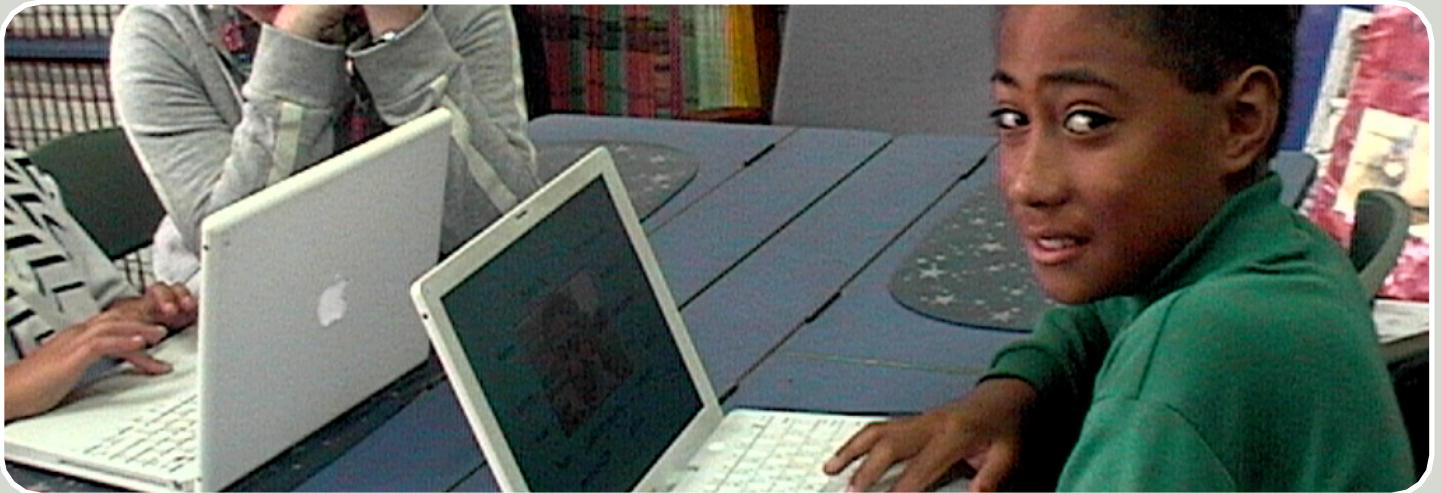


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MASTERY LEARNING

Higher expectations may lead to higher achievements

There are certain things in education that are just too silly to think about.

Because these things have often been done for so long, however, silliness can often become accepted as the modus operandi. Take competitive grading of student work, for example. Just about every teacher believes it is their responsibility to grade and rank their students' work in some way. The gradings may be detailed and descriptive, or simply number or letter grades. But the outcome is the same, some students achieving highly, most in the middle, and some left to trail dismally behind. Now just stop and think for a moment. Why do we do this? If the teacher sets a unit of work to be completed by students, why is it generally taken for granted that some students will complete this better than others and that this is acceptable?

Let's apply this thinking to a really important skill development exercise, namely, learning how to drive a car. Every student who gets their 'L's needs to get above 78% in order to pass. If they are below this, they need to keep doing the test until they get 78% or higher. Nothing less is acceptable. And that's surely the way it should be. Driving is a very complex skill and lives might be at stake when the skills are inadequate. The interesting point is that even though it is a highly complex task, every student who wants to get their 'L's eventually gets them. Maybe they don't get them the first, time, or the second, or perhaps even the third. But they do all eventually get their 'L's. Why don't we have the same expectations for every task that teachers set for their students? I was having a conversation one day with a teacher about the challenges he was having with his Year 8 Maths students. We talked about changing the expectations for these students and rather than responding to poor behaviours, to significantly increase the expectations of them. Here is an email he recently sent me:

“After our discussion about setting high standards of achievement and empowering individuals by believing and expecting that they can achieve at a higher level than what is generally set and appears accepted, I returned to my Year 8 Mathematics classroom looking at my students from a different perspective. We were in the process of beginning a general project assignment for everyone in the class. Assessment for this assignment would be based on a final test. I presented them with the expectation that 80% would be the ‘pass mark’ for each one of them and that anything less than this would not be accepted. The students reacted to this expectation with grunts of disbelief and self-doubt. A date was set for the test and instructions for the assignment were given. Students were provided with a clear set of requirements that had to be met but they were also allowed to develop some individual and self directed responses.

