbed the information conveyed during the course and can apply them to a limited set of boundary conditions, they fails to elucidate the student’s true abilities.

The more sophisticated view of student’s abilities comes through following how they cope with new boundary conditions. An encounter with a new problem requires them to analyse the boundary condition; decide whether they have similarities to precedents with which they are familiar. If there are, they have to decide what techniques they can use for solution – if any. Otherwise, they have to determine whether existing techniques can be modified for use. This might simply mean that students have to allow larger ranges of error when they are applied, or at worst, it puts them in the situation of a researcher who will have to test hypotheses in order to make headway.

These approaches to a problem may be perceived by on-going assessment of coursework.

Graduate Teaching

Graduate students are a different proposition to undergraduates: they have already learned the ‘basics’ of their subject area.

My teaching is based on the premise that to fulfil the function of a Facility Manager practitioners have to master a ‘continuum’ of common knowledge, basic skills and tools. Many of which have already been learned previously through institutions or ‘on-the-job’ training. These basics include Management in general, Financial Management, Management Information Systems, and of course, knowledge about buildings and their systems.
The continuum of basics is surrounded by a range of boundary conditions. These are the novel problem areas encountered in real life where the knowledge, skills and tools have to be modified and applied in order to achieve the results desired. This process requires the individual to assess the boundary condition and make decisions about what tools they can (or can’t) use to solve the problem. Each newly confronted boundary condition requires a unique appraisal.

When similar boundary problems are encountered with regularity, the techniques and tools developed to deal with them become included in the canon of the subject continuum, and by these means the subject area develops. There is an analogy here with neural networks that become reinforced through use and atrophy through disuse.

We can represent the particular skills of any student as a superimposition on the subject continuum as in Figure 2 below. The notable aspects of this are:

- Firstly that they might have experience and knowledge of only a limited area – or areas – of the continuum. This experience and knowledge have dimensions of both range and depth.
- Secondly that students come from backgrounds with different knowledge sets. They might have experience of applying what they know to a limited set of boundary conditions. Or indeed, they might have a particular expertise in specific areas, and
- Thirdly, they are likely to have unique expertise in the application of the subject continuum in areas beyond the existing boundary definitions, meaning that they have the potential to expand the subject continuum and boundary in new directions.
This could be further compared to the output of a mass spectrometer. Different people have knowledge of different areas, comparable to the spectral absorption lines of the different elements in a compound: the goal of education is to extend each student’s knowledge towards full absorption of all the wavelengths – that is including all of the elements for a well rounded education.

Education for each individual graduate student consists, therefore, of trying to fill in the missing areas of the subject continuum, and to present techniques for coming to grips with boundary conditions met before and those newly faced.

I might also add, that the successful teacher/researcher will try to capture the areas of expertise that the student possesses beyond that which the lecturer knows, and add it to the subject content.

It is hard to imagine graduate students being surface learners as all of the discourse they meet in the teaching programme is based on their real life problems. What is presented and discussed in lessons is the application of tools for dealing with their problems, and how to apply them at unfamiliar boundaries.

It is often the case that students have novel solutions and techniques that have worked for them, and the peer learning from fellow students is often more educational that the formal set-piece lectures.

We deal with the identification of problems. This means separating the fundamental issues from the dross of detail that often accompanies practical problems. This involves both convergent and divergent perceptions; the former to focus in on the nub of the problem, and the latter to try and identify connections and correlations with other areas of the subject that might have a causal (or an effected) relationship.

We practice techniques for deriving appropriate metrics for measurement and hence understanding the problems encountered. With measurement and historical perspective, the development of problems can be ascertained, and informed prognoses made.
We practice generating solution options, and evaluate the advantages and disadvantages of each.

Ultimately we encourage students to have the confidence to make a reasoned decision on the best option having taken account of all the factors.

**Summary**

Graduate students are more likely to be deep learners: Their motivation is demonstrated by their enrolment in the course.

They bring to class an incomplete set of core knowledge, experience and competencies, often knowing things beyond the scope of the course, but nevertheless relevant.

