

Awakening Student Curiosity

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Abstract

This paper works off a number of premises. First, that humans are by nature curious and that it is essential to the human condition. I argue that history and myth point to human beings' insatiable thirst for the unknown but also show that the value of curiosity in society has changed substantially over time. Second, I believe that curiosity can be looked at developmentally, in that there is a spectrum ranging from basic curiosity to profound curiosity and that these levels of complexity can manifest themselves in positive and negative ways. I also remind the reader that curiosity should be recognised in its different cultural frameworks.

These ideas are developed in parts one and two of this article. Part three suggests ways that educators and educational institutions can awaken, stimulate and nurture student curiosity.

Keywords

Curiosity, teaching, knowledge, learning

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Introduction : What is curiosity ?

Curiosity comes from the Latin word *curiosus* which means “careful, diligent, inquiring, eagerly or meddling” (online etymology dictionary). To be curious is to want to know, at a deeper level, to want to understand.

Curiosity drives survival: if the leopard did not investigate the rustle in the bush, if the dog did not sniff out the trail, if the bird did not quicken to some distant chirping and if humans did not seek out sources of water, the best time to harvest a fruit or why we become sick, life would be threatened and would probably stop.

Humans seem to have a particularly developed sense of curiosity, more so than animals. According to what we know and understand about animals, they will be curious to find information to help them survive, but will not ask existential questions such as “why am I here?” or questions about the inner workings of things such as “I wonder how that works?”. We think we know this from limited studies that have been done with primates, more particularly the famous Bonobo ape, said to be man’s closest relative with a highly developed intelligence and aptitude for linguistic reasoning. Studies done on a Bonobo called Kanzi by the primatologist Sue Savage Rumbough, evoked by Ian Leslie in his book “Curious” (2014), suggest that deep curiosity is a uniquely human trait.

Humans wonder, they probe, they want to know, not just for self-preservation, but to quench a mysterious, deep thirst.

These premises will be developed in my paper to suggest how we can awaken, strengthen and nurture curiosity in learning. To get there, however, I would like us to voyage to different times in history and different places on earth to see how curiosity as a concept has morphed and can be viewed.

Part One: Historical Foundations of Curiosity

1. A genealogy of curiosity

For the ancient Egyptians, hieroglyphs contained sacred knowledge, known only by high priests and not to be shared with the common man. The first Egyptologist, Athanasius Kircher, in his erudite work *Oedipus Aegyptiacus* (1652-4), a strange and mystic work, tried to account for the occult, the hieratic, the secretive in the hieroglyphs. The Egyptian book of the Dead, during the Old Kingdom, was known only by royalty (although with the new kingdom it was extended to governors and other high-ranking officials).

Similarly, Mayan codices were known and understood only by high priests who would read them at popular gatherings but remained the only ones who could unlock their full mysteries. The Proto-Norse and old-Norse runic alphabet was made up of *Runes*, which means secrets. The runes were seen as magical talismans that contained arcane secrets.

The Vedas, among the oldest religious scripts in the world, although memorised and handed down from generation to generation, could only be deciphered and understood by sages. Vedas in Sanskrit means knowledge and is at the root of the Latin *video*, to see. For the ancients, only the few could see the deeper truths being the abstruse, complex symbols.

Essentially, ancient knowledge systems were seen as coming from the gods and this knowledge was handed down to the select few: the psychopomps who could translate it into demotic, but also hide some of the deeper, magical truths. A strong Western symbol of the secret codex is Moses, who receives God's commandments on Mount Sinai. Moses, like the other patriarchs, Adam, Abraham, and Noah, was given knowledge from God that was beyond the reach of the common man.

The Old Testament and Greek mythology are full of illustrations of the idea that some things should not be known, that it is best not to be too curious: in the book of Genesis, God tells Adam and Eve not to eat from the tree of the knowledge of good and evil and before long they do, damning the rest of humanity; the wife of Lot is told not to look back at the town of Sodom as she leaves it, but she does and is turned into a pillar of salt.

In Greek mythology, Pandora, who was significantly, like Eve, the first woman on earth, is told not to open the box she is given by Zeus. She does and releases all the evils of the world but Elpis, the Greek personification of hope. When Hades lets Orpheus rescue Eurydice from the underworld on one condition, that he walk ahead and not look back, he forgets and looks back to send her to the bottomless pit forever.

