



## Teaching for Quality Learning at Changing Universities. A tour de force of modern education history – an interview with Professor John Biggs

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### Abstract

Professor John Biggs is a world-famous psychologist and educationist who in 2017, was invested as a Member of the Order of Australia (AM) for "significant service to tertiary education, particularly in the fields of curriculum development and assessment". John Biggs has been actively involved in education for six decades and has been a Professor of both Education and Psychology. Professor Biggs' most ground-breaking and innovative contributions – such as SOLO taxonomy, constructively aligned OBTL (Outcome-based Teaching & Learning), criterion-referenced assessment and students' surface and deep approaches to learning – are all discussed in this wide-ranging interview. Moreover, Biggs discusses his illustrious academic career, his concerns about the corporatisation of universities and his alternative vision of higher education, and also what he refers to, tongue-firmly-in-cheek, as his "constructive but misaligned retirement".

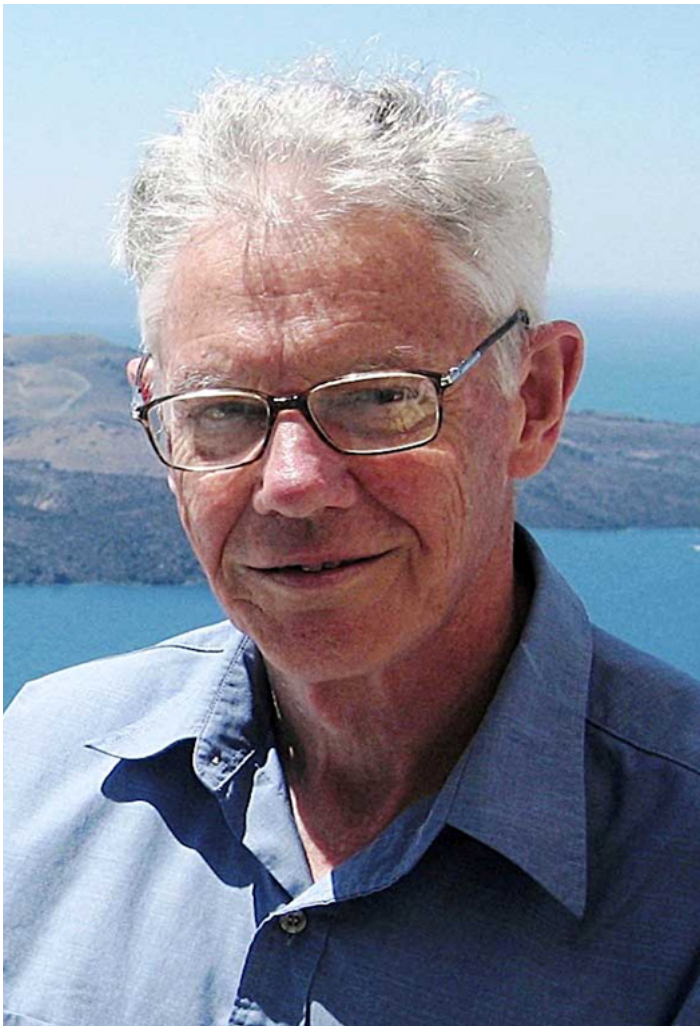


Figure 1: John Biggs.

**Eds.:** Professor Biggs, thank you so much for making yourself available via an email interview. For both of us, you are one of our great heroes, and we feel tremendously honoured by the occasion. We are huge fans of your seminal book *Teaching for Quality Learning at University*. So much so that when Chris was at a former institution, the International College of Management, Sydney (a partner of Macquarie University), as part of his induction as Adjunct Faculty to the School, he had to partake in Macquarie's excellent Principles of Learning and Teaching programme, a programme which bore your work's footprint strongly. And when Jürgen did a Specialist Diploma of Applied Learning & Teaching at Republic Polytechnic in Singapore, *Teaching for Quality Learning at University* was referred to as the 'bible', and when he took an M.Ed. from the University of Adelaide in Singapore, again your book was one of the few that he purchased — and it turned out one of his best book buys ever, as he has, to the best of his abilities, attempted to apply much of it in his work.

We very much enjoyed reading your academic memoir *Changing Universities*. It is a riotous read and we had to laugh at many occasions. As you write yourself, your rich experiences across four continents at seven universities "range from the traumatic, through the hilarious, to the highly rewarding". In your academic autobiography, you describe your experiences at the University of New England (which you have characterised as "pretentious foolery"), Monash University (where you experienced an "academic

vacuum"), and as Professor of Education and Dean of the Faculty of Education at the University of Newcastle (your verdict was that by the 2000s, the University of Newcastle had exhibited a "culture of bullying, lying and cover-up" that "had become endemic to the institution". When you compare your various experiences at Australian universities, what are your views of Australian universities through the years and at present?

