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Trust on the Mountain of Truth

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Enter “Business Honesty” in a search engine like Google, and you will find literally millions of references. Adding “Academic” only reduces the number to something approaching two million, many of them referring to Central and Eastern European universities (e.g., Fike & Philips, 1993; Lee and Trimi, 2004). So intellectual honesty is a hot topic, on which Western teachers are tempted to moralize when they come to work in the former Soviet block. But when a student *able* to answer an examination question helps a comrade who badly *needs* to answer it, would Marx not have commended them both? And is Marx here so far away from “doing unto others as we would have them do unto us”, as we teach in the West? And is such mutual support more deplorable than when one student destroy another’s notes, or gets him (more rarely. her) drunk on the eve of an examination, as has been known to happen in some prestigious institutions in the competitive, capitalist West?

In the Cold War, each side employed the latest technology to outwit the other. Now in both East and West, we teachers often seem determined to use technology to outwit our students with the same determination as we presume them to want to outwit us. Sure, there have been academics brave enough to plead “*Forget about Policing Plagiarism. Just Teach*” (Howard, 2001). But the anti-plagiarism industry remains on a roll. Academic achievement is still too often likened to a zero-sum game like football, and too rarely to a win-win recreation like mountaineering. Is it too whimsical for us teachers to compare ourselves to Swiss guides, leading up the Mountain of Truth those who may lack experience, but who are often fitter, physically and intellectually? And when our charges are faced with moral risk, we surely owe them the duty “to lead them not into temptation”? This paper will make two suggestions on how we can help achieve such ideals.

- 1) The first is that, when we ask students to write essays, we should concentrate on the process, not on the product. Yes, that last clause was plagiarized, as no doubt a procedure like TurnItIn* would demonstrate! But the central idea has been practised for centuries in the older English universities, and no doubt elsewhere. Your traditional Oxford undergraduate is told by his/her tutor “Write me an essay on how far the death of Thomas a Becket can be compared to that of Princess Diana. “*How long? And when by?*” “Oh, about a thousand words, and by the end of next month. But bring me a draft next week“. “*A gift*” thinks the student, until next week arrives, when he is asked to read his draft aloud against the suppressed giggles of a fellow student and under the silent but all-too-legible grimace of his tutor. With each successive week the task seems ever more impossible, but by the end of term the student has had an unforgettable educational experience, and sometimes achieved an essay worthy of a refereed publication. Of course, compared to most universities, Oxford has exceptional intellectual and material resources, but newer institutions have shown themselves more



ready to embrace information technology. This is for the better only if teachers view the search engine not as a weapon to defeat the plagiarizer, rather as a tool which their students can use to identify relevant and recent support material with an efficiency undreamt of fifty years ago.

- 2) The second suggestion is at a lower level, but probably more original. Proctoring, or invigilating as we say in the UK, is the least satisfying of a teacher's responsibilities, and with growing student numbers it is ever more difficult to stop students cheating by examining them simultaneously in well-spaced, closely-patrolled rows of desks. But if we devise examination questions like....

"For the five observations indicated, (a) 74926 (b) 58362 (c) 03725, calculate the mean, median, and sample standard deviation".

Or

"Discuss the relevance to life in the 21st century of the one philosopher indicated (a) Aristotle, (b) Locke (c) Descartes."

... and take the trouble to pen-annotate each copy with different alternatives in each question, we get close to giving every student tasks of the same difficulty but little incentive to copy from his neighbour.

This can be achieved by borrowing from the technique proposed by the author (Attwood & Bedwell, 1985) to encourage students to work with different colleagues in a series of week-by-week exercises. To expand, for the mathematician it will be sufficient to say *"Use incomplete Latin Squares*. If the examiner wants to ask X questions and can construct X alternatives in each, then provided X is prime she/he can produce X² papers in no two of which is there more than one question with the same alternative"*. For the rest of us, a simple example may help. Suppose we have just three questions, each with three alternatives, then in the table below each column denotes the composition of 9 different papers -- "different" in sense that while 3 of these students will all have option "a" for question 1, for example, none of these three will share the same alternative for either question 2 or 3

	Alternatives a, b, c										
Questions 1,2,3	a ₁	b ₁	c ₁		a ₁	b ₁	c ₁		a ₁	b ₁	c ₁
	a ₂	b ₂	c ₂		b ₂	c ₂	a ₂		c ₂	a ₂	b ₂
	a ₃	b ₃	c ₃		c ₃	a ₃	b ₃		b ₃	c ₃	a ₃

Lucky teacher, to have only nine students? Well, if you have $11^2 = 121$ students, have up to 11 questions to ask them, and can devise 11 options for each question, then this technique still avoids any pair of those 121 students having the same alternative for more than one of those questions. So, if a given student manages to see the answers of the two individuals either side of him (should we presume that males are more prone to cheat than females?!), then at worst (for the teacher) that will help him with less than one fifth of his examination.

Devising sufficient options is a challenge, but there are a few tricks. A question such as

For the two 20th Century world leaders indicated

Adolph Hitler Bill Clinton John Paul II Vladimir Lenin. Margaret Thatcher

... write an imaginary TV script where the older critically interviews the younger”

generates 10 options, and not 5, as first sight might suggest.

But what if, notwithstanding, the number of alternatives you can devise in some questions is only 5? Then you can have an examination of up to only 5 questions, and must accept that there are only 25 papers that are “different” in the above sense. However, one then does not have to be overly authoritarian to ensure those with identical papers sit well apart. In the above examples X is prime; but while relaxation of this condition does reduce the number of “different” papers to below X^2 , the reduction is rarely of consequence.

When we attempt our ascent of the Mountain of Truth, will all this help us reach the summit? No, we shall never get there. But perhaps these techniques will help create a lifeline of trust between student and teacher that will make the climb a more wonderful experience?

References

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* Terms that can be explored in e.g. Google