These myths showing the danger of curiosity continue with the French folktale Bluebeard, who tells his wife to use any key to the castle chambers she wishes but one which, of course, she cannot resist. She opens the door to discover the corpses left there by her husband and must die because of it, although she is lucky and survives.

2. An insatiable appetite for forbidden fruit

The pattern in these stories is one that describes the insatiable appetite humans have for the unknown, no matter how dangerous or forbidden. Therefore, we should look to young people as naturally curious. The teacher's job is to find the student's curiosity and develop it.

However, these ancient stories also outline the relationship between knowledge and power. Knowledge is power, and those who try to access knowledge threaten power. Humans are warned not to want to know too much and they are punished if they try to know what only the gods know, just as Prometheus, maker of men, was punished for stealing the fire of the gods.

In the ancient world, before democracy, before public education, before the scientific method and before any notion of human rights, to want to know too much was dangerous business. We like to talk of the first Greek philosophers as inquirers: Anaximander, Parmenides and Thales were naturally curious, but there were limits placed on their curiosity. Consider Hippasus of Metapontum, who drowned because he discovered irrational numbers (some say that Pythagoras killed him) and Socrates, who famously said that the unexamined life was not worth living, who was put to death for corrupting the youth of Athens, for asking too many questions.

Whilst one might associate a philosophical curiosity with the Ancient Greeks, the Romans expressed a different type of curiosity. The crueler Emperors like Nero and Caligula fuelled the darker sides of curiosity with the slaughter of humans and animals in amphitheatres, to satisfy the bloody curiosity of the masses who were fascinated by the many faces of death.

The dominance of the Roman Catholic Church and the Aristotelean model of the Universe stifled scientific creativity during the Middle Ages in Europe while mathematical curiosity developed with the Arabic philosophersⁱ. Acts of creativity by poetsⁱⁱ showed high levels of curiosity in religious themes, especially sin and the after world. We see how curiosity is shaped by dominant values.

Western society commonly associates the Renaissance with the breakaway from the Medieval world of dogma and injunctions, for it is with the Renaissanceⁱⁱⁱ that the church was challenged and its dominion of knowledge began to erode. It is not by chance, perhaps, that the figures we often associate with high levels of curiosity come during the deep social, paradigmatic changes brought about with the Renaissance and the Enlightenment: people such as Leonardo da Vinci, Michelangelo Buonarroti and later Francis Bacon, Gottfried Wilhelm Leibniz and Isaac Newton.

Leonardo da Vinci stands out as the ultimate symbol of human curiosity. Kenneth Clarke described him thus:

undoubtedly the most curious man who ever lived, (p. 135) ... Leonardo's curiosity was matched by an incredible mental energy. Reading the thousands of words in Leonardo's notebooks, one is absolutely worn out by this energy. He won't take yes for an answer. He can't leave anything alone – he worries it, re-states it, answers imaginary antagonists (1969)

In his notebooks, Leonardo wrote:

I roamed the countryside searching for answers to things I did not understand. Why shells existed on the tops of mountains along with the imprints of coral and plants and seaweed usually found in the sea. Why the thunder lasts a longer time than that which causes it, and why immediately on its creation the lightning becomes visible to the eye while thunder requires time to travel. How the various circles of water form around the spot which has been struck by a stone, and why a bird sustains itself in the air. These questions and other strange phenomena engaged my thought throughout my life. (Gelb, 1998, p. 50)

What we see in these notes is that curiosity is linked to a tremendous energy. Thomas Edison created more than 2000 patents, Einstein published more than 300 scientific papers, we estimate that Picasso painted 50 000 works. We see that curiosity and creativity cannot be easily disentangled from productivity. It is in doing and creating that more questions will come. Thus teachers must ensure that students brainstorm, search further, think more divergently, dig deeper and look harder to strengthen the powers of curiosity.

Francis Bacon is another figure who symbolises extraordinary curiosity. Bacon's scientific method starts with a question and then goes on to test a hypothesis, it puts curiosity at the centre of science. Bacon's own curiosity was so all-consuming that it led to his death from pneumonia after stuffing fowl with snow to see if it would be preserved this way.

With the Reformation, the codifying of the scientific method, the American and French revolutions, came a new period where curiosity was no longer hidden in the ivory tower, it became accessible to many. At the same time, the Jesuits expanded access to education, the printing press expanded knowledge and systems of modern democracy allowed for greater freedom to ask questions, to challenge, to seek.