**Prof. Biggs:** I wouldn't want to generalise from my personal experiences to the system as a whole. But let me say first why I wrote as disparagingly as I did. Monash was an academic vacuum for me personally because in my haste to get out of UNE [University of New England], I had found myself in what I was told was a research post but in fact it was keeping student statistics in Administration: not my thing at all. Monash itself was young and very vigorous at that stage in the late '60s. My experience, and more so the experiences of others, at the University of Newcastle is a long story of a weak Vice Chancellor and a very strong Deputy VC who ran the show with amazing incompetence. Specifically, he tried to stave off amalgamation with the Newcastle CAE [College of Advanced Education] by handing over our teacher education programme to NCAE [Newcastle College of Advanced Education] without consulting the Faculty of Education. That created uproar through the university. So did several cases of plagiarism where, believe it or not, the plagiarists (one staff and several students) were rewarded and the whistle-blowers brutally marginalised, resulting in court cases that the university lost. That was during the best phase of Australian universities (see below), but as always one rogue gameplayer can wreck a good system.

But to the general picture, Australian universities went through three phases. Phase 1 took us up to 1957, when universities were state-owned and run, with very varying results. Tasmania where I studied until 1956, was a shambles, run by local businessmen and lawyers who saw it as "their" university and dictated academic matters to the professorial board who revolted. Things were so bad it led to a Royal Commission in 1954.

The best thing Prime Minister Menzies ever did was to commission the Murray Report which led to Phase 2: a national system in which universities were to expand, their function to teach and to conduct "untrammelled" research to discover knowledge for its own sake, and staff were to be social critics within their areas of expertise. This phase saw Australian universities at their best (except Newcastle), although as noted I was irritated by the pretentious aping of British universities.

Phase 3 started in 1988, when Universities and colleges of education (CAEs) were merged, all called universities but with a CAE management structure and CAE funding levels, which made it necessary for fees to be re-introduced. Thus began the corporatisation of universities, which has been greatly increasing under successive neoliberal governments. Universities today are businesses, run by managerial types who may or may not have a strong academic background. Staff have to toe the line, meet Key Performance Indicators and are placed on contracts to make sure they do what they are told. Displease the powers-that be and your contract

might not be renewed. Research is to feed into industry and the Minister of Education has rejected grants for funding for interest driven research, as I explain later. Thank God I went to Hong Kong University when I did, and when I retired seven years later, I became a private consultant on teaching & learning issues.

**Eds.:** When compared to your experiences at some of the Australian universities, you had a much more positive experience at the University of Alberta, where at the young age of 38, you were appointed as a full professor, without even applying?

**Prof. Biggs:** Correct. At that time, the University of Alberta was quite rich from oil royalties but even more important, the Canadians generally respected education much more than Australians did. They trusted academics to get on with their job with few constraints and with lavish resources, and if you did well, you were promoted. There was little of the pretentious carry-on that had so irritated me at New England and later at Newcastle. Canadian universities were so sensible. In the long summer vacation they didn't stand empty as Australian universities did, but held summer sessions for older students, which meant staff could get extra pay and travel to other provinces. I went to the Universities of Victoria on Vancouver Island and to the University of British Columbia combining business with holiday.

**Eds.:** You describe a summer session at the University of Victoria as your "best".

**Prof. Biggs:** Yes, best in the sense of most interesting. It was in 1971, when Americans who didn't want to be packed off to the totally immoral Vietnam War, were readily accepted into Canada by PM Pierre Trudeau (the current Canadian PM's father). They were a radical lot, into Ivan Illich's idea of "deschooling society". I had the challenging job of educating future teachers who didn't believe in formal schooling to operate in a formal school system. I was teaching psychology, or "head shit" as they called it. So I gave them their head: their work was to research a chosen topic about schooling that an individual was interested in, using psychological concepts in discussing that topic. They loved it and we had a great and fruitful time.

**Eds.:** As somebody who has always been open to innovation in education, you appear quite positive about this experience, when you write: "The whole philosophy of alternatives to formal schooling, the wild side of hippiedom, the counter-culture inhabited by these draft dodgers, were eye-openers" (Biggs, 2013a)?

**Prof. Biggs:** Yes that sums it up. To a staid Australian the North American experience in the Age of Aquarius was very stimulating, to say the least.

