

WANTED for the 21st century workforce: Resilient, independent learners who have flexible skills and competencies, work well in teams and can lead themselves and others to perform up to and beyond their potential.

Do we produce the above now in our schools? If not, how? If not now, when?

Key Questions:

- **Should the curriculum be organised around subjects or skills?**
- **How can we teach students emotional intelligence and self-management skills**
- **Who should be teaching them – teachers, other adults, other students, on-line tutors?**
- **How can we ensure that students transfer their skills and knowledge from one subject area to another encouraging independent, flexible learning capacity?**
- **How can we ensure that students are motivated enough to create positive learning for all.**
- **How can we make sure they all ‘choose to learn’?**

There is a growing desire to find out just what we need to change in our education system that will make the difference; the difference between producing pupils which simply pass (or fail) exams and producing independent lifelong learners who can thrive in the fast moving, knowledge based economy of the 21st century

Through the use of magnetic resonance imaging (MRI), neurologists investigating brain activity now know much more about how learning happens in the brain. This work has given weight to theories of learning such as Howard Gardner’s ideas regarding multiple intelligence; David Kolb’s cycle of experiential learning that requires a shift ‘towards teaching *how* to do something’; Daniel Goleman’s seminal work on the impact of Emotional Intelligence on learning and Black and William’s research on the impact of Assessment for Learning as an alternative to summative assessment.. All of these have profound implications for the development of ‘learning’ in our schools.

So what changes do we need to see in our 21st century schools?

A focus on **how** we learn and a determined drive to develop an educational system that helps children learn more effectively for life is a crucial requirement.

This would include students developing an understanding of their own learning profile and how to use it to raise achievement and develop their full potential. Teachers, students and parents need to understand their learning styles and how to engage the brain. Students could use this knowledge to develop transferable skills especially in literacy, numeracy, communication and self-management in order to become the emotionally

intelligent, flexible learners for the 21st century. In addition, schools have to develop skills in teamwork and co-operation that are so evident in activities children take part in outside of school such as sports and productions. Often extra curricular activities have been tacked on to an overcrowded, content dominated curriculum rather than placed at the centre of a competency based curriculum that focuses on skills acquired rather than information remembered.

The RSA Opening Minds curriculum is one such alternative model being used in schools at KS3 with very interesting outcomes, including improved levels of literacy, improved behaviour and independence in learning. Combining this with a Learning to Learn/Thinking skills approach could be a powerful model for 21st century curriculum planning. It is delivered through projects that are mapped against the KS3 curriculum and include many cross curricular links such as citizenship, ICT and literacy. It is proving an important aid to transition from KS2 to 3 as the projects are taught by one teacher decreasing the tendency to compartmentalise the curriculum at Year 7 with students having up to 14 teachers. The nature of KS3 at present leads to disengagement by Year 8 and disaffection for many by Year 9. A competency based curriculum model, scaffolded by a Learning to learn approach can develop an academic curiosity and independence in learning that allows a students to take more responsibility for their own learning.

If the above curriculum changes are combined with a rigorous behaviour policy that focuses on **choosing to learn** and an active **student voice** programme that encourages a sense of **ownership, enterprise and responsibility**, the possibilities of engaging students in such a culture become more exciting. We could place this in a context where **emotional intelligence** such as persistence, optimism and self management are modelled and taught across the curriculum. Lessons taught in a **brain friendly** way are those where active participation, variety and challenge combine to make learning exciting but demanding. The education environment will need to reflect the need for **flexible approaches** that create individualised learning opportunities and provide a safe and inspiring backdrop to learning experiences. This flexibility would need extend to the timetable, the schools terms and of course the classrooms

Summative assessment at given ages will need to be replaced by students travelling through their learning programmes as and when they are ready, with **mixtures of ages** in each class reflecting a really individualised approach to progress. **Embedding formative assessment for learning** will help students to track their own progress through learning programmes which can be rigorously moderated by teachers or the range of **other adults supporting their learning**.

Finally the whole culture of schooling could move toward one of active **Learning Centres** where the day is flexible and built around learning needs with **extra curricular** activities as part of the package of opportunities and choices that build up the portfolio of competence that will **profile achievement** throughout school life.

Learning to learn – what are schools doing now that works?

In this extract from 'About Learning' a DEMOS publication that examined work in schools that have successfully implemented a Learning to Learn agenda and thereby improved results, the culture for the 'learning school' is clearly described: Such schools have:

5.4 A passion for learning is central to their work; teachers and learners have a shared and agreed understanding of what effective learning is. Learning infuses the organisation and directs its improvement agenda. All aspects of life in school or college are underpinned by the question 'how will this impact on learning in this place?' In some schools a discrete Learning to Learn course explicitly develops the habits, dispositions and attitudes to support learning; in other schools a similar approach is diffused across the curriculum.

5.5 This passion for learning leads the staff to be constantly looking outward for ideas and schemes that will advance the quality of teaching and learning in the school/college. They will test these new developments, sometimes with a small group that conducts trials and experiments, then discarding practices that do not work but adopting and sharing more widely those that do.