These post-Renaissance seekers were breaking away from the docile station of the God-fearing man who dares not question the universe, by asking questions they were undoing many of the rules of religion right up until the 1850s when Nietzsche said that God was dead and Darwin's obsessive curiosity led him to propose a new origin of species, something that rid him with guilt for the rest of his life.

By the 19th Century, at least in the West, curiosity knew few limits, with Western capitals indulging in freak shows, human zoos and opium while colonists looked for more land to "discover", scientists were driven ever further to discover the mysteries of energy, code, medicine and transport.

By now, thanks to the work and ideas of positivists^{iv} and cultural anthropologists^v, curiosity about human behaviours was structured around firmly scientific principles such as observation, pre- and post- testing with experimental and treatment groups and efforts to account for independent and confounding variables.

Marx and Freud attempted to explain history and the mind, the earth was dug to find the mysteries of the past by Heinrich Schliemann and bodies are exhumed for medical research by the infamous anatomist Robert Knox.

This thirst becomes stronger in the 20th century with the discovery of the hydrogen bomb, space, the molecular structure of nucleic acid, by now scientific curiosity is hurtling towards the 21st century in search of singularity, brain science, stem cell research and endless paparazzi details about the debauched lives of Hollywood stars and reality show curiosity in the boring lives of everybody and nobody. Today we speak of a curiosity quotient^{vi} as a necessity for survival let alone success. We are very far from Adam and Eve.

So not only should the teacher find the spark of curiosity within the student, the teacher has to equip young people to be curious in an age of extreme curiosity.

3. The limits of curiosity

However, it would be naïve to think that we have been freed from the ancient world entirely. The idea that asking too many questions will get you into trouble still has its traces in the language we use, with phrases such as "ignorance is bliss", "better the devil you know", "curiosity killed the cat". Curiosity is not always appreciated, even in 2014: in some places girls are not allowed to go to school because it is considered improper for them to know too much, in some countries, governments do not allow freedom of speech, in some organisations you will be removed if you ask too many questions. "One who is too wise an observer of the business of others, like one who is too curious in observing the labour of bees, will often be stung for his curiosity" said Alexander Pope.

There are also ethical and technical limitations that stop us from investigating the far reaches of human sensitivity, the universe or the centre of the earth. We could ask when curiosity is too much, for instance when it turns on people's privacy, when it becomes obscene and invasive. There are also political debates about whistle blowers such as Julian Assange or Edward Snowden. When should we stop being curious and what is the price to pay for curiosity? Perhaps if we stopped paying attention to the Islamic State, if nobody was interested in seeing their barbarity on the web, they would be infinitely less powerful?

This brief historical overview shows us how, in the Western world, the notion of curiosity has changed through time from something dangerous and profane to something mainstream and encouraged. I give this overview to remind us that curiosity, like love, is not necessarily a given, it is a socially and historically shaped construct.

Part Two: Cognitive and Affective Levels of Curiosity

John Dewey, in *How We Think* (1910), ranked curiosity from physical (mindless, agitated seeking) to social (“why” and “how”) and finally to intellectual (problem solving), and taking into consideration thinking taxonomies such as Bloom’s taxonomy (1954), revised by Anderson & Krathwohl (2001), Biggs and Collis’ Structured Observation of Learning Outcomes (1982) and Piaget’s stages of cognitive development (1969), I propose a cognitive hierarchy of curiosity:

4. A cognitive hierarchy of curiosity

FACTUAL CURIOSITY or FIRST LEVEL

“what”, “who”, “when” questions seeking factual knowledge, desire for quick closure, identification and storage. Interest essentially in objects, places, events and names.

COMPREHENSIVE CURIOSITY or SECOND LEVEL

“why” questions seeking explanations that allow for understanding. Closure after acceptable explanation, possibility of chained questions (“why” within “why”). Interest in reasons, particularities, situations and results.

PROCEDURAL curiosity or THIRD LEVEL

“How” questions seeking to understand how something works, how the interrelated parts function. Closure after deep understanding. Interest in systems, relationships, function and causation.