**Eds.:** Your world-famous SOLO (Structure of the Observed Learning Outcome) taxonomy of learning was first introduced in *Evaluating the Quality of Learning* (with Kevin Collis) in 1982. Why did you decide to come up with an alternative taxonomy (as compared to the ones by Bloom and Anderson) and where do you see the differences?

**Prof. Biggs:** It started with Collis's work in seeing how children at different Piagetian developmental levels performed in different school subjects. However, the structures displayed by children in those contexts were found by Swedish researcher Ference Marton in students' different understandings of university level subjects (he had a different system of classification he called "phenomenography"). Similar structures can also be found when infants learn at sensorimotor levels of development. That is, the same structures occur during learning in infancy, in primary and secondary children and in adulthood. What Collis originally saw as stages in development, I saw as stages in learning at almost any level and in any content. Basically, the pattern is that unsuccessful attempts to learn I called prestructural; then one aspect of a learning object is acquired (unistructural), then several unconnected aspects (multistructural), then those aspects became integrated (relational: you "get the picture" as it were), and finally that integration may be generalised to a new level of abstraction, such as solving an unseen problem from first principles (extended abstract). Here was a hierarchical taxonomy of increasing complexity that occurs during learning, based on studies of people learning different content. I have used SOLO in two ways: as targets for learning, and for assessing the level of learning achieved.

You can distinguish *verbs* that correspond to each level in the hierarchy: for example, naming and identifying are examples of unistructural verbs; describing and listing of multistructural verbs; explaining and integrating of relational verbs; and hypothesising and solving unseen problems are examples of extended abstract verbs. Note that *all* levels can be described as "understanding": but *different levels* of understanding. Thus, when we say proudly we teach for "understanding" the reply is: Of course you do, but at what *level* of understanding, eh?

SOLO levels are very useful in settling curriculum targets. The verb you choose identifies the *level* of understanding desired, and the object of the verb the content area or topic. Thus, "explain" is a verb that takes an object: Newton's first law of motion, say, if that is what you want your students to learn. "Apply Newton's first law of motion to kicking a football" can be an intended learning outcome. How well the law has been applied becomes the assessment.

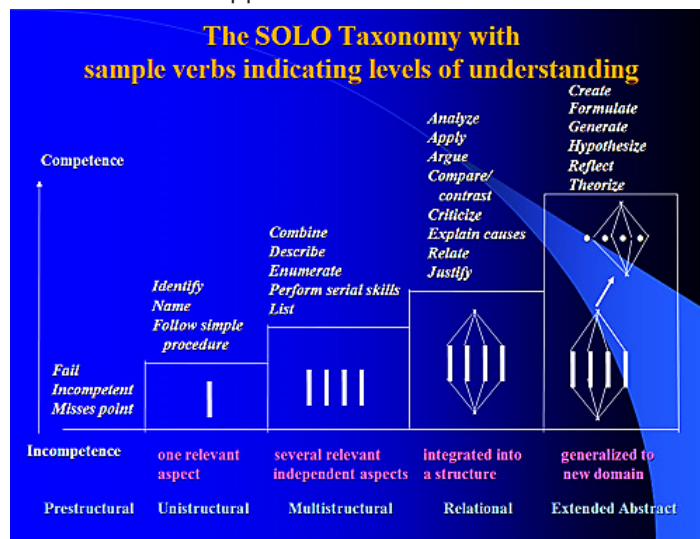


Figure 2: SOLO Taxonomy.

The original Bloom taxonomy was not based on research on student learning, as is SOLO, but on the judgments of educational administrators; it is not hierarchical, as is SOLO, and is therefore not a true taxonomy. Anderson and Krathwohl's revision is an improvement over Bloom's original, but their term "understanding" can be applied to virtually any of the SOLO levels.

**Eds.:** Still on SOLO, it is a taxonomy Chris has used in all three institutions in which he has worked. Yet reading your works now makes us see that the pressure to ensure the outcomes (knowledge-centred rather than a means of playing out institutional politics or serving other masters) are the right ones is even more crucial. Who should set outcomes and how should they go about it?

**Prof. Biggs:** A huge question. Institutional outcomes are usually stated as graduate attributes like creativity, problem solving, critical thinking, ethical dealing, and so on – general attributes that should be applied to all programmes. Such graduate attributes then tell teachers of units in the programme to require creativity, critical thinking etc in their intended outcomes where appropriate. That is the upside of graduate attributes, but I think there is a lot of BS about attributes: in some universities they become advertising slogans with universities trying to outdo their competitors like selling washing powder ("ours washes whiter ...").

