

How Children Learn

Our Students: How do we recognise a talented child?

Firstly, in our sphere of interest we focus on a child's demonstrable ability in high school mathematics. Using this as a yardstick means in the short term that only about 15% of students in schools are talented, as this is the normal distribution dictated percentage given the top grades. This consigns about 85% of students to the label of being untalented.

To some people this would be a generous proportion of people being labelled as talented. To find a place in their merit list you would need to be a great mathematician like Newton, or Euler, or Gauss. For these latter types, a talented student is a rare gem who may emerge only once in their lifetime of teaching.

However, we follow a greatly different view. Recent research into our mental capacities suggest that:

The human brain appears over-endowed. It used to be an often-quoted statistic that we only use 10% of our potential brainpower. The more psychologists have learnt in the last ten years however, the less likely they are to dare to attempt to quantify our brain potential. The only consistent conclusion is that the proportion of our potential brainpower that we use is probably nearer 4% than 10%.

Most of us, then, appear to let 96% of our mental potential lie unused. But it doesn't have to be so.

Colin Rose **Accelerated Learning**.

Indeed, we fully subscribe to the view that: ***it does not have to be so: That*** potentially, and only potentially we will admit, every child is a talented child. Just as every franchisee in Master Coaching are potentially geniuses, nearly every child entrusted to your care has the potential for greatness.

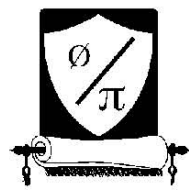
Robert Ollis as founder of **Master Coaching** has personally always subscribed to the view that children will achieve at the level that they realistically expect to achieve. Teachers play a very important role in setting a child's level of expectation.

In the mid 1960's in the USA, a group of educational psychologists set out to measure the impact that the teacher's level of expectation had on children's learning abilities. A group of primary schools and a number of classes were evaluated over a 12 month period. The teachers were told that the students were being tested to substantiate a radical new theory being propounded: that eye colour determined intelligence. Each teacher found out confidentially

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(on the understanding that the given information was most secret); that blue eyed children possessed the greatest intelligence.

Testing, after six months using objective tests set by the research scientists confirmed their findings. At this stage the teachers, not knowing the results of the test were told that the original information given to them was deliberately wrong and that brown-eyed children were in fact the brightest students. More tests after a further six months now showed that indeed brown-eyed children were in fact the brightest students.

These tests showed that even though no one group of students were given special treatment, the mere fact that a teacher thought, in their own mind, that a student was bright, was sufficient enough to bring that fact into reality. We suggest that the above allows us to answer the question, *what is a talented child?* It is the view of Master Coaching Australia that a talented child is one whose self worth and expectation have been encouraged and allowed to flourish.

A child is not talented when their level of expectation has been blighted and their own self-image accepts failure.

It is our belief that the vast majority of children entering high school have the ability to study three Unit Mathematics. We acknowledge that there are a few exceptions but these are exceptions because of special circumstances.

The question now is; *how do we utilise this knowledge?* given all the circumstances as they exist. Throughout the world today, in every endeavour, greater emphasis is being placed on mental preparation for the job at hand. Sports people call it rehearsing for success. Business people call it motivation. Teachers, in a very very real sense, are in a position to motivate students for success in life.

Unfortunately, confined to one subject area, and seeing students only once a day, and competing with other teachers, parents, friends etc it may seem like too difficult a task to change the thinking patterns of the 100 odd students that you coach each week.

Our response to that is that teachers should refrain as much as possible from adding any more negatives to a student's burden. Give praise as often as possible. Take time out to motivate students with stories of success that they may be able to relate to. But above all, remember that every person is a talented person - **when you** find the key to unlocking the genius in your students then you in fact have become the greater genius, a true teacher.

These are generalities and often it gives cold comfort when the bulk of your potentially talented students are displaying little talent. Practical solutions to immediate problems often have more impact than long term philosophies. A non-performing child is a not non-talented child.

