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Constructive alignment in university teaching

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Constructive alignment (CA) is an outcomes-based approach to teaching in which the learning outcomes that students are intended to achieve are defined before teaching takes place. Teaching and assessment methods are then designed to best achieve those outcomes and to assess the standard at which they have been achieved. Although the general idea of CA has been around for some time, it is only recently that it has been implemented on a reasonably large scale. Part of the reason for this is that the massive expansion in tertiary education involves a diverse range of students and of teaching subjects so that teaching and assessment need to be reviewed on an institution-wide basis with emphasis upon outcomes at institutional, programme and unit levels. CA provides a framework for adjusting teaching and assessment to address the attainment of those outcomes and the standards reached. Research indicates that CA is effective in this but it initially requires time and effort in designing teaching and assessment and, as a systems approach, it is important that supporting institutional policies and procedures are in place. CA properly implemented enhances teaching and learning quality and thus, as a form of quality enhancement, subsumes forms of quality assurance that can often be counter-productive.

***Keywords**: outcomes-based; constructive alignment; quality enhancement.*

1. Introduction

Constructive alignment (CA) is a design for teaching in which what it is intended students should learn, and how they should express their learning, is clearly stated before teaching takes place. Teaching is then designed to engage students in learning activities that optimise their chances of achieving

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those outcomes, and assessment tasks are designed to enable clear judgments as to how well those outcomes have been attained.

Such a teaching design is assumed in everyday learning. For example, a mother teaching her child how to tie a shoelace focuses on that outcome, takes the child through the motions of tying a lace until the act of tying can be carried out satisfactorily by the child. Likewise, a learner driver learns through the act of driving itself until the specified standard is reached. In each case, the target act is at once the intended outcome, the method of teaching, and the means of assessing whether the desired criterion or standard of the outcome has been met. This approach to teaching is learner-centred in that the target is what the learner has to achieve and how the learner may best be engaged in order to achieve it to the required standard. The teaching design is outcomes-based and assessment is necessarily criterion-referenced.

Teaching in institutions on the other hand has traditionally been conceived in precisely the opposite manner on all counts: teaching is teacher-centred, the focus being on what content the teacher has to "cover", teaching is largely held constant with lecturing the default method, and assessment is norm-referenced. Until very recently most universities adhered to this teacher-centred design.

2. The history of the concept of constructive alignment

The essential ideas underlying constructive alignment were proposed over sixty years ago. In his best-selling *Basic principles of curriculum and instruction*, Ralph Tyler asked four questions:

1) What educational purposes should the school seek to attain?
2) What educational experiences can be provided that are likely to attain these purposes?
3) How can these educational experiences be effectively organised?
4) How can we determine whether these purposes are being attained?

(Tyler, 1949: 1)

The most useful way of stating curriculum objectives, he said, is to express them in terms that identify both the kind of behaviour to be developed and the context or area of life in which this behaviour is to operate. He also said famously: "Learning takes place through the active behaviour of the student: it is what he (sic) does that he learns, not what the teacher does." (op. cit. p. 63).

Tyler's book went to 36 editions and was a basic text in almost every teaching education institution in the United States. He appeared on numerous advisory committees in relation to school education, and was regarded as the father of teaching objectives and undoubtedly influenced his University of Chicago colleague, Benjamin Bloom, in Bloom's notion of mastery learning (Bloom, Hastings & Madaus, 1971). In retrospect, however, he appears to have had little enduring influence at school level, and virtually none at all in higher education, apart perhaps from the Keller Plan, which is a form of mastery learning (Keller, 1968).

Thomas Shuell later restated Tyler as follows:

> 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, p. 429)

This seemingly motherhood statement is exactly that: it reminds us that in institutional learning and teaching we should go back to the teaching model that is indeed used by mothers. That is, teachers should focus on what outcomes students are meant to achieve and help them to do so, which almost always means something other than talking for an hour while the learner takes notes.