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Who sets the outcomes? In large classes there should be a team who sets the outcomes and who agree on methods of teaching and assessment. I have been lucky: in my day the teacher was usually free to make these decisions – academic freedom, you know – but I don't think that's how it goes today. Professional associations have an input in courses like pharmacy, medicine, architecture and so on, which can be useful in keeping graduates in touch with professional needs. However, sometimes the relevant people in the profession giving advice do so from their own educational background of some years ago and they can be a drag on innovation. Within institutions, there is often a great deal of bureaucratic control over assessment procedures particularly, including grading on the curve (with the absurd claim that it maintains standards) and a proportion of final assessment to be by invigilated exams in order to minimise plagiarism.

How do you design intended outcomes? That's quite a detailed issue, but the basic pattern is simple: use a verb that indicates the sort of level you are after and then describe the content you want the verb to apply to. For some outcomes it might be simply a matter of listing: "List the most important points contained in the Declaration of Independence" which is a multistructural level. "Why did Jefferson and his colleagues think it necessary to proclaim the Declaration of Independence?" Ideally a response to this could be relational or extended abstract.

**Eds.:** We would like to request that you discuss assessment. You advocate portfolio assessment, and in *Changing Universities*, you have a beautiful quote from one of your former students (Cheung Chi Ming):

"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 pearls, my jade, and my amethysts" (cited in Biggs, 2013a).

You also write that you see "final exams as damaging" (Biggs, 2013a). In the same book, you also discuss a capstone projects for final-year undergraduate students, called "Practical Wisdom" "in which they are required to reflect in the broadest terms on what they have achieved over the whole of their university studies that hopefully would lead to a lifelong pursuit for the getting of wisdom". Of course, your seminal *Teaching for Quality Learning at University* discusses assessment in Biggs and Tang (2011). Any advice on setting meaningful assessments?

**Prof. Biggs:** The short answer: Read Chapters 10, 11 and 12 in Biggs and Tang! That quote from my student says it all. There are more valuable and relevant things that are learned than can be assessed in a final exam. So how do we find out the richness and value of what students have learned? Ask them. Tell them what the criteria or rubrics are for good learning in the unit in question, which is one case where SOLO is useful, and place examples in a portfolio and explain how they meet the criteria for the course. This is a demanding task, requiring them to reflect on their learning and how good they think it is. It is also demanding on the teacher in assessing a number of portfolios but that is another question. An assessment portfolio is rather like a job application: You put together your best work and explain why you think it is your best.

Meaningful or authentic assessments, as they are sometimes called, assess what it is the students are supposed to have learned. Simple as that. Final exams are rarely authentic in the sense that they can neither assess much of what students have learned, especially at the higher SOLO level outcomes, nor replicate the context in which they will eventually perform their learning. Multiple choice tests are obviously inauthentic. Their best use is that they can tell you if a student was present – and awake – when a particularly topic was dealt with in class.

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Just a brief aside about norm-referenced assessment which used to be the go but is less common today (I sincerely hope). That is "grading on the curve", as if it is a natural law that a few students will do very well, most will fall in the middle, and a few will do poorly and so you allocate As, Bs Cs Ds and Fs, by comparing proportions of students with each other – which entirely misses the point of what

students have learned and how well they have learned it. But that assumes that when students are selected for university they are normally distributed within a class. Of course they are not. I'm still baffled that grading on the curve was so popular and still is in some institutions. In any case, good teaching beats the so-called normal distribution of ability. Norm-referenced assessment is appropriate when trying to select students for competitive purposes, like awarding scholarships, but that is not what we are trying to do in ordinary class work. Trying to find out who is better than who else is not only irrelevant, it can be damaging.

Assessment is part of the educational system and can't be adequately discussed as separate from the whole teaching/learning process. That said, students learn what they perceive will be in the assessment, rather than what is in the curriculum. This has long been perceived as a problem. However, if we ensure that students are assessed on what we want them to learn, that problem becomes the solution. In what I call a constructively aligned system of teaching, the intended learning outcomes of a unit are defined in terms of what students are to do with the content learned. Teaching involves students in learning activities appropriate to achieving those outcomes, and assessment tells us how well students do so. It is important then to define upfront the outcomes intended in teaching a unit and to align teaching and assessment accordingly. Thus, constructive alignment is the context in which assessment should be discussed.

When students attend lectures, however, their main activity is receiving, not doing. CA [constructive alignment] differs from traditional teaching in that it points to the need to devise Teaching/Learning Activities (TLAs) that require students to apply, invent, generate new ideas, diagnose and solve problems, or whatever other things they are expected to be able to do after they graduate. Similarly, we need Assessment Tasks (ATs) that tell us, not which students are better than others, not even how well students have received knowledge, but how they can use it in academically and in professionally appropriate ways, such as solving problems, designing experiments, or communicating with clients.