The teachers job is to extend their knowledge to encompass the core knowledge and skills, and recast their existing knowledge from new perspectives. This, I believe, is best done by employing Constructive Alignment over a relevant and interesting curriculum.

Future work is being directed towards describing this curriculum.
In this poster I describe my perception of a person’s ‘knowledge’ in terms of a continuum of facts and tools and their application to ‘boundary conditions’. I also consider depth and range of knowledge in a subject. I then explain how this model can be used to distinguish between the intent of secondary, undergraduate and graduate education. Finally, I mention the ‘product’ and ‘process’ as results of learning.

I accept the argument plausibly made by Ramsden that learning is a process of increasing one’s understanding. In addition to adding to one’s stock of facts (where facts are appropriate), it is about being able to place this knowledge in context to the real world. This being so, this knowledge conversely assists one to interpret and understand the world.

Notes.

Motive: certification or education.

Education is about absorbing new information and techniques that relate to increasing the students’ ability to deal with real life situations. This involves analysis of complex problems and isolating the issues: of generating potential solutions; of extrapolating the outcomes; and selecting and implementing the most promising.

If the context of learning is intelligible and realistic the students will identify with it, perhaps recognising that they have been, or could conceivably be, faced with such a situation. If the problem invokes their curiosity, then their desire to learn is real and they are ‘coopted’ into the search for a solution.

It is important to assay what they already know so that any technique in which they are weak (eg. use of spreadsheets) can be rectified early on.

Understanding students’ ways of thinking about the subject matter is essential.” p16

Big theme “If you change the student’s understanding of the subject matter you teach them.”
“What are the variations in their learnings (ie. What is the range of understandings of what you have presented) and why?”

General abilities and personal qualities.
Content linked to professions
Factual information

Five ways of thinking about T&L
1) Learning as a quantitative increase in knowledge. Learning is acquiring information and ‘knowing a lot’.
2) Learning as memorising. Learning is storing information that can be reproduced.
3) Learning as acquiring facts, skills and methods that can be retained and used as necessary.
4) Learning as making sense of abstract meaning. Learning involves relating parts of the subject to each other and to the real world.
5) Learning as interpreting and understanding reality in a different way. Learning involves comprehending the world by re-interpreting knowledge.” (p.26)

4 & 5 are more sophisticated understandings on the part of the student.

Approach to learning is a key concept. “When we talk about a student understanding something, what we are really saying is that he or she is capable of relating to a concept or topic in the way an expert in the subject does. (p.40) What happens when the area overlap of many areas of ‘expertise’?
One can think of FM as the overlap of accountancy, law, business management & building technology.
Accounting = resources
Law = legislative responsibilities
Business Management = commercial imperatives
Building Technology = premises.

“When we took delight in mastering an idea.” (p.40)

**Deep Approach**
*Intention to understand. Student maintains the structure of the task.*
- Focus on ‘what is signified’.
- Relate previous knowledge to new knowledge.
- Relate knowledge from different courses.
Relate theoretical ideas to everyday experience.
Relate / distinguish evidence from argument.
Organise and structure content into a coherent whole.

Internal emphasis:

**Surface Approach**
*Intention to complete task required. Student distorts the structure of the task.*
- Focus on ‘the signs’.
- Focus on unrelated parts of the task.
- Memorise information for assessments.
- Associate facts and concepts unreflectively.
- Fail to distinguish principles from examples.
- Treat the task as an external imposition.

External emphasis: demands of assessments, knowledge cut off from everyday reality.
(pp.46-7)

“**Deep and surface approaches are responses to the educational environments in which students learn.**” (p.62)

“Deep approaches are related to higher quality outcomes and better grades. They are also more enjoyable. Surface approaches are dissatisfying, and they are associated with poorer outcomes.” (p.53)

Levels of Bigg’s SOLO Taxonomy
Prestructural  Use of irrelevant information, or no meaningful response.
Unistructural  Answers focus on one relevant aspect only.
Multistructural Answers focus on several relevant features but they are not coordinated together.
Relational  The several parts are integrated into a coherent whole. Details are linked to conclusions. Meaning is understood.
Extended abstract  Answers generalises the structure beyond the information given. Higher order principles are used to bring in a new and broader set of issues.

