

The Teaching Revolution – and the IB

All slides of the Madrid presentation are available at <http://www.taolearn.com/articles/article67.pdf>

I work with students in many high schools around the world and over the last two years I have asked every class I work with the same question – “How many of you have a web-capable phone?”

Two years ago the response was about 5%, today it is usually around 80% and just recently I had my first 100% response.

This is significant.

How long will it be before every child in every classroom has a web-capable phone.....that they're not allowed to use?

Right now there are:

- 6 billion cell phones in the world (world total population is 7 billion)
- 85% of new phones are web enabled
- 2 billion broadband subscriptions
- 255 million websites
- 150 million blogs
- 8 trillion text messages sent in 2011
- 107 trillion emails – 89% of which were spam

How long will it be before:

- every piece of subject matter is available to every student on the internet, and
- they all have access to internet linked tablets, and
- they all have access to high speed broadband all day?

What will teaching look like then?

What will be the key skills students will need to cope with and take advantage of, this environment?

This is not the future, this is today!

Imagine a school where:

1) the entire focus of teaching is on the processes of learning, where the aim of every lesson is the development and improvement of the skills of effective learning, using the subject matter of the lesson as the material for the student to practice their learning skills on

2) in every class students work in groups of 3-4 with one high-speed internet linked data tablet device per group

3) the objectives for each lesson are stated by the teacher as:

- the learning skills to be practiced

- the subject matter to practice those skills on and the best web-based sources to use to find that subject matter

- the questions to be answered

4) where learning is by true exploration and inquiry.

I believe that right now we stand on the brink of a revolution in education (what I call the POSBGIL Revolution) which is not a revolution in learning because everyone has always learned best this way, what it is, is a revolution in teaching! Maybe the most significant one since Gutenberg.

The revolution in education involves teachers abandoning 'transmission' teaching and adopting principles of skills based, guided inquiry learning. This means teachers teaching the skills of good learning using their particular subject matter as the 'meat' for students to practice the skills on. It involves students utilising net-capable devices, working in small groups, accessing subject-based websites, practising cognitive skills like searching, selecting, verifying, validating and corroborating information as well as social skills of collaboration, communication, team work and affective skills like perseverance and persistence. In this scenario, teaching becomes about making explicit all the processes of learning and guiding the students on a pathway of inquiry to achieve specific

measurable content and process based outcomes (POSBGIL – Process Oriented, Skills Based Guided Inquiry Learning). Helping the students to ask the right questions but never providing the answers.

What this new type of teaching is **not** about is teachers using the internet as just one more textbook. When every student has access to all the information in the world 24/7 then the most marketable skills will be the skills of good learning. How to find the right information, process it well, extract what you need and move on having learnt something new. These are the skills of the self-regulated learner and in order to become competent in these skills children need to be put in the position of being able to practice the regulation of their own learning.

If creating 'lifelong' learners is the aim of schooling I believe that right now, through the confluence of five important factors we have the best opportunity yet to achieve that aim.

- A focus on the teaching of the skills of effective learning through ATL
- The proliferation of high quality school subject based websites
- The ubiquity of internet accessible devices
- The availability of high speed broadband
- The high level of comfort today's children have with the digital world

The most motivating learning has always been self-regulated learning (self-directed, self-managed, autonomous, independent) and yet up to now the infrastructure of education has not allowed for learning by exploration and discovery except at the elementary level. The proliferation of internet based school subject websites and the ubiquity of data delivery devices has changed all that.

Teachers no longer need to be the 'font of all knowledge' they just need to know where to send their students to find everything they need. This means that every teacher needs to be familiar with every website that deals with their particular area of expertise and to know those websites well enough to design every lesson around the content found there. The school must have the infrastructure in place to support one device and one high speed internet connection per 3-4 students at the very least. One internet capable device per student in the classroom is not necessary and can even serve to increase isolation and decrease collaboration, communication and recall – **this is a very significant finding!** (see Sugata Mitra <http://www.ascilite.org.au/ajet/ajet21/mitra.html> or video http://www.ted.com/talks/lang/en/sugata_mitra_the_child_driven_education.html)

Then the focus of teaching can be moved to the inculcation of effective learning skills.