In my final year of teaching before retiring, I decided to unpack Shuell's statement into a teaching model for an evening unit in a part-time BEd course. This unit, *The nature of teaching and learning*, was about how knowledge of psychology might improve teaching. I had just returned from a sabbatical in Canada, where I had been impressed with "authentic" assessment by portfolio in elementary schools. Previously, I had been teaching psychology in the usual way: teaching topics within the areas of learning, motivation, and child development, and then setting assignments about how well the students had understood the topics and what they saw the implications to be for teaching practice. I now saw that I had been teaching and assessing declarative knowledge, which was inauthentic to the purpose of the unit. The students weren't there to learn *about* psychology, they were there to learn psychology *in order to make better teaching decisions*.

These B.Ed. students were teachers during the day, so I decided to assess them on how well they could demonstrate that psychology had indeed improved their teaching. The assessment required them to compile a portfolio of examples of where they thought their teaching had been so

improved. We negotiated a series of learning activities that were likely to result in their achieving those outcomes, such as reading set material, raising questions in class about that material, discussing with other students, swapping notes with a learning partner and keeping a reflective journal. It worked. The portfolios surprised me with their high quality, their relevance to teaching– and the student ratings for that course were the best I'd ever obtained.

Reflecting on what had happened, it seemed to me that here was a generalizable model for teaching virtually any unit (Biggs, 1996, 1999). The key is to define what students are supposed to be able to *do* with the content they have learned, apart from reporting back in their own words what they had been taught. Almost any content topic in any subject is taught so that students put that content to work in some way: to solve problems, to construct hypotheses, to apply to particular situations. This is the clue to defining the outcomes that it is intended students should learn: we nominate the actions, the verbs, the student is supposed to put into play, verbs such as solve problems, hypothesize, apply, design, explain, and so on. The appropriate learning activities then fall into place: the teaching task is to get students to engage those same verbs. The summative assessment determines how well they can perform those verbs in appropriate contexts. Thus, assessment is about judging the whole performance against predetermined and public rubrics, not by awarding marks analytically for aspects of the tasks and then summing them. Analytic assessment is useful formatively, for alerting the student to weak aspects of their performance, but the final summative assessment is logically on how well the performance itself can be carried out.

The operational framework for this teaching design at the unit level is in its basics:

1) Describe the *intended learning outcomes* (ILOs) for the unit, using one *verb* (or at most two) for each outcome. The ILO 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 require students to engage each verb. In this way the activity nominated in the ILO is activated.
3) Use *assessment tasks* (ATs) that also contain that verb, thus enabling one with help of predetermined using rubrics to judge how well students' performances meet the criteria.
4) Transform these judgments into final grades.

The verb in the ILO becomes the common link that establishes alignment 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", "analyze", "apply to familiar domains", "solve standard problems", while at an advanced level appropriate verbs would include "hypothesize", "reflect", "apply to unseen domains or problems". These higher order ILOs require open ended tasks, allowing for unintended outcomes. The teaching/learning activities and assessment tasks for that ILO would then address that same verb. For example, an ILO in educational psychology might read: "solve a disciplinary problem in the classroom by applying expectancy-value theory." The TLA might be a case study of a particular classroom situation requiring the students to apply the theory and solve the problem, while the assessment would be in terms of how well the problem was solved, which is best achieved using rubrics by which the quality of the solution as a whole may be judged. Typically in a semester length unit, there would be no more than five or six ILOs, with some ILOs addressing several topics.

I called this design for teaching "constructive alignment" (CA). The term "constructive" is used because the model is based on the psychology of *constructivism* of which there are several kinds (Steffe & Gale, 1995), but what they have in common is the idea, referred to by both Tyler and Shuell, that knowledge is constructed through the activities of the learner. The key to good teaching then is to get the learner to engage those activities that are most appropriate to the ILO in question.