As the students began to discuss among themselves how they would respond to this unexpected challenge, I quickly wrote several questions on the board and asked these questions to different students. I focussed on the individuals who often found Mathematic concepts difficult. I asked questions such as:

What does percentage mean?

How would you write the question down?

When I divide by 100, which way does the decimal point move?

If I wanted to increase this figure by 20% or decrease it by 20%, what would the 2 equations look like?

Each student answered correctly, unaided, and you could see the, ‘Yeah, I can do this’, looks come over their faces. Students were randomly paired up and set about completing the assignment.

The assignment was based on designing a house where there were parameters on the price and size of the house. The students had to calculate various problems based around percentages with extensions. There were also problems from their textbook that focused around the test although the amount of questions they had to complete was up to them. These questions were suggested to aid the students in test revision. My aim was that they

should all be able to successfully answer them without assistance.

The assignments were of a very good standard, presented on the due date and students were able to reflect on what they enjoyed and learnt from the exercise. Fourteen out of the twenty-three scored above the 80% mark, five scored in the 70 percentile with the lowest score for the test at 40%. All students attempted the test again and this time only three fell short of the required 80%. Of those three, two tried again and were successful in getting above 80%. This meant that only one student had failed to reach the 80% mark. Previous to this in other class assessments, there were generally five top students, three in the middle with the majority of students scoring around the 50% to 60%, with at least four students demonstrating a very limited understanding of the concepts.

Raising the bar and believing that it is achievable has altered the way students approach tests. Now it is just a given that the 80% mark is where we want to be and it is the only accepted standard. Students have become more independent learners, ask questions and complete more homework.”

The concept of mastery learning has been around for as long as systems of education have been in place. But it hasn't always had a good press. Why? I don't really know. I suspect, however, it has much to do with a very powerful but fallacious assumption, that some students are smarter than others. Schools have assumed the de facto role of discerning just which students are ‘smart’ and ‘not so smart’. I believe it is time for this to change. Schools should be concerned with enabling all students to develop the competencies that are required. If a student's work needs re-working several times to get it up to standard, then the student should be given that opportunity. When teachers set tests for students, they should expect that all students will get the highest grades. Practise tests should be given until the students feel confident to undertake the ‘real’ test. Schools need to change their focus from being discerners of high achieving and low achieving students to that of being enablers of excellence for all.

Brian

IF SCIENTISTS WROTE NURSERY RHYMES

1. A research team proceeded towards the apex of a natural geological protuberance, the purpose of their expedition being the procurement of a sample of fluid hydride of oxygen in a large vessel, the exact size of which was unspecified. One member of the team precipitantly descended, sustaining severe fractural damage to the upper cranial portion of his anatomical structure. Subsequently, the second member of the team performed a self-rotational translation oriented in the direction taken by the first member.
2. Complications arose during an investigation of dietary influence: one researcher was unable to assimilate adipose tissue and another was unable to consume tissue consisting chiefly of muscle fibre. By reciprocal arrangement between the two researchers, total consumption of the viands under consideration was achieved, this leaving the original container of the viands devoid of contents.
3. A young male human was situated near the intersection of two supporting structural elements at right angles to each other: said subject was involved in ingesting saccharine composition prepared in conjunction with the ritual observance of an annual fixed-day religious festival. Insertion into the saccharine composition of the opposable digit of his forelimb was followed by the removal of a drupe of genus prune. Subsequently, the subject made a declarative statement regarding the high quality of his character as a young male human.
4. A triumvirate of murine rodents totally devoid of ophthalmic acuity were observed in a state of rapid locomotion in pursuit of an agriculturalist's marital adjunct. Said adjunct then performed triple caudectomy using an acutely honed bladed instrument used for the subdivision of edible tissue.
5. A female of the species homo sapiens was the possessor of a small immature ruminant of the genus ovis, the outermost covering of which reflected all wavelengths of visible light with a luminosity equal to that mass of naturally occurring microscopically crystalline water. Regardless of the translational pathway chosen by the homo sapien, the probability was that the aforementioned ruminant would select the same pathway.
6. The human female, extremely captious and given to opposed behaviour, was questioned as to the dynamic state of her cultivated tract of land used for production of various forms of flora. The tract components were enumerated as argentous-tone producing agents, a rare species of oceanic growth and pulchritudinous young females situated in a linear orientation.

No answers supplied. If you can't work them out, ask your children for help!