

Inquiry-based Learning – 21st Century Pedagogy?

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“To my mind, education is the spirit of enquiry, the ability to keep one’s heart and mind open to beauty and goodness, indeed all that surrounds us, to be able to think and judge for oneself. Education should inculcate a lifelong habit of learning. And today this is all the more necessary because the corpus of knowledge is increasing at a tremendous pace, often making what one has learnt obsolete.”

Indira Gandhi,

Convocation address to the North-Eastern Hill University, Shillong, April 24th 1976

If the ‘knowledge explosion’ was of concern in 1976 – well before the age of the personal computer – it should be concentrating the minds of educators all the more in the 21st century. How are we, as a society, to equip young people for the many and great challenges that we believe will face them in the rest of this century?

Optional ‘questions in waiting’

- Should a writer about inquiry-based learning be bringing those challenges more clearly to mind by listing them or, rather, encouraging a reader to make up her own mind/list?
- Have the staff at your (children’s) school spent time thinking deeply and widely about those challenges? If not, why not?

The question is perhaps more urgent than it seems, since we could equally be asking how we are to equip young people for the many and great challenges that surely face them already in the here and now: confusing, if not conflicting, values systems; many apparent choices, but not so many appropriate ones; fear of strangers, whether dangerous or generous; fear of the future itself, both personal and political; in short, tests and trials of all sorts.

There is, of course, no simple prescription for the problems, but happily there have been increasing signs since 2000 that curriculum designers are at least recognising them. The New Primary Curriculum, taking its cue from the Secondary Curriculum, now includes Personal, Learning and Thinking Skills (as well as Social and Emotional Skills) among the Essentials for Learning and Life. (See <http://curriculum.qcda.gov.uk/new-primary-curriculum/essentials-for-learning-and-life/index.aspx>.)

There is even (or meant to be) a reduction in amount of ‘knowledge’ prescription in the curriculum, as declared in the executive summary of the **Rose report**:

Many teachers have told the review that because the existing curriculum has so much prescribed content they do not have time to teach it in depth, or for children to consolidate their learning.

The Cambridge Primary Review and the Children, Schools and Families Committee also take the view that the curriculum is overloaded.

This issue gave rise to a central requirement of this review: to reduce prescription and overload by reviewing the current programmes of study so that schools have greater flexibility to meet pupils’ individual needs and build on their prior learning.

Even before this review, the QCDA had already begun to reconfigure the curriculum, through its work on the 'Big Picture'. **Knowledge and Understanding** were still one of the 3 Foci for Learning, but were now pointed in the direction of '*big ideas that shape the world*' - providing a simple and sustainable way of managing content pressure.

More questions in waiting – about **Big Ideas**

Even though the Primary Curriculum is less focussed on 'subjects' than the Secondary, it still uses headlines such as 'Geography', 'History', 'Science', 'Maths' to guide learning and teaching.

- If/when your (child's) school reviews and refreshes its curriculum, how focussed will it be on the big ideas in each of these subjects?
- For that matter, do you have a clear picture, yourself, of what those big ideas might be?

The QCDA introduced a third focus, (in addition to Big Ideas in Knowledge and Understanding, and to PLTS and SEAL in Skills) namely **Attitudes and Aptitudes**.

Arguably, this is the most important innovation of all in the Big Picture, addressing as it does the fundamental need for students to approach their learning in the right spirit. A whole paper – perhaps several books, indeed – would be required to elaborate this need in detail, but the good news is that essence of a healthy approach to learning (and teaching) can be conveyed in one simple phrase. The 'right' spirit is nothing other than the **spirit of inquiry**.

Approaching learning, if not life, in this spirit is pretty much a guarantee of maximising potential, and the rest of this article will be examining and extolling this approach, under the (slightly) more prosaic title of 'inquiry-based learning' (IBL).

(The box below fills out the focus on attitudes and aptitudes a little more, whilst a fuller, video explanation of the Big Picture is still available on http://curriculum.qcda.gov.uk/key-stages-3-and-4/organising-your-curriculum/principles_of_curriculum_design/bigpicture.aspx.)

More about **Attitudes and Aptitudes**

Determination, adaptability and risk-taking were given as examples in the Big Picture, but here are some other possible examples: *open-mindedness, empathy, accuracy, connection-making, perspective-taking*, and, of course, *criticality*.

(These examples are, in fact, among the 16 'habits of mind' promoted by the American educator, Art Costa, and they have been chosen here because of their particular affinity with the spirit of inquiry.)