The term "alignment" is used because both teaching and assessment need to be aligned to the intended learning outcomes. The concept of alignment is familiar from curriculum theory, as in criterion-referenced assessment (CRA), which Cohen (1987) describes as the "magic bullet" in learning, so effective is it in enhancing learning. In constructive alignment we go one step further than CRA by aligning teaching methods, as well as assessment, to the intended learning outcomes.

Thus far, CA has been described as used by individual teachers at the classroom level. From the classroom we move to CA as part of an institutional system of teaching.

3. Constructive alignment across the institution

Until the nineties, teaching in universities was generally seen as a departmental responsibility, which in most cases devolved to the discretion of individual teachers to teach pretty much how and what they wanted to, in

the name of "academic freedom". The result was a huge range in the quality of teaching and learning, from the irresponsibly bad to the individually excellent. Although from the 1970s many universities had set up teaching development centres, any workshops they offered were mostly attended on a voluntary basis, which meant those who did attend were interested in their teaching not those who were poor teachers. It was like a pedagogic freemasonry, making good teachers better, leaving unaddressed the real issue, which is lifting the quality of teaching across the institution.

In addressing the issue of improving teaching institution-wide, it is useful to consider teaching as a multi-layered ecosystem (Biggs, 1993). Each teacher sets up an ongoing set of negotiations with a class that is different from that set up by a different teacher of the same class. However, each such subsystem is part of a hopefully supportive wider system comprising the department and its offerings, which in its turn is part of the faculty or school, that it in turn is part of the institution. Each of these nested systems is constrained by the rules set up at each level, which rules are subsumed by the next higher level. Thus, any innovation, such as CA, is constrained by this hierarchy of rules and procedures. For example, CA is not possible in an institution (or faculty or department) that requires students to be graded on the bell curve: I have seen an attempt to introduce CA in one university fail precisely because of that requirement. Other rules, for example the requirement that say 80 per cent of the final assessment must be by examination, jeopardise alignment between ILOs and assessment because the range of possible aligned assessment tasks is constrained. Likewise, requirements as to face-to-face contact hours may make work-based learning difficult to implement on a sufficiently intensive scale.

For CA to work properly, then, it needs to be embedded in a supportive culture, at each of departmental, faculty, institutional levels and even national levels. As to the latter, Biggs and Tang (2011b) describe a "training the trainers" model, in which the Malaysian Ministry of Higher Education organised a workshop on CA attended by staff developers from institutions across the country. After the workshop the "trainers" returned to their home institutions to implement CA.

Hong Kong provides another example of bringing about systems wide change in university teaching. Early this century, the Universities Grants Committee (UGC), which finances the eight universities in Hong Kong, lavished large amounts of money on teaching development grants. In 2002 the Head of the Educational Development Centre at the Polytechnic University, Catherine Tang, was awarded a major grant for "The Constructive Alignment Project", to which I was appointed chief consultant.

That project supported the implementation of CA in a number of units in various departments across the Polytechnic University. This project later formed the basis for an institution-wide approach to teaching innovation using CA, and was the first institution-wide initiative in implementing CA in Hong Kong.

In May 15, 2006, the Chairman of UGC circulated a letter to all universities urging them to move towards implementing outcomes-based approaches to teaching and learning:

> The UGC's goal in promoting outcome-based approaches is simple and straightforward – improvement and enhancement in student learning and teaching quality.

In 2005, the City University of Hong Kong proposed a five-year plan to convert all teaching, some 2,000 individual units, to implement an outcomes-based approach with constructive alignment as the model. Catherine Tang and I were asked to be general consultants, giving workshops in constructive alignment and advising on how institutional procedures might need modifying. Support in different content areas was provided by subject specific consultants who were attached to the appropriate faculties and schools. By 2010, most units had been converted to CA in some form or another. Our work at City University and at other universities resulted in further refinements and extension to CA (Biggs & Tang, 2007, 2011).

Other Hong Kong universities are proceeding at their own pace and in their own way in implementing an outcomes-based approach to teaching.