Intrinsically motivated learning is achieved through the application of a dynamic, internally controlled set of metacognitive, cognitive and affective processes that positively influence a student's tendency to approach, engage with, expend effort on, and persist in tasks of learning in an ongoing, self-regulated manner. Exactly what everyone does when they are learning something new that they are intensely interested in.

Metacognitive processes are those that focus on the self management of learning, planning, implementing and monitoring learning efforts, as well as gaining the knowledge of when, where, why and how to use specific learning strategies in their appropriate contexts. Cognitive processes are those which focus on developing the particular skills necessary to facilitate the acquisition of knowledge or skill, and affective processes are those that focus on such non-cognitive aspects of learning as motivation, self concept and the skill of selective attribution.

The best students in the world - those whose study is most effective in helping them to pass their examinations - all have one characteristic in common, metacognitive awareness. In other words they treat learning as a process requiring many different techniques and strategies depending on the subject and the context . They actively seek out options for every stage of the learning process, they try out different things and they notice what works and what doesn't. To do this they are continuously engaged with both the subject matter they are learning and the processes they are using to learn that subject matter. They view any learning failure as a failure of process rather than that of the individual, they find better processes and apply them, they reflect on the results and they continually improve the success of their learning efforts.

Within GCSE, IGCSE, NCEA and many other curricula there is implicit support given to the direct teaching of learning skills but only within the International Baccalaureate (IB) is that support explicitly differentiated into a specific subject of its own, Approaches To Learning (ATL) now percolating through all three levels of the IB but made most explicit in the MYP.

“When the MYP was first conceived in 1980, the driving force at the heart of all thinking was the development of learning to learn skills. This later became known as ATL (Approaches to Learning). Over 30 years later, we know that developing a good ATL programme in schools is possibly the most important feature in preparing students to become lifelong learners, regardless of their educational pathways.”

Malcolm Nicolson, Head of MYP Development

The first task in helping students to take an interest in their own learning processes is to help them become aware of the skills base of effective learning and their own areas of competency, ability and deficiencies. To this end ATL skills can (potentially) be classified into seven skills clusters:

- Communication & Collaboration
- Self Management
- Information, Media & Critical Literacies
- Critical Thinking
- Creativity & Innovation
- Reflection
- Transfer

Within those clusters more than 165 individual skills have been identified.

Students can be encouraged within ATL to use self-assessment by reflection to monitor their own progress from Novice – Expert for each skills cluster by gaining proficiency with the individual skills most suited to their age and abilities.

Level 1 The Novice - observation	Level 2 The Learner - emulation	Level 3 The Practitioner - demonstration	Level 4 The Expert - self-regulation
Observes others performing tasks and using the skill	Copies others performance of the skill	Can demonstrate the skill on demand	Can perform the skill without thinking through the process first
Gathers procedural information about the performance of the skill, asks questions to clarify procedure	Is very conscious of performing the skill and correcting errors with deliberation	Can perform skill either with different content or in different context	Can teach others the skill
High levels of scaffolding from teacher needed - explanations, training, structural support	Performs skill only with known content in known context	Minimal teacher scaffolding required – setting directions, goals, assessable outcomes	Can use skill with unfamiliar content in unfamiliar context
	Medium level of scaffolding needed - correcting poor performance, answering questions		High levels of performance occur
			No teacher scaffolding needed

Such ‘process skills’ analysis raises the student’s awareness of any skill deficiencies which can then be addressed in the learning skills programme. It also exposes the student to the possibility of a range of skills they could learn and strategies that they could try which might have a positive influence on their learning success. This is the first awakening for some students when they realise that children who seem to learn much easier than them are probably using skills and strategies that they too could learn.

“It’s not what you know but what you can do with what you know that counts in this age of readily available information. Skills such as analysis, synthesis, evaluation and clear communication are essential for success. Educators today realize that young people aren’t born with these skills, nor should they be expected to pick them up through some kind of osmosis in the classroom. These skills can and should be taught explicitly.”

Lori Fritz, Deputy Principal, Southbank School, London

The second task is to help students realise that they can take positive self control in learning situations and plan deliberate strategy use and in doing so increase both their sense of personal competency and their learning achievement. This is the metacognitive function that drives the whole learning improvement process and through which the greatest improvements in academic performance can be achieved.

Once perceptions of competency and positive self control in learning are developed, students are much more inclined to try out new cognitive and affective strategies in new learning situations and ultimately develop full control over their own learning and become a fully self-regulated (self-managed, self-directed, autonomous, independent, lifelong) learner.