(p.55)

Conclusion (pp60-1)
Surface approaches in higher education have nothing to do with wisdom but with aimless accumulation of knowledge. Pleasing teachers and passing
exams replace understanding. Material is soon forgotten, the outcome is essentially quantitative.

Deep approaches embody the type of learning that lecturers expect students to practice, and is the only way for them to develop imaginative, flexible and adaptive skills. It is more satisfying to students and allows them to use academic knowledge to control and clarify the world. Deep approaches are connected to qualitatively superior outcomes including the making of an argument, the novel application of a concept, an elegant solution, and an interplay between basic knowledge and professional application. The outcomes show a high structure, a strong knowledge base, ability to apply ideas to new situations, and integration of knowledge.

Good teaching implies engaging students in ways that develop deep approaches to learning.

**Aims and Objectives of Teaching & Learning**

“We cannot train students to use deep approaches when the educational environment is giving them the message that surface ones are rewarded.” (p.64) How can we encourage students to do so?” (p.62-3)

Approaches to learning are inseparable from context. A student’s approach will be based on previous experience – what has worked for them in the past, and their interpretation of what is required of them now.

“Intrinsic motivation and absence of anxiety were related to the use of a deep approach. Failure to perceive relevance was associated with surface approaches.” (p.66)

“A good deal of student learning is about adapting to the requirements of teachers.” (p.67)

“Colourful presentation not necessarily good teaching. The effective lecturer helps students to make sense of their subject matter through enabling them to see its relevance.” (p.74-5)

“The use of vivid illustrations and personal commitment may encourage students to see the content as having meaning in the real world.” (p.75)
“Excellence in teaching cannot guarantee that students will understand.” (p.80)

**Table.5.1 Characteristics of the content of the learning associated with deep and surface approaches.**

**Surface approaches are encouraged by:**
- Assessment methods emphasising recall or the application of trivial procedural knowledge.
- Assessment methods that create anxiety.
- Cynical or conflicting messages about rewards.
- An excessive amount of material in the curriculum.
- Poor or absent feedback on progress.
- Lack of interest and background knowledge of the subject matter.
- Previous experience of educational settings that encourage these approaches.

**Deep approaches are encouraged by:**
- Teaching and assessment methods that foster active and long term engagement with learning tasks.
- Stimulating and considerate teaching that demonstrates the lecturer’s personal commitment to the subject matter, and stresses it’s relevance to students.
- Clearly stated academic expectations.
- Opportunities to exercise responsible choice in the method and content of study.
- Interest in background knowledge of the subject matter.
- Previous experiences of educational settings that encourage these approaches. (p.81)
Learning is conceptualised as a change in the way in which people understand the world around them. Understanding of concepts and ways of thinking in a discipline, and the development of abilities to integrate theoretical and practical knowledge in professional subjects are not always achieved.

The outcome depends on the student’s engagement with the learning task: how their intention to understand or reproduce interacted with the process of studying (i.e. maintaining or distorting the structure of the learning task) which affect the quality of their understanding.

We can enhance the quality of their learning by changing the curricula we construct, the teaching methods we use, and the ways in which we assess our students.

We cannot teach better unless we are able to see what we are doing from their point of view (p.86)

- A desire to share your love of the subject
- An ability to make the taught material stimulating and interesting.
- A facility for engaging with students at their level of understanding.
- A capacity to explain the material plainly.
- A commitment to making it clear what has to be understood, at what level, and why.
- Showing concern and respect for students.
- A commitment to encourage student independence.
- An ability to improvise and adapt to new demands.
- Use teaching methods and academic tasks that require students to learn actively, responsibly, and cooperatively.
- Use valid assessment methods.
- Focus on key concepts and students’ misunderstandings of them rather than on covering the ground.
- Give the highest quality feedback on student work.
- A desire to learn from students and other sources about the effects of teaching and how it can be improved.