Outcomes-based teaching and learning, of which constructive alignment (CA) is one form, is based on such questions as: What do I intend my students to be able to do after my teaching that they couldn't do before, and to what standard? How do I design and implement learning activities that will help them achieve those outcomes? How do I assess them to see how well they have achieved those outcomes?

CA starts with clearly stating, not what the teacher is going to teach, but what the outcome of that teaching is intended to be. This is expressed as the Intended Learning Outcome (ILO), which is a statement of what the learner is expected to be able to do and to what standard. Each ILO contains a verb – such as *explain* Newton's First Law of Motion – and that verb tells you what learning activity the student is to engage: in this case, explain. Usually the teacher does the explaining, but in CA we should get the students to do the explaining. We could get them to use a set of rubrics for the various levels of a good explanation and then get the student to explain to, and assess, each other against the rubrics for a

good explanation. Usually, of course, the teacher does the explaining and then hopes that the students will reach the desired level of understanding. No. The students should do it and be given feedback on the quality of their explanations.

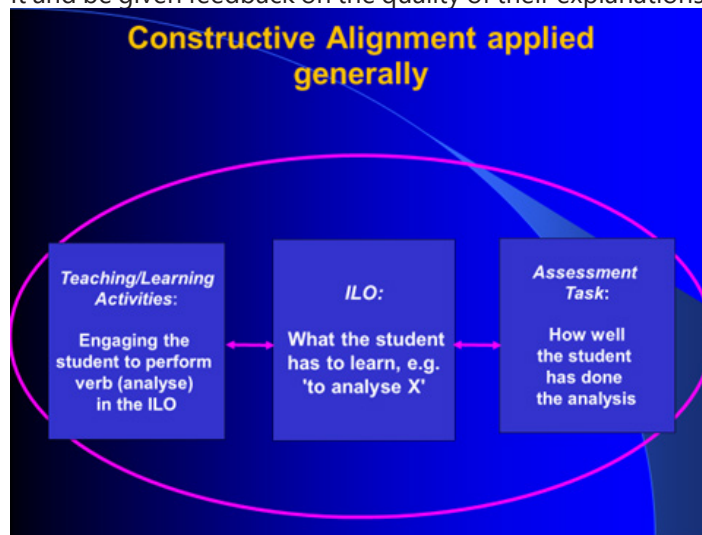


Figure 3: Application of Constructive Alignment.

**Eds.:** You have said that the root problem of universities is that they are structured like an oligarchy (Biggs, 2013a) – variously, this unfortunate development of institutions of higher education has also been described as the neo-liberal corporatisation of universities and managerial feudalism. What do you see as the purpose of universities and what would it take for them to become better at fulfilling their actual purpose?

**Prof. Biggs:** I said the University of Newcastle in the 1970s – '80s was structured like an oligarchy when it shouldn't have been in the Phase Two university. Today, they are deliberately structured as oligarchies – literally a rule by the few – the few being the corporate managers with their strategic plans and KPIs stuffed into their pigskin briefcases. Academic decision-making bodies, like faculty boards and professorial boards manned by elected academics, used to steer the academic ship, but no longer.

What is the purpose of universities? We need to rethink where we are with respect to higher education. The new university would also need to be an agent for changing society by educating students so that they can think at a meta-theoretical level, enabling them to challenge the linear paradigms that lock us into unsustainable policies. That is not what existing universities are doing while they are in managerial mode, where the order of the day is to put in place online strategies for cost-effectively achieving managerially imposed institutional outcomes. No radical ideas, please.

I am not recommending a return to Phase 2 universities. Students emerging from Phase 2 universities have their paradigm-busting potential nested in the highly specialised areas in which they did their PhDs. This is of course highly desirable in itself but we need to go further than that: to operate at an extended abstract level across a broad front, to put it in SOLO terms. In present day society, while some specialists continue in one career path throughout their professional life, many change their career paths frequently.

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Years ago, Vice-Chancellor Steven Schwartz of Macquarie University proposed that final year students do a capstone course, called 'Practical Wisdom', in which they reflected in the broadest terms on what they have acquired over the whole of their university studies. Schwartz thought this could lead to a lifelong pursuit for the getting of wisdom. One final year project is obviously not enough, but it suggests the kind of approach that might encourage the sort of broad, extended abstract thinking that needs to be fostered. The needs, financing, administration and governance of institutions designed to teach professional and vocational courses are one thing. The needs, financing, administration and governance of institutions in which research and teaching not only in the basic disciplines, but for addressing problems requiring multidisciplinary approaches, and in which the role of academic as social critic is deliberately fostered rather than suppressed, are very much another.