4. Issues arising from this review and the way ahead

There are three major issues that I see arising from this review that have a bearing on future developments in tertiary teaching. The first is about constructive alignment itself: does it do what it claims, in terms both of enhanced learning related outcomes, and as a framework for thinking about teaching? The second addresses problems in implementing CA, or any innovation institution-wide, and the need to address the institutional culture. The third issue concerns quality assurance and quality enhancement. Quality assurance as originally conceived in education comes from the context of business, which brings with it a lot of baggage that is counterproductive in the academic context. Quality enhancement subsumes quality assurance and is an area where most universities have still some way to go.

Evaluation of constructive alignment

The first consideration, given the relatively widespread acceptance of CA, is: Does it do what it claims to do? Some think not. Jervis and Jervis (2005) claim that constructive alignment is simply a throwback to the bad old days of behaviourism and behavioural objectives because it articulates "predetermined" outcomes. Hil (2012) regards teaching to predetermined learning outcomes as "rigidification of teaching, ensuring conformity to the prevailing order." So what is the evidence: Does constructively aligned teaching lead to low level outcomes? Theoretically it shouldn't, unless of course teachers want their students to achieve low level outcomes. Outcome statements are designed by the teachers themselves, either alone or as a member of a unit or course committee, so the level of outcome is up to them to decide. In the design of ILOs and assessment tasks they are free to use open ended verbs such as "design", "create", "hypothesise", "reflect" and so on. Assessment tasks should also allow for students to present their own evidence that they have achieved the criteria in open-ended formats such as portfolios, which allows students considerable flexibility in demonstrating their learning. Such a design for teaching and assessment is hardly predetermined or rigid.

Several writers have mentioned the utility of constructive alignment: in teacher education (Brook, 2006), in computing science (Colvin & Phelan, 2006), in teaching physiology (Ladyshewsky, 2006), in designing e-learning (Lebrun, 2007), and in overcoming the heavy reliance of exams in engineering education (Nightingale et al., 2007). Cobham and Jacques (2006) found that reflective practice using constructive alignment achieved "a philosophical shift in faculty assessment and delivery procedures." Adawi et al. (2011) report a campus-wide project at Chalmers University where 35 courses were redesigned using constructive alignment as a conceptual tool that participants found useful. Noel Entwistle used CA as a general framework for assessing good teaching environments in sixteen UK universities in his Enhancement of Teaching and Learning Project (Entwistle, 2005).

CA is widely regarded as a key idea on postgraduate certificates in higher education and is used in many Australian universities for foundation courses in teaching and learning (Kandlbinder & Peseta, 2009)

The above reports rely on the users' judgment in evaluating CA. Several studies have used empirical data. Hodinott (2000) found that CA produced higher level outcomes in biology, but it also increased the workload for both staff and students. Boyle (2007) used an annual reflection process to improve alignment between unit aims in earth sciences and the delivery and

assessment of the unit with resulting improvement in student learning. Morris (2008) taught statistics in a constructively aligned design and found increases in mean marks in summative assessment, shifts to higher order cognitive demand in assessment tasks, and strong correlations between proportions of students reporting confidence in topic learning and exam performance: the students "know what they know and know what they do not know" (p. iii). Raeburn et al. (2009) report that in a study of online units in health sciences that were redesigned along constructive alignment lines, there were highly significant increases in student engagement and in positive learning outcomes. Moulding (2010), in social work, found that there was increased student satisfaction, but she notes that this seemed to be due more to the ILOs being related to the real world than to particular learning strategies *per se*. Larkin and Richardson (2013) found student evaluations and grades increased after implementing CA.

Moving from the classroom to the institutional level, McMahon and Thakore (2006) in a comprehensive review of higher order thinking and critical thinking in constructively aligned courses at University College Dublin, found that CA led to:

- greater standardisation leading to fairer and more reliable assessment. When assessment criteria follow from stated outcomes, decisions on how many marks are awarded are much easier to compare and defend.
- greater transparency leading to (a) easier and more accurate inter-university and international comparisons. (b) students being able to focus more effectively on the key learning goals.
- more effective evaluation of both modules and courses: given the outcomes, an evaluator can estimate how well teaching and learning strategies, content, materials, other resources and assessment procedures actually support students in achieving them.
- greater coherence in programmes of learning.
- an increase in the criticality and depth of student work.

