

CONSTRUCTIVE ALIGNMENT: BIGGS

A good teaching system aligns teaching method and assessment to the learning activities stated in the objectives, so that all aspects of this system are in accord in supporting appropriate student learning. This system is called constructive alignment based as it is on the twin principles of constructivism in learning and alignment in teaching.

Theories of teaching and learning focusing on student activity are based on two main theories:

- Phenomenography: (from Marton and Saljo's studies into deep & surface learning)
- Constructivism (Piaget, Bruner, etc.)

Both are premised on the view that meaning is not imposed or transmitted by direct instruction; it is created by the students' learning activities, their 'approaches to learning'.

Meaning is personal; it depends on motives, intentions, prior knowledge, etc.

Learning is a way of interacting with the world

We structure information we get, not just receive it, thus education is about conceptual change which takes place when:

- It is clear to students (and teachers) what is 'appropriate', what the objectives are, where all can see where they are supposed to be going.
- Students experience the felt need to get there. The art of good teaching is to communicate that need where it is initially lacking. Motivation is a product of good teaching not its prerequisite.
- Students feel free to focus on the task, not on watching their backs. Often attempts to create a felt need to learn, particularly through ill-conceived and urgent assessments, are counter-productive. The game then becomes a matter of dealing with the test, not with engaging the task deeply.
- Students can work collaboratively and in dialogue with others, both peers and teachers. Good dialogue elicits those activities that shape, elaborate and deepen understanding.

Biggs' book holds the view that teaching that induces surface learning does not produce effective learning as its too based on memorising and regurgitation, and that teaching needs to encourage deep learning, constructive alignment being a powerful way of doing this.

Deep and surface approaches to learning describe the way students relate to a teaching/learning environment; they are not fixed characteristics of students, their 'academic personalities' so to speak.

Biggs offers a '3 P' model of learning, involving:

Presage factors, such as students' prior knowledge, commitment, etc. together with teaching context in terms of expertise, ethos of the classroom.

Process: teaching and learning activities

Product: learning outcomes

Constructive alignment handles these factors as elements of a system in which all components support each other as they do in any ecosystem. Constructive alignment rests on a view of teaching as supporting learning; **its not what teachers do but what students do that is the focus here** - this implies a need for clarity about:

- what it means for students to 'understand'
- what kind of teaching-learning activities are required to reach those kinds of understandings

Critical components to consider for constructive alignment are:

- The curriculum
- The teaching methods
- The assessment procedures
- The student-teacher relation
- The institutional climate

The curriculum has to be at the centre and must determine the TLAs (teaching and learning activities) and the assessment.

Forms of assessment and levels of award can be expressed in terms of the verbs used, (ref Bloom's Taxonomy) e. g. if a student is asked to:

- Hypothesise = a first
- Explain/solve/analyse = 2:1
- Classify/cover = 2:2
- Weak version of the last = 3rd

the verb you use is important because it denotes the performance you are looking for.

Understanding is performative.

The difference between meeting the requirements of institutional learning and real understanding is illustrated in Gunstone and White ...two balls, one heavy and one light, were held in the air in front of the students. They were then asked to predict, if the balls were released simultaneously which one would hit the ground first, and why. Many predicted that the heavy one would 'because heavy things have a greater force' or 'gravity is stronger nearer the earth' (both are true but irrelevant). These students had 'understood' gravity well enough to pass A level physics but few understood well enough to answer a fairly simple real life question about gravity...they didn't really understand gravity in the performative sense

In Biggs' view understanding unfolds from **uni-to multistructural levels**. His SOLO taxonomy captures these levels which reflect different knowledge levels/forms from functioning (= a sophisticated level of know-how) to conditional (knowing when to do things and why) to declarative (descriptive) to procedural (understanding of sequences/skill learning).

Declarative → Procedural → Conditional → Procedural

Teachers need to sort out what levels of understanding and kinds of knowledge they are asking for and to grade different levels of performance accordingly. Assessment demands will grow through a student's academic journey. The first year might require more declarative and the last more functional.

"A common mistake in curriculum design is to go for coverage rather than for understanding."

Before deciding objectives, we need to:

1. Decide what kind of knowledge is to be involved
2. Select the topics to teach and don't overload
3. Decide the purpose for teaching the topic, hence the level of knowledge desirable for students to acquire
4. Put the package of objectives together and relate them to assessment tasks so that the results

can be reported as a final grade

Get the climate right.

Biggs draws on McGregor's concept of a high or low trust culture affecting motivation. If an organization doesn't trust its workers/students, it will get less work out of them. Cynical and unhelpful teacher attitudes are often responsible for student failure. Give students clear direction, constructive feedback and convey your confidence and trust in them. If you treat students as untrustworthy, this will direct all kinds of negative messages and teaching strategies.

"In aligned teaching the assessment reinforces learning. Assessment is the senior partner in learning and teaching. Get it wrong and the rest collapses."

Criterion referenced assessment should be used in assessment; assessing student against criteria, not each other which is norm referenced assessment. The muddle between the two has created a lot of problems in HE.

The curriculum is divided into declarative and functioning knowledge. Both have their place in higher education but when it comes to assessment, functioning knowledge is frequently assessed as if it were declarative. Students say what they have learned rather than show it performatively.

We need to move from quantitative (number and spread of marks) because quantifying performances gives little indication of the quality of performance, or of what has been learned.

"Norm referenced assessment is judgments about people, criterion referenced is judgments about performance."

Qualitative assessments looks at how well the student has done against the course objectives; a learning outcome needs to be assessed holistically (e.g. not a frame of the film but the whole film - a portfolio often strives to do this); the assessment task should require an active demonstration of the knowledge in question as opposed to talking or writing about it.

Whether the assessment is performative depends on the objectives

Decontextualised assessments such as a written exam or test is fine for declarative knowledge
Contextualised assessments such as a practicum, problem-solving or diagnosing a case study are suitable for assessing functioning knowledge

Analytic marking often breaks down knowledge/tasks (e.g. a would be surgeon could pass on written exams about the hand, fail on a practical anatomy test but accrue enough marks to 'pass' overall), whereas holistic assessment recognises the intrinsic meaning of the target performance (e.g. be able to carry out hand surgery).

The strategy of reducing a complex issue to isolated segments, rating each independently and then aggregating to get a final score in order to make decisions seems peculiar to schools and universities. It not only oversimplifies the complexity of the reality but actually distorts judgments made about it. Its not the way things work in real life.

1. Closed questions tend to get 'convergent' (= unique answer) thinking answers
2. Open questions invite divergent thinking (= open, expressive, relational,)

Here are the problems with using the first over the second:

Teacher: How many diamonds have you got?
Student: I don't have any diamonds
Teacher: Then you fail
Student: But you didn't ask me about my jade

If you only ask a limited range of questions, you do not enable students to show what they know or make links with this in your teaching.

Assessment involves:

1. Setting the **criteria** for assessing the work
2. Selecting the **evidence** that would be relevant to submit
3. Making **a judgment** about the extent to which these criteria have been met

Students can be involved in all three or some of these stages; self and peer assessment - there is evidence that this improves the quality of learning.

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