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**Eds.:** You seem to advocate open-access publications when you write: "The search for knowledge and knowledge itself should belong to all of us for the benefit of humankind, and not for the benefit of someone in order to make money out of it" (Biggs, 2013a)?

**Prof. Biggs:** Absolutely. Menzies' Murray Report nailed it with "untrammelled" research, that is research that is untrammelled by commercial interests or government interference, and is designed to open out a storehouse of knowledge. That is what universities were for and should be still. However, corporatisation has meant running an academic institution on monetarist values. It just doesn't work well.

Thus, when powerful corporations commission research, they do not do it to be altruistic; they want a particular result. Hence, academics hired to carry out contract research for large corporations are under pressure to produce the desired results if they want their funding to continue. The outcomes of that research are all too often "commercial-in-confidence", which means that the patents are owned by the company and that academics may not publish that research. This privatises what would otherwise be public knowledge, whereas building upon public knowledge is what universities are theoretically there to do. The search for knowledge and knowledge itself should belong to all of us for the benefit of humankind, not for the benefit of someone in order to make money out of it. Knowledge, and the research that produces it, should be people-proof, it needs to be published so that it is replicated, and either disconfirmed, or confirmed and extended. If it is locked away we are all deprived. Yet universities have been known to discipline academics who offend powerful sources of funding by publishing results of their research.

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Perhaps even worse is when politicians censor funding of research grants. In 2017, the Australian Research Grants Council funded through peer review 11 research grants but the Minister for Education, Simon Birmingham, cut their funding saying that most Australian taxpayers would prefer their funding be directed to other research. All the dropped projects were in the humanities. Birmingham thought that publicly funded research should address industrial needs only and that research into the humanities, history, arts and the like was a waste of resources. In one hit he'd undermined confidence in Australia's world-leading peer review system, and had incalculable effects on the lives of not only those academics involved but throughout the system. Minister Birmingham and many governments in general simply have no idea of what universities should be about. Neoliberalism has reduced everything to money. Civilization is about more than money, much more.

**Eds.:** Your wife Dr Catherine Tang has identified "deep memorising" (or meaningful memorisation) as a standard practice amongst ethnic Chinese students (Biggs, 2013a). Deep memorisation involves reflective repetition in learning anything complex. As the majority of our students here in Singapore are ethnic Chinese, this sounds like an important observation to us. You have also referred to the "paradox of the Chinese learner" and the "multiple paradox" of approaches to learning of Asian students (Biggs, 2013a, chapter 13; Watkins & Biggs, 1996). Could you please elaborate?

**Prof. Biggs:** The paradox is simply that according to western ideas of good teaching – and we are talking about 20 years ago – Chinese and to a lesser extent, classrooms all over the Confucian heritage (that is, Singapore, Hong Kong, South



Figure 4: Dr Catherine Tang in Budapest.

Korea and Japan at least), classes were fierce and crowded, teaching seemed to emphasise repetition, rigid discipline and reproduction of content in final exams – all instances of what was thought to be inimical to good teaching and learning. Yet in international comparisons particularly, and not only in maths and science, CHC [Confucian heritage culture] students were way ahead of western, with the exception of Finland, which on the other hand had excellent learning environments by western standards. Likewise international students in Australian and other western countries cleaned up first class honours – and they couldn't do that by sheer rote learning and regurgitation.

There are several factors involved in explaining this apparent paradox: good learning in supposedly bad teaching environments. In CHC cultures, education is afforded a much higher value than in the West, students are pushed hard by parents, it has even been suggested that Chinese students are simply born brighter but I don't accept that myself. But the factor you are referring to, deep memorizing, is certainly part of the reason for CHC success. An Asian aphorism says that "repetition is the route to understanding" but that is true anywhere. You won't get a deep understanding of a Mahler symphony on one listening, or even one sitting through a complicated movie. You get something more at each repetition – or you do if you are reflective while doing so. This is partly cultural. For example, the US curriculum in maths was described as "a mile wide and an inch thick" – and US students were near the bottom of the pack in international studies. Coverage is all important to many western educators – but as one US psychologist, Howard Gardner, said "coverage is the enemy of understanding". So that urgent push by teachers "I've got to cover that!" is counterproductive.

In Japan, on the other hand, a teacher can spend an hour or more drilling down on a mistake made by a student, until all understand. In China's crowded classrooms, excellent teachers are picked out to give workshops to their fellows,

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students are encouraged to think internally and not just jot down quick notes. Repetition with a focus on meaning, is not just repetition in order to rote memorise. But of course, rote memory has an important role to play: you can't learn a language or scientific terminology without rote memorisation, but there's more to it than memorization pure and simple. Western observers seeing Asian students repeating material over and over mistake that for rote memorization when much of it is not.