5.6 Classrooms are *learner-centred*. Close attention is paid to the knowledge, skills and attitudes which the learner brings into the classroom. Learning is connected to what is already known and misconceptions are identified, explored and corrected. Students assume an active role in all aspects of learning, including creating their own hypotheses, setting their own questions, coaching one another, setting goals for themselves, monitoring progress, experimenting with ideas and taking risks knowing that mistakes are an inherent part of learning. The flow of work is sufficiently varied and challenging to maintain the students' engagement but not so difficult as to lead to discouragement. This engagement gives opportunities for students of all abilities to succeed and avoid the disaffection and attention seeking from peers that gives rise to behaviour management problems.

5.7 Classrooms are *knowledge-centred* in that they encourage deep learning as opposed to shallow learning. An observer in such classrooms sees students contributing thought-provoking comments, posing probing questions and proposing solutions to problems while analysing the ideas of others as well as their own. Students are encouraged and supported to take risks in their learning and to see 'being stuck' as a learning opportunity.

5.8 In *assessment-centred* classrooms, assessment is both formative and summative and becomes a tool to aid learning: students monitor their progress over time and with their teachers identify the next steps needed to improve. Techniques such as open questioning, sharing learning objectives and focused marking have a powerful effect on students' ability to take an active role in their learning. There is always sufficient time left for reflection by students. Whether individually or in pairs, students are given the opportunity to review what they have learnt and how they have learnt it. They evaluate themselves and one another in a way that contributes to understanding. Students know their levels of achievement and make progress towards their next goal.

Students do not learn in isolation. There is a deliberately created *learning community* in which both staff and students think of themselves as learners. Students are encouraged to help and support one another and to collaborate in a spirit of intellectual camaraderie. They work in groups with attention paid to listening skills, body language, techniques of respectful disagreement techniques etc. The ethos is characterised by mutual respect and the development of the self-management needed for resilience in learning, and it culminates in the creation of independent, reflective learners for life.

Such schools/colleges adjust the organisation of the day or week, and reconfigure the timetable, to provide experiences that strengthen student learning and motivation. There is the flexibility to create blocks of time for learning projects, off-site learning or real life experience, as well as a structured enrichment programmes through clubs and sports.

Such schools/colleges also engage with the wider community through workshops on learning for parents and governors. A website offers the online curriculum with access for parents and students to all schemes, lesson plans, extension tasks and success criteria, so that the home school-link becomes a powerful tool for extending the learning experience.

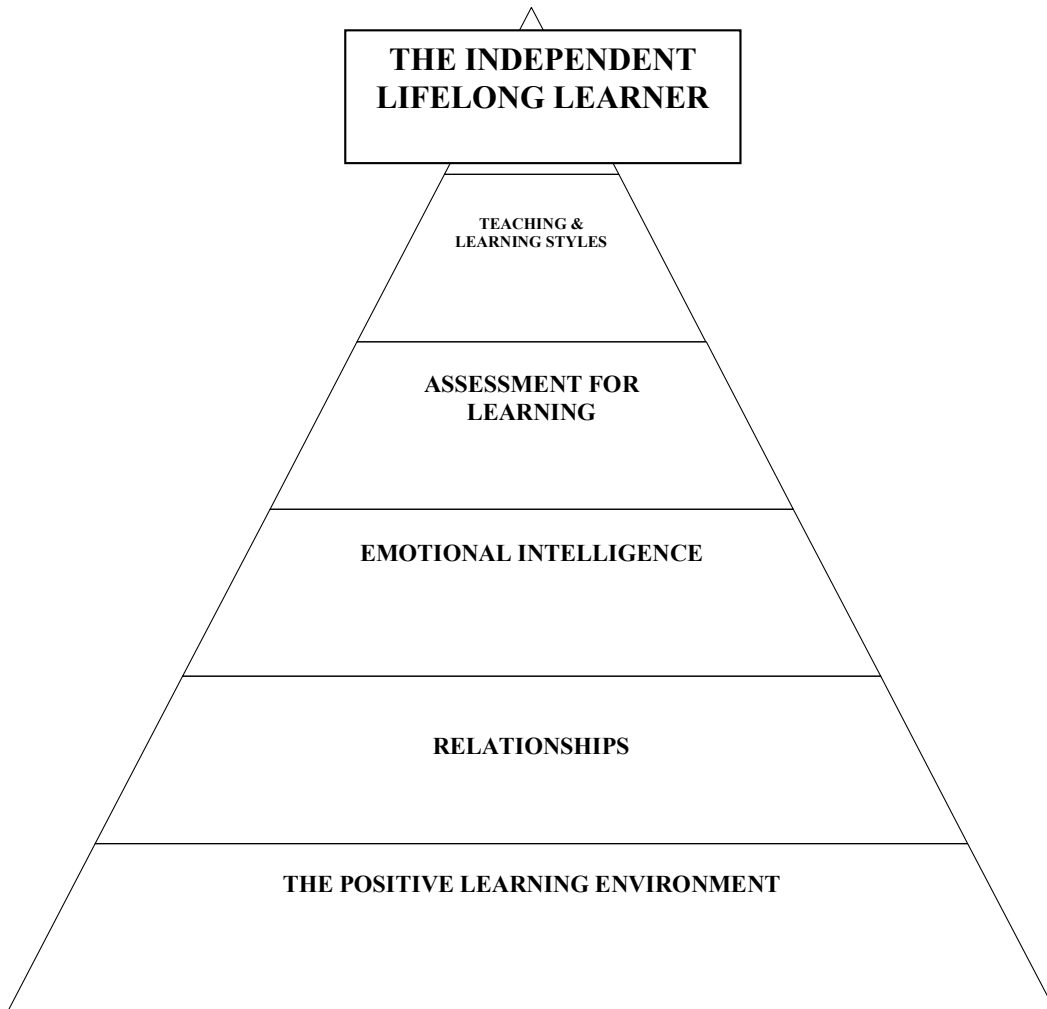
The staff ensure that their students enjoy their learning and become confident and independent in learning. The teachers' focus on learning means that in their classrooms the art of teaching meets the science of learning.