(p.89)

Characteristics of a good lecturer.

- Organisation
- Stimulation of interest
- Understandable explanations
- Empathy with student needs
- Feedback on work
Clear goals
Encouraging independent thought
Lecturer’s personality and sense of humour

“Student learning is a function of their perception of what we do in teaching.” (p.110)

Theories of Teaching

1. Teaching as telling or transmission.
2. Teaching as organising student activity
3. Teaching as making learning possible

“Theory 1 assumes that content knowledge and fluent presentation are enough. Theory 2 complements this with additional skills focused on student activity and the acquisition of extra teaching techniques. Theory 3 presupposes all these abilities and extends the understanding of teaching so that it becomes embedded in the nature of subject knowledge and the nature of how it is learned,” (p.116)

Teaching to Facilitate Learning

Five issues:
- Goals & structure
- Teaching strategies
- Assessment
- Evaluation
- Accountability & educational development (feedback)

“Students often spend a lot of their time simply trying to discover what we want them to learn.” (p.126)

“What do I want them to learn – how can I express this?” (p.127)

“Writing aims and objectives of units of study are subject to three traps:
- A restatement of the syllabus using the language of aims and objectives, eg. ‘to acquire the knowledge of…’
- To make them too general, eg. ‘to become more critical…’
- To focus on observable student behaviours.” (p.131-2)

The object is to describe concepts and relations between concepts. (p.133)
Selecting content and aims.
  o Recognised problems and omissions
  o Requirements of professional bodies.
  o Comparisons with similar departments in other institutions.
  o Discussions with colleagues, practitioners, and employers about key skills.
  o [discussions with students elsewhere]
  o Reports of student misconceptions.
  o Conceptual schemes devised by educators.
  o Departmental statement of its educational goals.
  o Key texts in the subject.
  o Exam and assignment tasks, and examiner’s reports
  o Reflection on the main activities students will have to undertake to learn topics in question, and on assessment methods that will be used to find out whether they have learned them.
  o Consideration of the time available to learn
  o Consideration of the relation between the unit of study and the whole course. (p.136)

Carrot and the stick: The stick is the assessment. The carrot? The ‘why you need to know this’?

“Good teaching involves finding out from students and other sources about the difficulties students experience in learning the subject matter, finding out about key outcomes that are not achieved, and considering the needs of particular groups of students.” (p.136-7)

Sequence the content. “The ordering of content should be educationally justifiable.. Logical ordering of topics that is ‘obvious’ to a subject expert is not necessarily the best way for a novice to go about learning the subject.” (p.139)

In FM we are reliant on outside lecturers. The topics that they are asked to present are based on the lecture titles and outlines that I set. These in turn are based on the desire to go from the general, which is based on the student’s work environment, to the specific – that tries to establish where the specific relates to the general. This at graduate level is perhaps the converse of what one would do at undergraduate level.
At the start of a course students should be given a few tasks to perform at which they can succeed quickly. (This is one of the reasons why it is important to inquire into students’ understandings before teaching).” (p.140)

“Material should be ordered in such a way that it proceeds from common-sense and everyday experiences to abstractions, and then back to the application of the theoretical knowledge in practice... In real learning one goes back to the basics time after time; learning subject matter properly involves several passes through the same material.” (p.140)

“Constructive engagement with learning methods involves students in actively finding knowledge, interpreting results, and testing hypotheses against reality. (p.152) Teachers should be encouraging active confrontation of students with ideas.” (p.165)

**Assessment**

Grading versus diagnosis (p.182)

Assessment is regarded as an addition to teaching rather than as an essential part of it. (p.183) Teaching, learning and assessment are seen to be tenuously related in a simple linear sequence. It is something done to students.