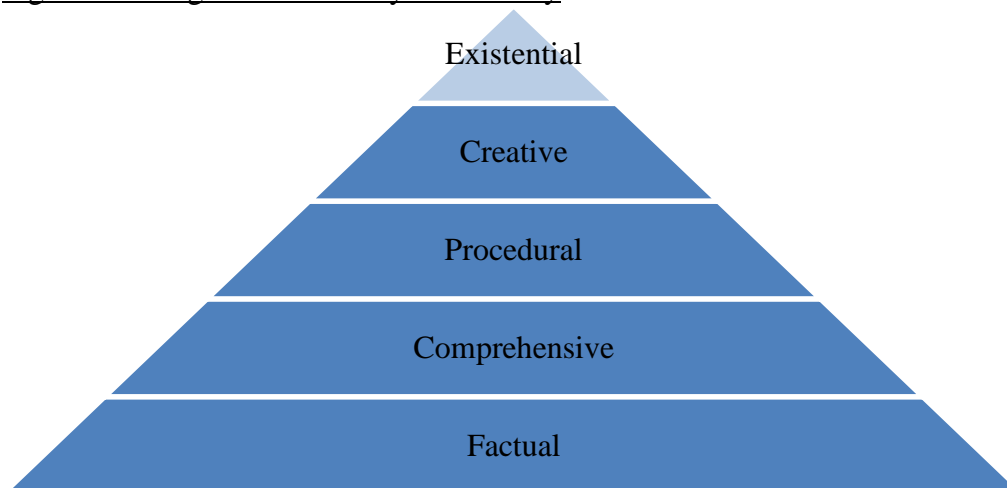
CREATIVE CURIOSITY or FOURTH LEVEL

“What if” questions seeking imaginary scenarios, likelihood and uncertainty, the future or unknown. Little closure or closure only after successive scenarios have been envisaged. Interest in the future, conditionals, hypotheses, conjecture, inferences.

EXISTENTIAL curiosity or FIFTH LEVEL

Cosmic and spiritual “why” questions synthesising reasons, systems, eventualities, hypotheses to ask big questions about identity, meaning of life, ethics, truth. Little or no closure. Interest in everything.

Figure 1: A cognitive hierarchy of curiosity



Like Bloom's taxonomy, these five areas can be viewed as a pyramid: in order to be at one level you need to have mastered the ones before. For example, "why" questions ("why does it do that?") rely on "what" questions ("what is it?"); "what if" questions presuppose understanding of what, why and how. Unlike Bloom's taxonomy, however, the fifth and highest level of curiosity does not necessarily build on the others since deep philosophical questions that might be posed by very young children do not necessarily presuppose understanding. They are, nonetheless, at a high level of cognitive processing.

5. An affective hierarchy of curiosity

We can graft the affective domain over the cognitive, for curiosity in human enterprises follows a similar hierarchy from factual to existential questions. So far I've taken the side of the curious, those who want to know more, search further, dig deeper. But curiosity can be dangerous, something that is perhaps at the root of many of the symbolic tales of antiquity that warn against it. I'll suggest the dark sides of curiosity by ordering them in increasing magnitude, from negative to deathly curiosity, thus suggesting an affective hierarchy.

Gossip

Surely the most elementary type of unhealthy curiosity is gossip, nosiness, inappropriate and invasive curiosity into other people's private spaces, especially when it is about bad news - and as they say, bad news travels fast. Low-brow publications such as tabloid newspapers fuel this type of curiosity. It should be noted that what spreads gossip is as much the person speaking as the interest from the person listening. We like to point fingers as gossips but it does not stop ourselves from listening to them.

Schadenfreude

Gossip is a childish version of a deeper, darker force: the curiosity that consists in taking pleasure in the misfortune of others and wanting to know as much as possible about their suffering. This can be seen in conversations where interlocutors show an indecent or even obscene interest in the details of tales of endurance and suffering.

Unlimited scientific curiosity

When curiosity reaches for higher things, it can become monstrous. Where do we draw the limits of scientific curiosity? There are some things we will never know, or in any case should

never know, because using an experimental method would mean making people suffer or die. Consider Nazi human experimentation. Should experiments on animals be allowed in an era when we know so much about animals' feelings, intelligences and sentience?

We could also debate scientific experiments that are potentially dangerous or will lead to dangerous discoveries, such as the curiosity that led to the invention of the hydrogen bomb, to give but one example.