(op. cit., p. 17).

These writers concluded that these benefits are not inherent in the outcomes-based model itself, but apply when constructive alignment is the organising principle.

Taylor & Canfield (2007) found that with increasing exposure to constructively aligned teaching, students' ratings along "good teaching",

"clear goals and standards" and "appropriate assessment" scales progressively increased. In our work at City University of Hong Kong, student focus groups reported that in constructively aligned units they were much clearer about what they had to learn and that they found the TLAs helpful and the assessment "fairer". In general, grades post-CA were higher than previously, which led some teachers to complain of "grade inflation". However, as the students had claimed that the TLAs were helpful, it seems likely that students were indeed learning more effectively thus earning higher grades. What these higher grades suggest is not grade inflation but grade *de*flation prior to implementing CA; in other words, grades based on the bell curve seemed to have been selling students short.

Wang et al. (2013), in an ongoing project implementing CA, compared units that had been using CA for at least a year with units that had just started using CA and found that in the high CA units students were significantly more likely to adopt deep approaches to learning and less likely to use surface approaches compared to students in low CA units, and that this effect was strongest in the most effectively aligned units.

In sum, constructively aligned teaching seems to produce high quality learning outcomes and student satisfaction. We now require larger scale controlled studies that directly relate constructively aligned teaching over several subject areas to a range of outcomes, including lower and higher order ILOs, student metacognition and independent learning, student satisfaction, approaches to learning and the extent to which graduate outcomes are being achieved too. Such studies might best be structured longitudinally, using pre-implementation measures as the baseline and relating any changes in these and other parameters to the progressive implementation of aligned teaching. Other aspects that need systematic investigation are the resource and other costs that are involved by teachers and institutions; what works well and what does not under what circumstances, with a view to deriving more effective implementation strategies.

Problems in implementing constructive alignment

The most important development since CA was first published (Biggs, 1996) is its incorporation into institutional teaching policy. This has come about largely because teaching quality has suddenly become a major concern of universities, while their statements of graduate attributes and emphasis on learning outcomes makes a good fit for outcomes-based designs such as CA. However, the successful implementation of any major teaching reform requires appropriate institutional support, which in turn may involve a

thoroughgoing overhaul of institutional procedures and priorities and of the culture itself. And here lie some difficulties.

One of the greatest problems is finance and attendant staff workloads, a problem exacerbated by the cuts of $4 billion to the tertiary sector over the past two years. Prior to the Dawkins reforms, student-to-staff ratios were of the order of 11:1. Today they are more like 30:1. An academic's workload is estimated as 50 hours a week, including fifteen class contact hours or more, time outside the classroom assessing student work, setting up compulsory blogs for student feedback and discussion and in attending numerous meetings, not including time for research (Hil, 2012). If these figures are indeed typical, little time (or motivation) is left for teachers to reflect on their teaching and to innovate. Teaching for quality learning takes time in preparation, in providing formative feedback to students and in qualitatively based summative assessment.

Another problem is teacher resistance to change. Some academics (Hil, 2012; Meyer, 2012) feel that teaching has been taken out of their hands and they resent it; particularly when they see the imposed system as contrary to their own views of teaching. However, there is now a shift from emphasising the individual skills of teach*ers* to teach*ing* as an institutional responsibility, not an individual one. If an institution has to raise standards across the board, particularly when meeting external agencies and guidelines such as those required by the Tertiary Education Quality and Standards Agency (TEQSA), the focus has to be on an institution-wide system of teaching and assessment: "teacher-proofing" the system, as it were.

