ON CONSTRUCTIVE ALIGNMENT

Background notes to support a seminar given by

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1. Aligning Objectives, Teaching Methods, and Assessment

Learning takes place through the active behavior of the student: it is what he does that he learns, not what the teacher does.

(Tyler, 1949: 63).

Tyler said it over 50 years ago. 15 years ago, Shuell elaborated:

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 ...It is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does.

(Shuell, 1986: 429)

We can construct a model of teaching out of this. What the student does becomes the point of departure, for improving teaching.
**Key decisions:**

1. what are “desired” outcomes,
2. what teaching methods require students to behave in ways that are likely to achieve those outcomes,
3. what assessment tasks will tell us if the actual outcomes match those that are intended or desired.

This is the essence of “constructive alignment” (Biggs, 1999). First we get the objectives straight, what students have to do. Then we decide how to get them to do it. Assessment serves a double purpose: it checks the quality of learning, and for students, it defines what is to be learned.

Grades also modified by coverage and accuracy of factual details, elegance of reasoning, ... whatever is appropriate to the content being taught.

**Aligning curriculum objectives, teaching learning activities (TLAs), and assessment tasks**

<table>
<thead>
<tr>
<th>Teaching/Learning Activities</th>
<th>Curriculum Objectives Expressed as verbs students have to enact</th>
<th>Assessment Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed to elicit desired verbs. May be:</td>
<td><strong>A</strong> Reflect</td>
<td>Evaluate how well the target verbs are elicited and deployed in context.</td>
</tr>
<tr>
<td>Teacher controlled</td>
<td>Hypothesise, generate</td>
<td>The highest level verb to be clearly manifested becomes the final grade A, B, C etc.</td>
</tr>
<tr>
<td>Peer controlled</td>
<td>Apply to ‘far’ domains</td>
<td><strong>B</strong> Relate to principles</td>
</tr>
<tr>
<td>Student controlled</td>
<td>Analyse, compare</td>
<td><strong>C</strong> Understand main ideas</td>
</tr>
<tr>
<td>As best suits the context</td>
<td>Explain, solve</td>
<td><strong>D</strong> Elaborate</td>
</tr>
<tr>
<td></td>
<td>Classify</td>
<td>Describe</td>
</tr>
<tr>
<td></td>
<td>Cover topics a to n</td>
<td>Learn procedures</td>
</tr>
<tr>
<td></td>
<td>Describe</td>
<td>Name</td>
</tr>
<tr>
<td></td>
<td>Memorise</td>
<td>Memoriise</td>
</tr>
</tbody>
</table>
2. On What to Teach: Clarifying Objectives

The nature of understanding

*Understandings* can mean a lot of things; we need to be very clear about the level of understanding we want our students to achieve. To *really* understand something is to behave differently in contexts involving that content. To *really* understand is to see a slice of the world differently.

*The essence of understanding is that it is performative*  
(Gardner, 1993)

Let us distinguish between

- *declarative knowledge*: knowledge you can declare, or talk about
- *functioning knowledge*: knowledge you can put to work.

Often we teach declarative understandings, when the teaching aims, particularly in professional programmes, refer to functioning knowledge.

In designing curriculum objectives, there is always a tension between coverage and depth of understanding, but

*The greatest enemy of understanding is coverage -- I can't repeat that often enough.*  
(Gardner, 1993: 24)

*Coverage holds knowledge to the declarative level.*

In designing curriculum objectives to specify the *activities* we want your students to perform. It helps to use verbs. These activities become the objectives. Then, because some activities show better levels of understanding than others, teaching objectives may be structured hierarchically:

In an aligned system of instruction, the appropriate verbs are:

1. nominated in the objectives,
2. likely to be elicited in the chosen teaching-learning activities,
3. embedded in the assessment tasks so that criterion-referenced judgments can be made about a given student’s level of performance.

*Four layers of verbs referring to “understanding”*
A grading system then needs to be defined in terms of a hierarchy of desired learning outcomes, from most acceptable to barely acceptable, usually expressed as A to D, then F.

3. On How to Teach: Choosing Teaching/Learning Activities

We want to select teaching/learning activities (or TLAs) that will encourage students to start using the right verbs if they are to handle properly the academic tasks we set:

TLAs may be classified according to who is in major control:

- **Teacher-controlled** activities include most formal teaching situations: lectures, tutorials, laboratories, field excursions, etc.