“Non-referenced assessment – based on comparison between students as opposed to criterion-referenced assessment – whether a student has achieved a particular standard. Diagnosis vs. judging, teaching vs. reporting, comparison vs. categorical standards.” (p.185)

“The disastrous effects of threatening assessment procedures on learning. The assessment of students is about understanding the processes and outcomes of student learning, and understanding the students who have done the learning. This implies that assessment is happening continually both formally and informally. Listening to what students say is as much assessment as reading their exam scripts. Assessment involves making fallible human judgements, whether its purpose is to report on students or give them feedback (formative or summative).” (p.186)

“What is worth assessing? Bloom’s 6 levels: knowledge; comprehension; application; analysis; synthesis; evaluation. (Heirarchical). We frequently infer higher level skills from lower level ones.” (p.188)
Hi-level Assessment.
My assessments are based on setting tasks that require the application of knowledge, tools and skills to the student’s real-life work environment: They are required to undertake an analysis of that work environment. They need to understand the big picture in which their organisation works; what are its stated mission & goals (and what are their actual mission and goals). How is progress towards achieving these missions and goals measured. How then do the facilities contribute to achieving these goals and how is this / can this contribution be measured.
Once appropriate metrics have been specified, they can determine Key Performance Indicators (KPI’s), establish benchmarks, and practice Continuous Improvement.

In other units students take elements of the FM role and undertake a ‘consultancy’ on the way their organisation carries these out. They do this by ‘disinterestedly’ look at the performance of these tasks; consider optional ways of doing things, weigh the options, and recommend a preferred course of action. The student not undergoes problem based learning, but they have a relevant report that they can offer their employer (that also demonstrates their abilities – so improving their promotion prospects). This latter is particularly useful where the employer is subsidising the student. Assessment is based on the thoroughness and utility of their reports.

Other core units develop or provide skills and understanding of some of the basic management areas, ie. Finance, Organisational Behaviour etc. It is assumed that students possess some knowledge and skill in these areas when they start, but the assessment of these units is intended to ensure that the student cohort have developed the same depth and range of abilities.

[Do such tasks ‘test’ all that is wanted?]

“Aspects of competence are too rarely addressed in formal assessments. Attitudinal aspects of subject competence must be included in a course aims and objectives.” (p.189-90)

Finding out what students have failed to learn.
In selecting methods of assessment there will rarely be one method which satisfies all educational objectives. Uniformity of methods make comparisons superficially easy, but may not display what students have learned and regards conformity rather than originality.

Consistency = reliability

Alternatively a means of providing opportunities for students to demonstrate what they understand. The most important criterion concerns the methods relevance to the aims and objectives it is trying to test.

“It is impossible to overstate the importance of feedback on students’ progress.” (p.193)

“The relationship between teacher and student should be one of dialogue.” (p.194)

“Students can often learn more from formal and informal assessment by their peers. The requirement to defend ones own work increases responsibility and control.” (p.196)

Discuss assessment expectations.

14 Rules for Better Assessment

1. link Assessment to learning: 1 learning, 2 encouraging effort, 3 grading. Assess during learning as well as at the end. Realistic problems. Reward integration and application.
2. never assess without feedback
3. learn from student’s mistakes. Discover misunderstanding and modify teaching.
4. use a variety of assessment methods.
5. get students to participate in the assessment process.
   a. Discuss appropriate methods and how they relate to the course goals.
   b. Joint staff/student design and negotiate criteria for success and failure.
   c. Self and peer assessment
   d. Offer choice amongst methods.
6. give lucid and frequent messages that success will be demonstrated by understanding (deep methods).
7. consider reporting and feedback: diagnostic and summative.
8. use ‘objective’ tests cautiously.
9. Quantitative manipulations supplemented by prose descriptions.
10. focus on validity
11. lessen exam anxiety
12. ensure that you ask questions that you can answer: provide model answers.
13. reduce inter-student competition.
14. question the objectivity and accuracy of measures of student ability.

**Evaluation of Teaching**

“Evaluating teaching concerns learning to teach better and exercising control over the process of learning to teach better.” (p.217-8) this is “the nature of good teaching; it’s measurement; and it’s promotion.”