- As an exercise in appreciation, by yourself or with your class, you might consider arranging these 9 'habits of mind' in 3 x 3 formation, i.e. 3 most important, 3 least important and 3 in the middle.
- In the process you might even do some metacognition (= thinking about thinking) and decide which of them is helpful in completing this particular task, or ranking.

Inquiry-based Learning – why is so desirable and yet so difficult to find?

If teachers did not have inspectors (of one sort or another) looking over their shoulders and you asked them how they would set about planning a curriculum themselves, probably most would express a desire to build on young people's natural curiosity.

It is important to be clear that such a desire need not conflict with other objectives, such as developing literacy, numeracy and the various other skills already mentioned, or building young people's knowledge and understanding of the world.

Indeed, the blight of much educational debate in the UK towards the end of the 20th century was a failure to appreciate how basic skills and knowledge should – and would – develop naturally and healthily if more faith were placed in the desire of young people, themselves, to understand and thrive in the world they have been born into.

This blight led not only to an over-prescriptive curriculum that failed '*to meet pupils' individual needs and build on their prior learning*', but also to teaching and testing regimes that stifled the very thing without which learning (and often, therefore, teaching) is so much drudgery: the learner's *motivation* to learn.

So it was that the young child's self-driven curiosity became progressively subject to external demands and extrinsic rewards, resulting in disaffected students and dispirited teachers – teachers, that is, who had themselves lost the spirit of inquiry.

Teachers and students, alike, abide in an educational culture that places much more value on student *answers* than on their questions. Not only is most formal learning in schools based on predetermined answers – what adults have decided students 'need to know'; but it is also well established that students' own questions are hugely outweighed in the classroom by teachers' questions.

A review of studies by Professor James Dillon in 1988 (quoted in *The Practice of Questioning*, Routledge, 1990) found that in an average school hour, at both primary and secondary level, the teacher asks over 80 questions, whilst the students, between them, ask just two.

Even more telling, though, is not the number of teacher questions but their nature. Again, studies right up to the turn of the 20th century showed that a very small proportion of teachers' own questions were 'higher-order' ones, i.e. likely to prompt and promote better understanding in their pupils. A Lincoln University study of secondary classrooms in 1989 put the figure as low as 4%; Ted Wragg's more extensive research in primary schools in the early 2000's came out with 8%.

So, in reality, most classrooms do not celebrate or cultivate children's curiosity.

Something of a nadir must have been reached in a school visited by a colleague of mine, who tried to get some young children to ask some questions about a mystery object. "A little girl," he reported, "said that she could not think what to ask *because she did not have the answer*. In other words, she was so used to the form of question asking coming from a teacher, who always knew the answer before asking, that she had forgotten how to ask from the position of one who does not know the answer!"

Much needs to be done to restore authentic questioning to the educational process, but perhaps the first step is to be clear that inquiry-based learning is not just another 'add on' skill: it is an entire approach, involving the will, as well as the skill, to inquire.

Inquiry conceptualised – and education reconceptualised

“For me, education is inquiry and inquiry is education.

Education as inquiry is a reconceptualization, a new way of thinking that challenges all extant definitions. Education as inquiry means rethinking reading, rethinking writing, rethinking classroom management.

Reading as inquiry, for example, is very different from reading as comprehension. While reading as inquiry still focuses on making and sharing meaning, it goes further. The meaning we make has to be used as a metaphor to deepen understanding and make sense of some other part of our lives or world.”

- Jerome C. Harste, Indiana University
What Education as Inquiry Is and Isn't (Comber Eds, (NCET, 2001)

Any educated English speaker will, of course, have an immediate intuitive understanding of inquiry, and of what it might look like in practice. They will be able to envisage a person or group – not necessarily young people - who are *deliberately striving to learn* something or other.

More precisely, they will be aiming for *understanding* (or, perhaps even beyond that, to *apply* understanding by taking some action or other). And because understanding is complex – grasping at least one ‘thing’ in the context of another, though more usually grasping several things in the context of many - they will be attending with a particular *readiness*, to ask questions as a means to understanding.

In short, this sort of learning depends upon the learner’s being *active* and *inquisitive* (a word derived from the same Latin root as inquiry: ‘inquirere’ – to seek into).

Incidentally, though there are some twists and turns in the history of the anglicised version, ‘enquiry’, from which the American use, ‘inquiry’, might seem different, there is no important distinction of meaning in this context: both ‘inquiry’ and ‘inquiry’ are the business of asking questions. ‘Inquiry’ is used in this article to be consistent with larger literature in the field – for example: http://edutechwiki.unige.ch/en/Inquiry-based_learning.