Preparing students for the 21st Century	Innovation	Abandon
KS2-3	Transfer when ready	Transfer when 11
	Teachers that can teach in primary and secondary schools	Primary and secondary qualifications which exclude the ability to teach in each phase
	Phased transition	Transition in September
KS3 Curriculum	Competency based curriculum for KS3 based on projects mapped against National Curriculum skills required for subjects	Up to 14 separate subjects from Year 7 delivered for one hour or more a week by 14 different teachers
	Encourage the transference of skills. Maths / Science/ Technology based projects and English / Humanities / Arts based projects with only MFL and PE taught discreetly.	The compartmentalization of the curriculum in secondary schools which can restrict the ability to transfer skills and competencies and impede the embedding of learning.
	Embed communication skills including literacy and numeracy in cross-curricular projects	Attempts to manage literacy and numeracy across the curriculum in secondary schools with paid posts.
	Develop some subject specialism through KS3 to prepare for the 14–19 phase. KS3 SATs and GCSE’s taken when students are ready. Students of varying ages will study together depending on progress made.	Students grouped by age rather than stage of learning.
Assessment	Rigorous student-led assessment for learning through KS2/3/4 using data available and tracking tools to target underachievers	Summative testing and school league tables
	Develop a portfolio of achievements and competencies in KS2-KS4 to include extra-curricular activities and levels of attainment in a variety of subjects with a diploma awarded	Up to 11 GCSE’s taken at 16 with no accreditation for extra-curricular achievements.

<p>Creating independent learners for life and responsible, productive citizens of the global community</p>	<p>Self-management through emotional intelligence to underpin all KS3/KS4 courses.</p>	<p>Teachers ‘towing’ students through the tests at KS2/3/4 thereby disempowering them and preventing them from becoming independent learners</p>
<p>Creating independent learners for life and responsible, productive citizens of the global community</p>	<p>Students taught life skills such as citizenship, an understanding of the brain and their learning styles. Life skills, enterprise and ICT within the project based curriculum at KS3.</p>	<p>PSHE and Citizenship tacked on to the overloaded national curriculum.</p>
	<p>All students to have leased laptops for use at school and at home across the curriculum</p>	<p>Classroom and lessons dedicated to ICT</p>
	<p>Teamwork and co-operation encouraged with accreditation for group activity inside and outside the classroom</p>	<p>Only individual achievement is assessed and accredited</p>
<p>Engaging learners</p>	<p>Establish the ethos and belief in all schools that intelligence can be learnt and that there are a variety of ways to be clever</p>	<p>Notions of fixed IQ</p>
	<p>Train teachers to be aware of the optimal environmental conditions for learning: stress-free, praise focused and creatively challenging</p>	<p>Controlling rather than motivating classrooms</p>
	<p>Train students to take responsibility for their own learning through an understanding of how to learn and having responsibility for their learning</p>	<p>Students expecting to be entertained and spoon fed for the exam</p>
	<p>Use assessment for learning and peer / self-assessment techniques to give students a true understanding of how to progress</p>	<p>Summative grades that neither motivate nor assist progress in learning.</p>

Engaging learners	Create a learning environment that works with the brain in mind and which facilitates peripheral learning	Classrooms built for chalk and talk with the teacher as the fount of all knowledge talking at the students
	Use novelty, variety, humour, colour, challenge and music which all appeal to the emotional brain and have clear, consistent, high expectations to motivate students	Inconsistent delivery of boring subject content through working from text books or copying from the board
	Create positive relationships using a behaviour policy that describes what we want and applies sanctions consistently	The tolerance of bad behaviour that impacts on the learning opportunities for others
	Underpin all lessons with the development of emotional intelligence to include persistence, self-awareness, self management, optimism and deferred gratification to produce resilient learners	The notion that exists amongst some students and parents that students can achieve without determination and hard work

The 21st Century Learning School – hierarchy of needs.



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