![Figure 11.1 Two dimensions of evaluation in Higher Education](p.223)

“Minimum standards of acceptable professional behaviour.
1. Is the teacher ever available to see students out of class?
2. Are his/her assessment procedures (a) fair, (b) valid?
3. Does he/she skip teaching duties without excuse?
4. Does he/she ever explain the requirements of his/her courses and their assessment to students?
5. Does he/she provide any feedback on assessments?
6. Is the academic quality of the content satisfactory?
7. Does the teacher adopt a professional attitude to teaching (eg. regular attendance, efforts to improve, responses to negative feedback)?
8. Does he/she ever assist in course development, examining, taking other academics duties if instructed to do so?” (p.234)

“The danger of minimum standards is that they become the average standard.”

Ramsden presents the difficulties in undertaking teaching performance appraisal: he deals with the problems including that of measuring only things that can be measured; making comparisons between student’s starting and completing knowledge, of using students’ achievements to judge the performance of their teachers etc.

The three purposes of performance appraisal are assisting teachers to teach better, enabling comparison, and classification. (p.241) [Why are classification and/or comparison necessary?]

Assessment to assist teachers to teach better:
1. Evaluation implies finding out how students, yourself, and others see your teaching.
2. Evidence must be collected from several sources including the students (who are in a unique position to comment).
3. This evidence must be interpreted. (The interpretation process is itself problematic).
4. The purposed is to illuminate deficiencies.
5. Evaluation is a teacher’s responsibility.
6. It is a continuous and continuing process applied from start to finish of lectures.
7. Evaluation is better as a cooperative activity.
8. Evaluation should not be threatening.
9. Collecting the evidence is secondary to its interpretation and the purpose of the evaluation.
(Does the above actually say anything?) (p.241)

One method:
Students are asked
   1. What was the BEST feature of the course for you?
   2. What was the WORST feature of the course for you?
   3. In what ways do you think the course could be IMPROVED?
Students are asked to discuss the responses in groups of four and record the points on which they agree. These responses to the first of the three questions are then collated by the teacher in front of the class and discussed. The other two questions are then similarly presented.
After consideration, the teacher reports his/her perception of the strengths and weaknesses of the course. The teacher then reports what will be done with the results.

Attempts to innovate when workloads are heavy are likely to result in superficial outcomes.

Encouraging students to learn and helping lecturers to teach involve identical principles. Therefore, if we understand how to help students, we understand how to improve teaching. (p.268)


Constructivism and phenomenography much the same thing: meaning is created by the learner.

Deep Learning = appropriate, Surface learning = inappropriate. These are not personality traits but student’s reactions to their teaching environments. (p.13)

“What people construct from a learning encounter depends on their motives and intentions, on what they know already and on how they use their prior knowledge. Education is about perceptual change.” (p.13)

“Constructive alignment is a design for teaching most calculated to encourage deep engagement. In constructing aligned teaching it is first necessary to specify the desired level or levels of understanding of the
content in question. Stipulating the appropriate verbs of understanding helps
to do this. These verbs then become the target activities that students need to
perform, end therefore teaching methods need to encourage, and assessment
tasks to address, in order to judge if or how well the students have been in
meeting the objectives. This combination of constructivism theory and
aligned instructions is the model of *constructive alignment.*” (p.31)

“The game then becomes a matter of dealing with the test, not with engaging
the task deeply.” (p.13)

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Student Factors = prior knowledge, ability, motivation
Teaching Context = objectives, assessment, climate/ethos,
teaching, institutional procedures.
Learning Focused Activities = appropriate/deep,
inappropriate/surface
Learning Outcomes = qualitative: facts, skills
quantitative: structure, transfer
affective: involvement

“If students are to learn desired outcomes in a reasonably effective manner,
then the teacher’s fundamental task is to get students to engage in learning
activities that are likely to result in their achieving those outcomes.” (Shuell
86 429) Shuell 1986, Cognitive conceptions of learning, Review of

Critical components of alignment:
1. The curriculum we teach
2. The teaching methods we use
3. The assessment procedures we use and methods of reporting the results
4. The climate we create in our interactions with students
5. The institutional climate, the rules and procedures we have to follow” (p.25)

Verbs.
Level A Hypothesise, apply to…
Level B explain, solve, analyse, compare…
Level C elaborate, classify…
Level D low level verbs…
(Needs a thesaurus and verb hierarchy- dml)

Prosser & Trigwell
Chapter 3 pp.26-57
“Student’s prior experiences of learning was fundamentally important to what they focus on in learning.” (p.26) Prior experience establishes a know context for interpreting their present learning situation. Prior understanding of key concepts and ideas; of conceptions of learning and approaches to study.