- **Peer-controlled** activities range from formal ones, initiated by the teacher, such as various kinds of groupwork or instructions to use learning partners, to informal and spontaneous collaboration by students outside the classroom.

- **Self-controlled** activities include anything that goes under the heading of independent learning and study: specific strategies for
extracting meaning from text such as summarising and note-taking, general study skills,

What activities are teaching methods most likely to elicit?

Each teaching/learning activity (TLA) → a form of learning

Teacher-controlled:
- lecture, set texts: reception of selected content
- tutorial: elaboration, clarification
- laboratory: procedural knowledge, application
- excursion: experiential knowledge, interest
- seminar: clarify, presentation skill

Peer-controlled:
- syndicate groups: elaboration, confront differences
- learning partners: resolve differences, application
- spontaneous collaboration: breadth, self-insight

Self-controlled:
- summarizing: main ideas
- note-taking: main ideas, facts, revision
- comprehension monitor: confidence in learning
- planning, SQ3R: independence in learning

4. On Assessing Student Learning

Assessment is almost certainly the most important single component in the system: get assessment wrong and you get everything wrong. We therefore need to be clear about why we assess, what we assess, how we assess, and who is involved in the assessing.
Some different assessment tasks and the kinds of learning assessed

<table>
<thead>
<tr>
<th>assessment mode</th>
<th>most likely kind of learning assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended prose, essay-type:</td>
<td></td>
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<tr>
<td>essay exam</td>
<td>rote, question spotting, speed structuring.</td>
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<tr>
<td>open book</td>
<td>as for exam, but less memory, coverage</td>
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<tr>
<td>assignment, take home</td>
<td>read widely, inter-relate, organise apply, copy</td>
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<tr>
<td>Objective test:</td>
<td></td>
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<tr>
<td>multiple choice</td>
<td>recognition, strategy, comprehension, coverage</td>
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<tr>
<td>ordered outcome</td>
<td>hierarchies of understanding</td>
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<tr>
<td>Performance assessment:</td>
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<tr>
<td>practicum</td>
<td>skills needed in real life</td>
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<tr>
<td>seminar, presentation</td>
<td>communication skills</td>
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<tr>
<td>posters</td>
<td>concentrating on relevance, application</td>
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<tr>
<td>interviewing</td>
<td>responding interactively</td>
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<tr>
<td>critical incidents</td>
<td>reflection, application, sense of relevance</td>
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<tr>
<td>project</td>
<td>application, research skills</td>
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<tr>
<td>reflective journal</td>
<td>reflection, application, sense of relevance</td>
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<tr>
<td>case study, problems</td>
<td>application, professional skills</td>
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<tr>
<td>portfolio</td>
<td>reflection, creativity, unintended outcomes</td>
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<tr>
<td>Rapid assessments (large class):</td>
<td></td>
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<tr>
<td>concept maps</td>
<td>coverage, relationships</td>
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<tr>
<td>venn diagrams</td>
<td>relationships</td>
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<tr>
<td>three minute essay</td>
<td>level of understanding, sense of relevance,</td>
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<tr>
<td>gobbets</td>
<td>realizing the importance of significant detail</td>
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<tr>
<td>short answer</td>
<td>recall units of information, coverage</td>
</tr>
<tr>
<td>letter-to-a-friend</td>
<td>holistic understanding, application, reflection</td>
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<tr>
<td></td>
<td>comprehension of main ideas</td>
</tr>
</tbody>
</table>

Assessment-related matters

The assessment model. *Analytic vs. holistic assessment: marking vs. assessing*

Marks do not however convey *what* is learned. A criterion-referenced qualitative approach demands holistic assessment, using the same framework as was used for formulating objectives.

Dealing with unintended but desirable outcomes.
Grading

Matching student outcomes with the objectives: necessarily a qualitative matter, which needs a different approach to:

Combining grades within or across units.

There are two ways to go:
1. Convert categories into numbers.
2. Work qualitatively all the way.

Other matters arising

5. On Quality Assurance and Quality Enhancement

The individual teacher improves through reflecting on current practice through the lenses of an operating theory: so should the institution.

Quality Assurance (QA):

Non-reflective, retrospective, quantitative. May even impair teaching quality.

Quality Enhancement (QE):

How to improve teaching and learning quality at the institutional level; focus for staff development on the institutional unit, not individual teachers. Prospective, qualitative.

Quality Feasibility (QF):

What in the institution impedes quality teaching?
References