David Watkins and I edited a book, containing our contributions and those of others working in the field, called *The Chinese Learner* (1996) and *Teaching the Chinese Learner* (2001) which summarise the work on this up to the end of the last century. I have to add that it is 20 years since I was working in this area so I can't say how the study of Asian students has developed since.

**Eds.:** Singapore's post-secondary education landscape appears to be headed for a conflation of pre-employment training (higher education) and continuing education and training (CET's for professional development). This is evident through the mandatory formation of CET centres in the public polytechnics and universities. What might the implications be for curriculum design under such a convergence?

**Prof. Biggs:** Sounds good to me. In Australia, for some reason – almost certainly to do with cost saving and forcing paying students through the fast expanding university sector – we have wound down vocational and technical education and broadened university courses to take in some of the technical content previously taught in technical colleges. A massive mistake, leaving us with a dire shortage of technicians and apprentices and overcrowded and downgraded universities. Your question of implications in Singapore for curriculum I couldn't possibly comment upon, except to state that educational institutions should do what they are good at.

**Eds.:** While browsing your website (<http://www.johnbiggs.com.au/>), we realised that you have been incredibly prolific also in other areas in what you have called "a constructive but misaligned retirement". You have also published six novels, a collection of short stories, and a socio-political history of your home state Tasmania. Could you please tell us more about these works and how the creative process differs or indeed does not from your academic work?

**Prof. Biggs:** Yes, I have long held a desire to write fiction but was always too busy to do much about it until I retired. I've written in a variety of genres: romance, sci-fi, history, politics. In *The Girl in the Golden House*, for example, I wanted to express appreciation of Hong Kong and its people (and one person in particular) and so I wrote sympathetically about

the terrible trauma Hong Kong people went through when they realized that their shortly-to-be-rulers had perpetrated the Tiananmen Square Massacre. Accordingly, I wrote in the first person, present tense, in the voice of a young Chinese lawyer to give an impression of immediacy. Pauline Hanson, a notoriously racist Senator in Australia, inspired *Disguises*, did she but know it; I imagined how a teenage Australian-born Chinese girl, who sees herself as thoroughly Australian, would feel at being told: "Go back to where ya come from!" She tries to be as Australian as possible, which alienates her from her family: a sad but common story with second generation immigrants. *Tin Dragons* stemmed from stories told by my family: I knew that part of NE Tasmania well. It is about Chinese tin miners in the late 19th century who longed for love as well as hard fought for riches. *Ashes to Ashes* is a family saga about a school teacher in NSW who goes through the life cycle of solving, only sometimes successfully, the life tasks that face people in different phases of their lives. (It also contains the male teacher's nightmare: finding that the pickup of last night is a student in his new class). I wrote this one because I had spent years in teacher education in Newcastle where I picked up a lot of stories, most second hand (as was the last unsavoury incident!).

Each of these novels – and a couple of others – came out of my general experiences. Experience and hearsay are bricks which you put together to make build your story. I am impatient with people who try to read autobiography into my stories, or "that's me you're writing about. Take it out!" (which I have been accused of). About halfway through my first novel I found I had dropped any tendency to write in academic-ese. Sentences became shorter and not qualified with such things as "It would therefore follow that ...". When writing in different genres I find I tend to adopt the style of that genre. With experience it happens. Characters also emerge that I've not based on anyone at all; they just happen. The story demands a certain character and up they come.

*Tasmanian Over Five Generations: Return to Van Diemen's Land?* is a social-political history of Tasmania as seen through the eyes of five father-son generations of the Biggs family. It starts with Abraham Biggs, who arrived in Van Diemen's Land in 1833 to preach temperance to the convicts (unsuccessfully), and ends with me. This is not a family history so much as a ground level look at Tasmania's political progress, or otherwise, over 180 years. I left Tasmania for nearly 40 years after I'd graduated, and when I returned I found a tapestry of Byzantine complexity: an overheard conversation about a pulp mill that later split the State destructively, attempts to quell public protest with lawsuits, a shredded letter here, ministerial heads rolling there, governments legislating against the public interest for the benefit of the already rich and powerful. My forefather Abraham, I thought, would experience *déjà vu* in present day Hobart: and hence the subtitle of the book.