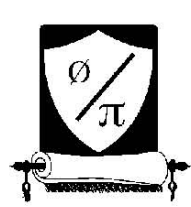
Again in the long term, success is a result of inner perception -the student will perform at a level that he/she expects to perform.

Changing perception is the most difficult task confronting the coach or in fact the student's teacher.

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Firstly, the students must have a firm belief in the teacher's ability and a trust that the teacher is genuinely concerned about their welfare. The teacher needs to demonstrate ability first and then to win trust.

Creating a Learning Environment

To demonstrate ability teachers need to create a learning environment

The first feature of a learning environment is a classroom in which every student feels totally at ease and free from interruptions caused by other students and his/her coach (except for brief regular intervals). Their desk and chair must be comfortable and in their *own space* (the student's comfort zone). The room itself has to be clean, orderly, well lit, climate controlled and pleasantly decorated preferably with inspirational material. Noise levels must be kept at an absolute minimum.

The coach's intrusion into the student's space should be used to enhance his/her self image through written affirmations and spoken words of encouragement (see *The Art of Tuition.*)

The Alpha State.

In order to create the right conditions for learning a teacher must understand a little of how learning takes place within the brain.

Again, according to brain scientists, learning takes place most easily when our brain frequency is low. The following extract from Colin Rose's "Accelerated Learning" explains this

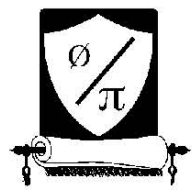
ALPHA, BETA, THETA, DELTA-The brain generates tiny electrical pulses as thoughts traverse the labyrinth of the mind. The physical conduits of these thoughts are the millions of nerve cells or neurones in the brain. Just as radio signals, in order to make a comprehensible message, are beamed out on radio waves, a band of signals within a defined frequency, so the activity of the brain also occurs in waves. Brain waves can be measured on an electroencephalograph machine (which is normally abbreviated to E E G Machine). By attaching sensitive electrodes to the scalp, it is possible to measure accurately the type of brain wave that a subject is producing. These waves are usually expressed in the number of cycles per second (or CPS.)"

"The brain produces 4 main frequencies:

***BETA** level brain waves range 13-25 CPS.*

***ALPHA** level brain waves range 8-12 CPS.*

***THETA** level brain waves range 4-7 CPS.*



DELTA level brain waves range 0.5-3 CPS."

The following relates each type of brain wave to its principal function. We must remember however, that when we speak of someone being 'in alpha' we mean that this is their characteristic and predominant brain wave. Other brain waves will also be present, but in smaller quantities than usual."

BETA 13-25 CPS -*This is the brain wave of your 'conscious' mind, it characterises logical thought, analysis and action. You are wide awake and alert, figuring out complex problems, talking, speaking, doing."*

ALPHA 8-12 CPS -*This is the brain wave that characterises **relaxation** and **meditation**. This state of mind is achieved during dreaming each night for one or two minutes when R.E.M. (rapid eye movement) takes place. Also, alpha facilitates daydreaming and the heightened imagination of the artist. It is a state of relaxed alertness that facilitates inspiration, fast assimilation of facts, and heightened memory. Alpha lets you reach your subconscious, and since your self image is primarily in your subconscious, it is the only effective way to reach it."*

THETA 4-7 CPS -*Deep meditation and reverie. The twilight zone associated with creativity, high suggestibility and flashes of inspiration. Dominant during ages 2-5."*

DELTA 0.5-3 CPS -*Deep dreamless sleep."*

Throughout Rose's book and other research it becomes apparent, that quality learning is best effected in a quiet, controlled and relaxed atmosphere. Undue classroom disturbances detract from learning. Providing this environment is paramount to creating the most desirable learning environment. If you can achieve the optimum learning environment then you may well find that indeed all your students are talented students. Certainly, your teaching prowess will improve as you move in the direction of obtaining this optimum.