

53 Powerful Ideas All Teachers Should Know About

Graham Gibbs

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You cannot design learning activities until you are clear about your outcomes

Graham has invited a number of well respected international thinkers and writers about university teaching, and how to improve it, to each contribute one idea to the '53 Powerful ideas' collection. This post is by John Biggs, who hit upon the idea of constructive alignment while teaching at the University of Hong Kong. CA theory and practice are developed through successive editions of Teaching for Quality Learning at University, the last two editions co-authored with his wife Catherine Tang. Post-retirement, John is exercising his right hemisphere by publishing fiction.

Thirty years ago American psychologist Thomas Shuell wrote:

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. . . . what the student does is actually more important in determining what is learned than what the teacher does.

You might think Shuell's statement is so obvious it is motherhood stuff. A mother wants her child to learn to dress herself for example. That is the desired outcome. She teaches not by lecturing but by taking her child through the motions of dressing herself until she can do it reasonably effectively. And so on through most teaching/ learning

situations in real life. But this is not the way tertiary institutions have taught. We have asked what the teacher has to do: What topics do I need to teach? How do I structure my lectures? What questions will I set in the exam?

Now let us put the student in the picture rather than the teacher: What learning outcomes do you want your students to achieve? What learning activities are most likely to help them achieve those outcomes? And how do you assess if their learning has been "reasonably effective"?

In this view it's not a question of "covering" the topics in the syllabus so that students may "understand" them in some unspecified sense. Rather, it's a question of students using topic knowledge in order to solve problems, to design experiments; in short, to interact successfully with their personal or professional world.

In outcomes-based education we start with the outcomes students are supposed to achieve in any course or programme, teach by providing a learning environment designed to facilitate the attainment of those outcomes, and assess by seeing how well students can use their knowledge as intended. Students should be expected to put their knowledge to work in appropriate ways, not just absorb knowledge in order to repeat it back

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Constructive alignment (CA) is a form of outcomes-based education that specifies how teaching and assessment may be aligned to the intended learning outcomes, thus operationalising Shuell’s description of effective teaching (Biggs and Tang 2011). Specifically, we need to:

1. Describe the intended learning outcomes (ILOs) in the form of a verb that denotes how the content or topics are to be dealt with and in what context.
2. Create a learning environment using teaching/learning activities (TLAs) that address that verb and therefore are more likely to bring about the intended outcome.
3. Use assessment tasks (ATs) that also contain that verb, enabling one to judge how well students have achieved the ILOs based on pre-set criteria or rubrics.
4. Transform these judgments into standard grading criteria using rubrics.

The verb in the ILO becomes the common link by which alignment can be achieved between the ILO, the teaching/learning activities and the assessment tasks. Some ILOs would require low level verbs such as “describe”, “enumerate”, “list”; others middle level, such as “explain”, “apply to familiar domains”, “solve standard problems”, while at an advanced level appropriate verbs would include “hypothesize”, “reflect”, “apply to unseen domains or problems”. Typically in a semester-long course, there would be no more

than five or six ILOs, with some ILOs addressing several topics.

The teaching/learning activities and assessment tasks for that ILO would then address that same verb. For example, “Solve a mechanical problem that involves loading and motion using given principles.” (an ILO from a Faculty of Engineering at a Hong Kong university). The TLA might require the students to read up mechanical principles and then practice solving mechanical problems in groups or individually using those principles. They could also be asked to provide formative feedback to each other on how effective a solution is by using the appropriate rubrics. They don’t just listen to the teacher explaining the solution.

Implementing constructive alignment is not using a given method of teaching. CA requires reflective practice on the part of the teacher in designing ILOs, TLAs and ATs for particular subjects and students. Taking this a short step further is to keep a data base on the quality of student learning and adjusting aspects of alignment in repeated cycles, as in action research. This means a continuing quality enhancement of teaching.

Students for their part are also given the opportunity for reflective practice. The ILOs provide a continuing target for learning, and if they achieve less than they had hoped, they can see by comparing their performance against the rubrics for that task where they went wrong and how their performance may be improved.

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There are many practical questions involved in implementing constructive alignment, such as techniques of writing ILOs and of aligning teaching/learning activities and assessment tasks to those ILOs, deriving final grades from a range of tasks, assessing holistically and qualitatively for the desired final performance, designing course and programme ILOs to align with graduate attributes. These issues; more detailed explanations of the principles of constructive alignment and examples of constructive alignment in action in different

subject areas, together with research evidence of the effectiveness CA, may be found in the suggested reading.

Suggested reading

Biggs, J. & Tang, C. (4th ed) (2011) Teaching for Quality Learning at University
Maidenhead: Open University Press/McGraw Hill, 2011.

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