Taylor and Canfield (2007) found that in their faculty-wide implementation of CA some of the resistant teachers were won over when they saw the positive results their colleagues were obtaining. The game was won when a positive teaching culture took over the whole faculty. An important part of any implementation then is to change the conceptions of teaching that teachers hold, the most basic change being one from a teacher-centred view that teachers have to transmit large amounts of information, to a learner-centred view that the teacher's role is to set the conditions so that students construct knowledge through their own activities (Kember, 1998). Such a conceptual change comes about from exposure to different views of teaching and more importantly from teachers finding out for themselves that the student-centred approach is more effective, particularly for higher order learning (see below).

Some quality assurance procedures require judging academics on key performance indicators, which is stressful and bad for morale (Hil, 2012). One issue is that full-time appointments and promotions are largely

determined by research productivity rather than by teaching quality. Thus, all but the most dedicated teachers will devote their energy to building their research profile in preference to improving their teaching. As in CA itself, the rhetoric and practical realities of teaching need to be aligned to the overall priorities of the institution.

Yet despite these problems, what some universities are achieving is remarkable. Many university-wide procedures for teaching and assessment are increasingly being based on the scholarship of teaching and learning. Most, if not all, Australian universities have teaching and learning development centres that provide support for systems-wide teaching enhancement, with requirements that new and in some cases continuing staff undergo training in teaching and assessment strategies.

For all this to work, leadership at all departmental, faculty and institutional levels is vital, with all leaders at these levels working cooperatively. In that way a supportive culture can be built up with all the structures supporting teaching and learning in place at each level working towards the same goal.

Quality assurance and quality enhancement

Initially, quality assurance comprised managerial assessments that operated retrospectively and were free of any theory as to what constituted effective teaching, focusing on such issues as library and other such adjuncts to teaching rather than on teaching itself (Liston, 1999). Later quality assurance procedures rely on assessing academics on key performance indicators, which can have poor consequences essentially because the business model of using KPIs does not apply to academe (Hil, 2012). The use of key performance indicators in the quality assurance of teaching plays the man, not the ball; KPIs take us back to teachers as the focus, not to teaching.

However, some quality assurance agencies are now concerned with theories of effective teaching. As Rust notes:

> Although the term 'constructive alignment' is not used, this kind of systematic thinking is exactly what the QAA (UK's Quality Assurance Agency) are looking for when they refer to: effective and appropriate measurement of the achievement by students of the intended learning outcomes (QAA, General principle 6).

> Departments mindful of the QAA requirements, and seeking to follow Biggs' principles, would therefore be well advised to do two things:
>
> 1. Require all course modules or units to follow this design model, and to ensure that all assessment tasks, and assessment criteria, clearly and directly relate to the learning outcomes.
>
> 2. Audit all their modules' or units' learning outcomes and map them against the subject's programme specifications, to ensure that all the programme specifications will have been assessed for any student successfully completing the course programme. (Rust, 2002, p. 148)

In Australia, national guidelines have been more conservative than in the UK, focusing on broad institutional and course outcomes, leaving what happens in the classroom up to each institution. The 2008 Bradley Review of the higher education sector in Australia led to the establishment of the Tertiary Education Quality and Standards Agency (TEQSA), which requires documentary evidence that standards have been met, in order to provide industry and the community with assurances of graduate quality. The Australian Qualifications Framework sets out a "taxonomy of learning outcomes" that attempts to define the criteria for learning outcomes for knowledge, skills and application of knowledge, for ten levels of postsecondary education: from certificates at level 1, through diploma, bachelors and masters, to doctoral level at level 10.

The Learning and Teaching Academic Standards (LTAS) Project, now under the aegis of the Australian Government's Office of Learning and Teaching, was established in 2011 to facilitate and coordinate definition of academic standards, with discipline committees setting the standards for degree levels. These standards are expressed as the minimum learning outcomes that a graduate of any given discipline must have achieved. Individual institutions determine the curriculum, resources teaching and assessment methods leading to the achievement of the minimum learning outcomes in their institution, leaving it open for them to set standards in addition to the defined minimum.