Entwistle (1988: p.29)
- Meaning orientation (a deep approach, relating ideas, use of evidence and intrinsic motivation)
- Reproducing orientation (a surface approach, fear of failure and extrinsic motivation)
- Achieving orientation (strategic approach, disorganized study methods, negative attitudes and achievement motivation)
- Learning style (comprehension, learning, globetrotting, operation learning and improvidence) (p.41)
Biggs (1978) similar to the first three orientations.

1. “Students enter our teaching and learning context with substantial qualitative variation in their prior experience of teaching and learning.
2. These prior experiences of teaching and learning are related to specific prior situations in which those experiences occurred.
3. A new teaching and learning situation evokes certain aspects of those prior experiences, being related to the congruence between the previous and new situations.
4. The aspects evoked have a subsequent impact on what and how students learn in this new situation.” (p.42)

“Explicit aims for early activities in class:
  o to provide relevance to the learning by focusing the student’s awareness on the conceptual aims and the learning demands of the subject. Through participation in activities which demonstrate the limitations of their understanding of the content matter and learning itself, the students can be made aware of the need to apply learning approaches which lead to a more complete understanding of the context.
  o to promote awareness in the students of the different ways they and their fellows conceptualise the subject matter and their learning. The development of more complete conceptions can be encouraged through the contemplation of this variation.
  o to allow the lecturer to become aware of the way students conceive of the subject matter and of their learning, as a precursor to providing teaching approaches designed to improve understanding.”

Chapter 4

Different students focus on different aspects of teaching and learning context; their learning and teaching situation being different for each student. Perceptions of context are different to students’ perceptions of their situation in that context: The latter is true, therefore there is variation between students.

Perceptions of goals, workload, and assessment related to approaches to learning. Variation between foreground and background perceptions: They notice different things.

“It is not enough to develop a context which affords a deep approach to study. University teachers need also to determine how their students are perceiving their situation within that context.” (p.82)

Deep approach = good teaching; Surface approach = inappropriate workload.” Ramsden et al (1997) (p.68)
“Lectures and Seminars were generally rated more positively by reviewers than other forms of teaching, with small group work the least successful.” (LTSN Generic Centre, QAA Subject Review Experience, p.2)

“Learning cannot be abstracted from the social relations within which it occurs’ (Webb. G Theories of Staff Development: Development & Understanding, International Journal for Academic Development, V.1, N.1, May 1996, pp.63-9)

Peer Observation Technique “can prevent full engagement by subject staff if the ‘expert’ is not fully trusted.” (LTSN Generic Centre, QAA Subject Review Experience, p.2)

“Evidence from American research in (the) 1970’s suggested that the greatest influence on the way we teach is neither theories of education nor our training, but is instead our notion of good teaching derived from our own experience of being taught. (Lorte, 1975 – quoted by Cash. J, Peer Observation in Higher Education – A reflective approach, Innovations in Teaching and Training International, V.35, N.2, pp.171-6) This calls into question the value of colleagues judgement.” (LTSN Generic Centre, QAA Subject Review Experience, p.2)

“Peer Observation technique tends to focus on the ‘performance element’ in teaching & learning and in doing so miss what is less observable.” (LTSN Generic Centre, QAA Subject Review Experience, p.3)

“Many students are accomplished at complex routine skills in science, mathematics, and humanities, including problem solving algorithms. Many have appropriated enormous amounts of detailed knowledge including knowledge of subject specific terminology. Many are able to reproduce large quantities of factual information on demand. Many are able to pass examinations. But many are unable to show that they understand what they have learned when asked simple yet searching questions that test their grasp of content.” (Dahlgren 84 p.33) cited in Ramsden 92 p. 30.