

Principal's Blog

LEARNERS WHO ARE METACOGNITIVE AND TEACHERS WHO KNOW THEIR IMPACT

"Teachers make every other profession possible."

Professor John Hattie

During the half term break I attended a two-day conference in Edinburgh on Visible Learning. The term Visible Learning is based chiefly on research carried out by Professor John Hattie and his team on the various effect sizes of different pedagogical techniques and phenomena in education. Indeed, I have written blogs about his work in the past and we have used his research to help to train our staff. John Hattie developed a way of synthesizing various influences in different meta-analyses according to their effect size (Cohen's d). In his ground-breaking study "[Visible Learning](#)" he ranked 138 influences that are related to learning outcomes from very positive effects to very negative effects. Hattie found that the average effect size of all the interventions he studied was 0.40. Therefore, he decided to judge the success of influences relative to this 'hinge point', in order to find an answer to the question "What works best in education? 0.40 equates to the amount of progress a typical student will make in one year. So, an effect size of 0.80 will double that progress.

I was pleased to find updates on his research (he has increased his effects to 150) and discover what schools in different countries are now doing in response to this research. Although I attended many seminars and keynote lectures, the two key themes were as follows;

1. Learners who are aware of how they learn and what they need to do to maximise their own learning i.e. understand their own metacognitive process are much more likely to achieve high academic success. Indeed, the effect size (based on Cohen's d) for metacognition in learners is 0.60 and for self-efficacy (which means that students are independent and resilient learners) the effect size is 0.71. Indeed, Hattie pointed out that a learner's understanding of how he/she learns to learn is far more likely to raise

his/her grade than his IQ or intellect. Furthermore, students need to learn from failure in order to make greater progress.

2. Teachers are not machines who produce facts. They need to be aware of the impact their teaching is having on the learners. This is best achieved through what Hattie calls 'Collective Efficacy'. Schools and departments need to work together to constantly evolve their practices with feedback being at the heart of what they do but also gauging the impact on the learner by the use of formative assessment practices and questioning. Collective efficacy can have an impact of 1.39 on student achievement and has the highest effect size of the 150. It is vital to have regular and ongoing teacher training to achieve this.

Metacognition transforming learners

"(The students') role is not simply to do tasks as decided by teachers, but to actively manage and understand their learning gains. This includes evaluating their own progress, being more responsible for their learning, and being involved with peers in learning together about gains in learning. If students are to become active evaluators of their own progress, teachers must provide the students with appropriate feedback so that they can engage in this task.

John A.C. Hattie, Visible Learning for Teachers: Maximizing Impact on Learning

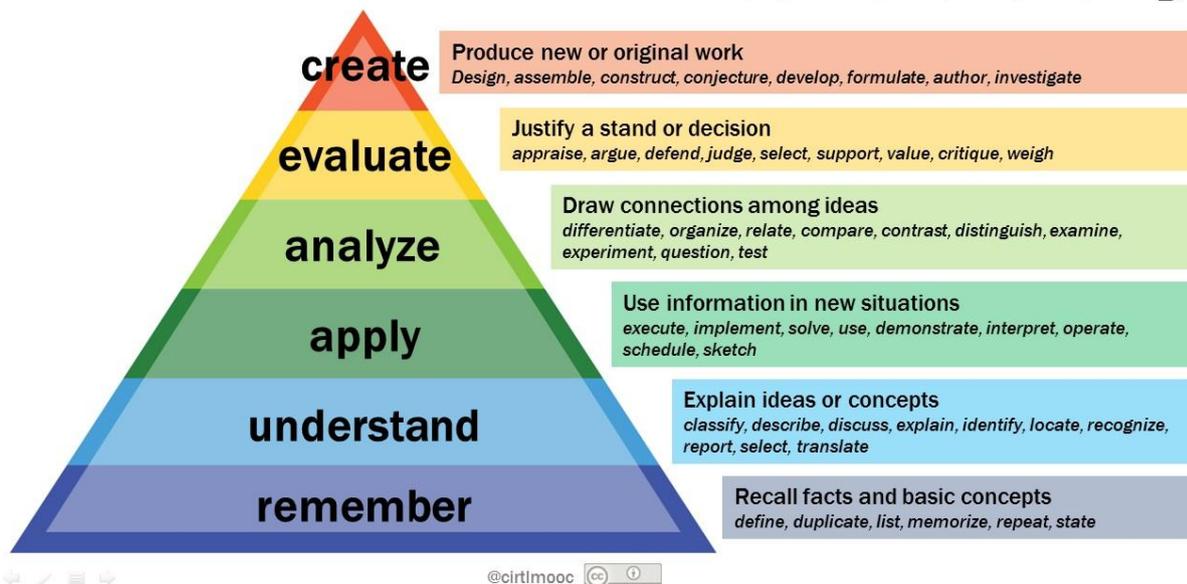
In his address to the conference Hattie spoke about knowing the *skill, will* and *thrill* of our students. In other words, with what skills do they arrive in the classroom? Gauging prior knowledge is a key positive technique used by our teachers at The Junior & Senior School at the start of a year, a topic or even a lesson. Re-teaching what children already know is not only a waste of time but also can disengage students who become bored.