Some universities, such as the University of Tasmania, take this a stage further by focusing on the teaching and learning processes that led to the achievement of outcomes (Tasmanian Institute for Learning and Teaching, 2013). The UTAS assessment policy requires "a clear alignment between stated learning outcomes, the learning experiences provided for students, and the assessment tasks" (op. cit., p. 21): CA, in other words. Whereas in

LTAS the focus stops at course or programme learning outcomes (CLOs), leaving it to the institution to decide how they might try to achieve those CLOs, the UTAS model focuses also on teaching and assessment and the students' learning activities at the unit level, using constructive alignment as the model for teaching and assessment. The UTAS model is more in line with the Hong Kong and the UK QAA system, so that it is not just a matter of setting external standards, but of also introducing a means of achieving those standards.

An important issue that needs attention is a more decisive move from quality assurance to quality enhancement. We have seen a steady progression in this direction:

> from the concern with simply meeting minimal standards as in LTAS,
>
> to implementing a teaching system, such as CA in UTAS (with the neat title "LTAS@UTAS"),
>
> to establishing fully blown quality enhancement systems.

Edström (2008) writes: "course evaluation should be regarded as a component of constructive alignment, together with the intended learning outcomes, learning activities and assessment" (p. 95). Such formative evaluation, using feedback obtained from students, colleagues and from personal observation, gives information about the clarity of the CLOs, the effectiveness of the TLAs and assessment methods, in order to determine where there may be problems in teaching, learning and assessment. If the results are not as good as is intended, reflective practice or action research may be used to pinpoint any problems. How those problems may be rectified is achieved through reflective practice and action research using a theory of teaching and learning to generate alternative strategies of teaching or of assessment. Such a quality enhancement mechanism should ideally be built into the system from the outset (Biggs & Tang, 2011, pp. 284-301).

The quality enhancement (QE) mechanism should also reveal where there may be obstacles in the institution's administrative structures that impede CA from working properly. Such obstacles would include such things as stipulations or even only expectations that grade distributions should follow the bell curve, stipulations that may restrict choices of TLAs or assessment conditions, and policies in appointment and promotion that discourage teachers from spending time in innovating their teaching. Innovation is time-consuming, especially in the first year or so of design and implementation, and teachers should be given credit for doing so. Merit

points for teaching need to be put in place just as much as for research, given that teaching is what most academics spend most of their time doing.

In short, one issue that universities should be concerned with is the quality enhancement of teaching, which is an important step beyond the LTAS Project's aim of simply assuring minimal standards. Under such a straight quality assurance (QA) system, such as LTAS, what does an institution do if the standards currently reached in degree programmes do *not* meet the external minimal criteria? Without a QE mechanism, it would seem that the best that can be done is to blame those involved and order them to do better next time.

Whereas QA is reactive, QE is proactive. Further, QE subsumes QA, addressing problems as they arise and takes steps to prevent them, ensuring that teaching will be better in future.

5. Conclusions

The most important development in university teaching over the past few years has been the shift from teaching seen as an individual responsibility to one that the institution should assume in matters of assessment practice, overall teaching design, in accordance with the scholarship of teaching and learning. Recent institutional concern for benchmarking and defining outcomes, such as in LTAS and the statements of graduate attributes, provides an outcomes-based framework into which outcomes-based models of teaching and assessment readily fit, an unusual and happy coincidence between the demands of managerialism with constructivist approaches to student learning and assessment. My concern here has been with one such development, constructive alignment.

Despite cruel cuts to higher education in Australia, institutions have been forced to pay attention to the quality of teaching as never before. One very important step yet to be sufficiently addressed involves building in mechanisms for the quality enhancement of teaching. Equally, if not more, important is that institutions assess their priorities and adjust their internal structures and operational procedures accordingly, for example getting the reward systems in balance on the question of teaching *vs* research. However to pursue what that issue might entail might well involve different kinds of appointment or even different kinds of institution. I consider that problem, and more general projections into the future of tertiary education, elsewhere (Biggs, 2013).

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