The creative process is different in fiction but somehow similar to the way I worked academically. I wasn't a hardnosed hypothetico-deductive scientist, as I worked inductively. I once thought I could apply psychology to education, after all both are about learning, but it doesn't work like that. SOLO and CA (Constructive Alignment) both arose out of

the practical context of the classroom. I like to see simple connections between things that once pointed out seem so obvious. For example, Piagetian stages of development morphed into increases in complexity during the process of learning. Constructive alignment is an extension of learning to drive a car. ILO: To drive a car to a given standard. TLA: Driving a car. Assessment: Has the required standard been met? In fact, almost all everyday learning is outcomes-based and constructively aligned when you think about it. It has only gone strange in institutions, where we lecture about things rather than engage students in constructing knowledge.

So in fiction, the process tends to be inductive once you have got your bearings. The context, the plot, the situation, demands characters who behave in believable ways that drive the plot forward, and so on. Very rarely is the plot worked out at the beginning and then logically unfolds.

I also like writing travel stories, lavishly illustrated, that I put up, along with much else, on my website: [www.johnbiggs.com.au](http://www.johnbiggs.com.au)

**Eds.:** As somebody who has been actively involved in education for six decades and who has been a Professor of both Education and Psychology, what do you consider your most important contributions? Some obvious candidates would be the SOLO taxonomy, constructively aligned OBTL (Outcome-based Teaching & Learning), and criterion-referenced assessment.

**Prof. Biggs:** Yes, SOLO and constructive alignment, but also students' surface and deep approaches to learning which we have barely alluded to here. Approaches to learning are all part of the system comprising SOLO and CA. Let me start with Susan and Robert.

Susan is academically committed; she is bright, interested in her studies and wants to do well. She has clear academic or career plans and what she learns is important to her. She comes to the lecture with sound, relevant background knowledge, possibly some questions she wants answering. In the lecture, she finds an answer to a preformed question; it forms the keystone for a particular arch of knowledge she is constructing. She reflects on the personal significance of what she is learning. Students like Susan virtually teach themselves; they do not need much help from us. She has a deep approach to learning.

Robert is at university not out of a driving curiosity about a particular subject, or a burning ambition to excel in a particular profession, but to obtain a qualification for a decent job. He is less committed than Susan. He has little background of relevant knowledge. He comes to lectures with no or few questions. He wants only to put in sufficient effort to pass and obtain that meal ticket. Robert hears the lecturer say the same words as Susan is hearing but he doesn't see a keystone, just another brick to be recorded in his lecture notes. He believes that if he can record enough of these bricks and can remember them on cue, he'll keep out of trouble come exam time. He has a surface approach to learning.

The trick is to get Robert involved in a similar way to Susan.



This is where CA comes in. The Teaching/Learning activities in CA require Robert to enact the verbs that Susan uses spontaneously: he is required to question, to reflect, to apply, to question, instead of taking down notes to remember. Maybe he will not do quite as well as Susan, but he will do better than he had in the past. Several studies done by me and many others (Google "constructive alignment" and see Chapter 13 of Biggs and Tang) have shown that, using my Study Process Questionnaire or any similar one, pre/post studies indicate that students have lower surface and higher deep scores after being taught using constructive alignment. However, the effect is usually restricted to their approaches in the subject being taught; it doesn't necessarily generalise to the way they approach other subjects. These approaches to learning are thus contextual: Susan may well adopt a surface approach if she has to do a subject she is not interested in.

**Eds.:** Would you have any advice that you could offer to teachers / tutors / lecturers / professors who are involved in higher education today? Specifically, how can we be more reflective practitioners?

**Prof. Biggs:** In a word, use constructive aligned teaching, which is about being a reflective practitioner. However, that may be difficult if you have a huge class, a heavy teaching load, scrambling around trying to get the number of publications the KPIs demand, attending those meetings and online activities you are now required to do. In *Whackademia*, Richard Hil deplores the massive workloads young academics have to shoulder; he notes that the stress rate of academics is as high as 70% whereas it is more like 10% in the general workforce.

So my advice is rather to the CEOs of universities: for God's sake and for the sake and sanity of teaching staff, make your institution one in which innovative teaching is welcomed and made possible, where staff and students find it a pleasure to work in. For good teaching and learning is a pleasure, or should be. Run your institution in the interests of good teaching and learning, and untrammelled research, not as a ruthless business.

***So my advice is rather to the CEOs of universities: for God's sake and for the sake and sanity of teaching staff, make your institution one in which innovative teaching is welcomed and made possible, where staff and students find it a pleasure to work in.***

**Eds.:** Is there anything else that you would like to share?

**Prof. Biggs.** I think I've said enough! But thank you for the opportunity.

**Eds.:** Thank you so much!

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