The *skill* is only the basic starting point, however. Building on these skills, it is vital that students have the *will* to learn. He described this as resilience, resourcefulness, reflectiveness and reciprocity. Students cannot just expect to turn up in a classroom and be given information that they will automatically then 'know'. They have to be prepared to be challenged, to work hard, to fail and try again a number of times, to reflect on their progress and their setbacks, to reflect on the concepts to which they are being exposed and also to work with others to maximise their learning. He pointed out that too many students have only one way of learning that they constantly repeat and quite often it fails. The result is that they become bored, disaffected and then develop a culture of blame of their teachers, their parents, their tutors, the system etc. as this ensures they cannot be the ones responsible for their lack of progress. This particularly happens at KS3 when our learners face all the other added problems of body changes, influx of hormones and the

other social complexities of life in the 21st century to distract them from their learning. We were shown a graph of student engagement; not surprisingly it showed that when children start school they are interested, creative, enthusiastic and ultimately engaged. Once they settle in school, this peaks at the end of KS1 and the start of KS2. There is then a steady decline from around Year 5 to Year 9 which is the nadir. Student engagement then picks up slightly in Years 10 and 11 when they begin to study for external examinations (extrinsic motivation) and then climbs into A level and higher education. The challenge for secondary teachers and for parents of teenagers is to encourage them to have the *will* and the *thrill* to learn (intrinsic motivation). Not an easy task!

The *Thrill* of learning comes with mastery learning (that is to say learning a concept at a much deeper level until it is embedded). It is all too easy to operate at a shallow or surface level of learning. Memorising facts and being exposed to new knowledge is only the start of Bloom's taxonomy of learning. In order to be deep learners, we need to remember firstly, then understand and be able to apply our new knowledge to problems or new situations. However, to begin to perform at a deeper level of learning we will then need to analyse information, drawing connections between concepts, evaluate or critique positions or theories and finally create new ideas or concept that have not been thought of before (see diagram below).

Bloom's Taxonomy



Hattie pointed out that our assessment systems still rely too heavily on surface learning. However, we have seen in recent years that especially at A level but increasingly also at IGCSE the examination rubrics are requiring students to operate at levels above the remember and understand level. They will need to apply their knowledge to questions they have not seen before and even analyse and evaluate (especially at A2).

Hattie also reminded us that if students do not have the opportunity to fail, they will be less successful. Of very able pupils he said,

'They dare not be wrong, dare not be challenged and dare not fail'

This is a phenomenon I have witnessed over many years in this profession and I can confirm that many bright children have a fixed mind set. They do not want to try new methods of learning or leave their comfort zone as they have been used to praise from teachers and parents linked to high academic attainment. However, he argues that challenging all students is the best way to engender this 'Thrill' phenomenon. He likened this to the Goldilocks fairy tale. The challenge should be not too hard that it is impossible, not too easy so it is boring but 'just right' In the training I delivered to our staff in September on differentiating teaching for different abilities, I explored with them the concept of the 'sweet spot' of learning for every child. I think this is what Hattie meant.

"By knowing what we do not know, we can learn; if we were to make no errors, we would be less likely to learn (or even to need to learn) – and we probably are not involved in challenge if there is not an element of being wrong and not succeeding."

— John A.C. Hattie, Visible Learning for Teachers: Maximizing Impact on Learning

Collective Efficacy

Teachers who are aware of their learner's starting points and then provide them effective and regular feedback can make a huge impact on academic attainment. Moreover, if a group of teachers or a whole school is working together with the same aim then this can be very powerful. Hattie's mantra for teachers is '*Know thy impact*'. They should encourage their learners to ask Where am I going? How am I going to get there? And where do I go to next? Teachers should be using positive language in the classroom and encouraging students to strive for their very best.

We have carried out much professional development based on how to assess where children are in their learning, how to give effective feedback to students and how to try and ensure that students are engaged in their own learning. Michael Fullan was also a speaker at the conference and has written many books on how to run effective schools based on his research with education districts in the USA and Canada. He said it was important to secure teacher alignment i.e. that they all know the expectations of the school. However, to achieve teacher coherence is an emotional not a rational step and needs to secure the buy-in of all the teachers in the community. This is only achieved over a period of time with ongoing professional development and allowing teachers the freedom to develop their creativity in teaching and by providing multiple opportunities for sharing good practice and teachers learning from each other. Fullan believes that if schools and districts put teachers in supportive, non-threatening circumstances with more experienced teachers in a way that is experiential and practical they will change their mindset and their practice. He talked about a culture of collaboration to implement high-yield strategies. Sometimes teachers will argue that they want to have autonomy in their classroom. Fullan counters that autonomy is positive, but it is not isolation. Connected autonomy is essential. Teachers can use multiple strategies and methodologies as long as they all have the same core purpose.

I was heartened by what I heard as I believe that in our school, we have been focusing on professional development now for a number of years and we are finding ways to facilitate teacher collaboration, not only within departments and year groups but also cross-phase and with other schools (for example other Microsoft schools). On a daily basis, I see teachers collaborating, sharing ideas electronically with their colleagues and coming up with new ideas to find the 'thrill' spot for their learners. Their positivity and enthusiasm never cease to amaze me. This year teachers are also working in triads to watch each other teach and share good practice and find ways of up-levelling their teaching.

In conclusion, Hattie started the conference with this quote:

'Teachers make every other profession possible.'

They have a huge responsibility and it is also an enormous privilege to be a teacher, helping to develop young and thirsty minds. However, it is not their role to merely disgorge facts and information. We have a world wide web to do that now. It is their job to excite children, to engage them in their own learning, to make them courageous and not afraid to fail and to be the shoulders that their learners will stand upon to reach their own personal achievement. Hattie pointed out that learners who have acquired high academic results based on knowledge acquisition but have no social skills or the ability to

be enquiring and creative are not employable. Employers can teach knowledge in their particular field, but they do not have the time or money to spend years developing their people to be deep thinkers and metacognitive learners. That's is the job of their schools and their parents. So, at The Junior & Senior School we will continue to strive in our endeavours to develop our young people into capable thinkers, resilient learners and ultimately confident and reflective adults.

Thank you,

Deborah Duncan

Principal

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