The phrase ‘Inquiry-based Learning’ is, in fact, attribute to J. Richard Suchman, a professor at the University of Illinois in the late 1960’s. But he acknowledges that such learning was effectively at the heart of the practice of **Socrates**, who was well known for posing questions that made people recognise their need to think harder in order to understand.

“If you should ever be charged in actual fact with the upbringing and education of these imaginary children of yours, so you will make a law that they must devote themselves especially to the technique of asking and answering questions.”

- Plato’s Republic

A modern curriculum designer would perhaps not go so far as Plato in trying to legislate inquiry into the curriculum, but happily there may be no need for legislation, since more and more schools and teachers are gradually reorientating their curricula towards IBL.

Among the most interesting national initiatives towards this end are Open Futures (www.openfutures.org), the Mantle of the Expert dramatic inquiry approach (www.mantleoftheexpert.com), the International Baccalaureate Primary Years Programme (<http://www.ibo.org/pypl/>), and Futurelab’s Enquiring Minds (www.enquiringminds.org.uk).

Sample bases for IBL curricula

The IB PYP programme, for example, builds around six transdisciplinary themes or ‘questions in waiting’:

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet

These themes “*help teachers to develop a programme of inquiries—in-depth investigations into important ideas, identified by the teachers, and requiring a high level of involvement on the part of the students. These inquiries are substantial, in-depth and usually last for several weeks.*”

The Enquiring Minds project, for secondary schools, suggests the following questions for inquiry:

- Why are some children in the world made to fight as soldiers in wars?
- Is there life on other planets?
- How are advances in medicine changing the way we live?
- Do ghosts exist?
- Who creates fashion?
- How are mobile phones affecting the world?
- Is there any way of getting a tiger to trust you?

Both lists certainly offer prospects for young people to pursue questions of interest and importance to themselves and their societies, but there remain some important questions for teachers who might be attracted to developing curricula along these lines.

How do you develop such basic lists into substantial and successful inquiries? How do you map the learning to the QCDA Big Picture and assess it against National Curriculum criteria?

It is beyond the scope of this article to answer such questions in detail, but here are a few ideas to whet the appetite.

Philosophical directions

Firstly, to anyone who has conducted philosophical inquiries with children of any age, it is obvious that any of the above questions could well have come up in a P4/wC session.

There would, moreover, be some pretty obvious ‘philosophical’ directions in which the inquiries might go. For example, the respective concepts of ‘soldiers’, ‘life’, ‘medicine’, ‘ghosts’, ‘fashion’, ‘affect’ (or ‘world’), and ‘trust’, (to choose the obvious ones) could do with some ‘philosophical’ unpacking.

But what about the political/geographical, biological/astronomical, chemical/sociological, theological/physical, social/economical, technological/social, ethological/emotional dimensions of the questions (to avoid putting them under the narrow, traditional subject headings)?

When, in the words of an imaginary content-driven teacher, would the ‘real learning’ begin?

The Reflection/Research cycle

Actually, of course, making sense of concepts is ‘real’ learning, driven as it is by a desire to connect – either to connect ideas with perceptions of reality, or to connect ideas with each other. This desire to connect is what makes them different from questions that merely seek new units of knowledge, such as ‘What is the name of this plant?’ or ‘How many wives did Henry VIII have?’

Such knowledge-seeking questions can help one to make sense of ‘bigger things’ – plant species, for example, or the exercise of power – but they can, equally, end up as inert knowledge, i.e. isolated knowledge that plays no part in one’s active attempts to understand the ‘bigger picture’.

Anyway, after some preliminary conceptual inquiry, students could be encouraged to devise and research some more ‘factual’ questions, in books or on the internet, or even by asking the teacher. Such questions could be collated and then distributed amongst groups for research.

Even whilst researching, students should be encouraged to keep questioning (‘philosophically’) the meanings of statements and to keep looking (‘philosophically’) for connections between things (e.g. cause and effect) and relationships between ideas (e.g. similarities and differences).

In this way, research questions could be infused with reflection questions, and indeed vice-versa. By this means the big questions of human life - who am I? where am I? where do I want to be? who do I want to be with? how do I want to be (with them)? etc. – can be connected with the minute questions that students face from day to day, and vice-versa, in a self-reinforcing cycle of learning.

And finally

Let us not forget that the Greek word **pedagogy** meant ‘leading children’, and teachers can certainly play a part in leading children to develop the skills of inquiry. But to lead a child is not to do something for her, depriving her of the power and ultimately the will to do it for herself. Teachers must deliberately nurture the will as well as the skill to inquire, as indeed the author of this article has tried to do in/for his readers. Any teacher wishing to discuss this process in more detail is invited to join him at one of his Super Seminars on Inquiry-based Learning – see www.superseminars.co.uk.