“As an IB Diploma programme school we place a huge emphasis on a student’s independent study, thinking and communication abilities and we drive this by teaching *learning skills* to our students. We do this through both the academic and pastoral aspects of the school and emphasise that students need to be able to take control of their own learning. Without self management strategies it is our experience that students will struggle when completing the IB Diploma course.”

Dave Horan, Deputy Principal, Warwick Academy, Bermuda

The challenge for teachers is in moving from transmission teaching where the teacher is the font of all knowledge to a more facilitative style where the teacher is helping the students to discover the information for themselves.

The most effective method is through ongoing, process focused teaching by subject teachers within standard subjects. The process focused teacher is the one whose highest value is the teaching of learning skills and who uses their particular content as the vehicle through which to teach effective learning processes. This is not to deny the importance of any taught content but is an approach which brings about a dual focus in the classroom – on both content and process. Many studies have shown that the most uniformly positive results in terms of academic engagement, understanding, transfer of skills and high performance in assessments come about through a focus in the classroom on learning strategy training in a metacognitive, self-regulated context in connection with specific content.

The new MYP, with its focus on developing the Learner Profile through teaching the skills of good learning, has made the development of process focused teaching possible within the IB structure. The proliferation of high speed internet services and the ubiquity of data processing devices has made guided inquiry learning possible in many classrooms. The real challenge is putting the two together.

Luckily we have the experience of others to draw on. In 1999 a national innovation programme was introduced into Dutch secondary education, aimed at encouraging teachers to foster what they called ASRL – Active Self Regulated Learning. Twelve years later the entire project was reviewed - It tells its own story very clearly:

“The innovation focused on the higher grades (15 - 18 years of age) of upper level secondary education, the grades preparing for higher education. It was based on three general ideas:

(a) Self-regulation of learning - students have to learn to regulate their own learning process, considering the importance of life-long learning. This means that students should gradually become the owners of their own learning process. It also implies more attention to the affective aspects of learning.

(b) Learning as active construction of knowledge. Students learn better when they actively construct their own knowledge; and

(c) Collaborative learning. Students should learn in interaction with fellow students. Collaborative learning is seen as a powerful learning environment and collaborative skills are believed to be necessary for future work.”

Sounds just like the IB, doesn't it?

In 2010 the analysis of the programme were reviewed. The findings were:

“The reform implied a fundamental change in teachers’ educational and pedagogical role. The general aim of the renewal was to prepare students more effectively for higher education and lifelong learning. A more specific aim was for students to learn how to regulate their own learning processes. Teachers were therefore expected to focus more on facilitating, supporting and monitoring student learning processes and less on transmitting subject-matter knowledge to students, and to foster students’ ASRL in their daily work practice.”

“However, in the period of early implementation of the reform, hardly any practical examples of instructional methods for this new teaching approach were available. Schools were expected to develop suitable pedagogy themselves, with the help of educational advice centres. Evaluation studies reported implementation processes that often lacked a clear vision and policy. Teachers’ daily classroom practice did not show much self-regulated learning and activating pedagogy. Many teachers still focused particularly on the subject-matter and learning outcomes and far less on students’ learning processes.”

The biggest stumbling block to achieving the goals of self-regulated learning was that teachers found it hard **not** to teach.

This is the challenge. This is why I am pointing to a revolution in teaching not in learning.

It is the teachers who must learn how to stop teaching and allow learning to take place. Only by being allowed to practice the skills of self-regulated learning will students ever become self-regulated learners.

This can be achieved, with good professional development focused on the three strands of developing self-regulated learners. By teaching teachers:

- 1) how to teach cognitive, affective and metacognitive skills (ATL skills) within the context of their subject based lessons
- 2) how to make the classroom experience for the students one of skills based, process oriented, guided inquiry learning
- 3) how to help students to self assess their content, skills and strategy use through reflection

The most motivating, exciting, involving learning is always through exploration and discovery and if students learn best this way then so do teachers Well structured PD for teachers in this field will also be through the mechanisms of POSBGIL (Process Oriented, Skills Based, Guided Inquiry Learning).

If the actual goal of education is the creation of lifelong learners and if the real aim of IB education is the development of the Learner Profile then I believe, through the innovations of the new MYP, all the infrastructural factors will be available soon within the IB structure to bring this about.

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