Destruction

There is a type of stupid but profoundly harmful curiosity that consists in destroying things to see what the outcome will be, like the child who smashes an anthill to see what it looks like inside. While we might understand this as a basic and fundamentally undeveloped sense of curiosity that can be excused in young people, it needs to be curbed. We might be interested in knowing what a broken statue looks like or what is inside an animal's body, but if our curiosity is not held back and we allow ourselves to kill and break because of it, there will be little left to discover. The human zoo of the 19th Century, was a breaking of human dignity.

Human curiosity, if not curtailed by a sense of respect for life on earth, the work of others or that which is sacred to some people, becomes little more than an expression of self-centredness and greed. We might make a distinction here between decadent individual curiosity with no intended product or outcome and scientific or philosophical curiosity, which might need to transgress certain taboos to establish the truth. The case of body snatching in the 19th century by researchers in medicine is an example. One might ask in the 21st century whether stem cell research and cloning should be allowed to take place in the name of scientific curiosity or whether we should draw the limits of curiosity and accept the ancient messages of Pandora's box and Bluebeard.

Cruelty

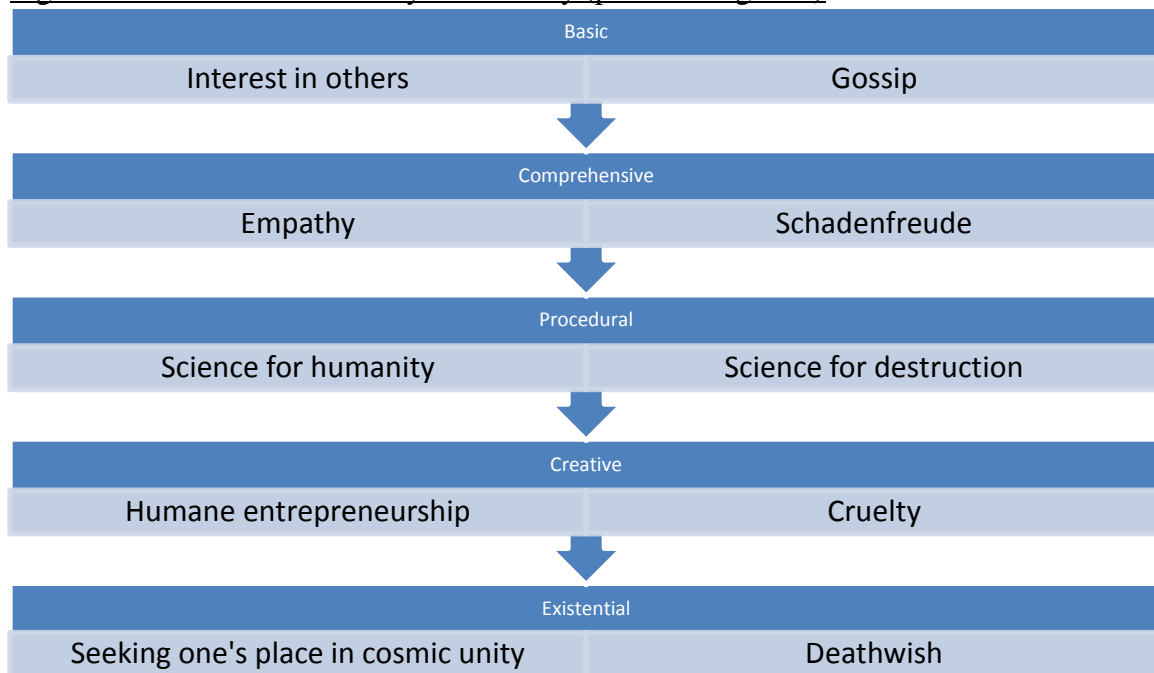
Cruelty is rooted in curiosity: the cruel person is curious to see another suffer, find out how much pain he or she can endure, like the child who tortures insects or the psychopath who tortures victims for pleasure.

If someone has few or no ethical boundaries and has free reign over others, there is no end to the amount of cruelty that he or she will be capable of. Famous historical examples of the atrocities of cruel leaders such as Ivan the Terrible or more recent examples such as Eichmann or Pol Pot bear testimony to this.

The Liebestot

Exploring the limits of what the human body is capable of, experimenting with one's health, putting oneself in dangerous situations are all related to a sense of curiosity in death, a liebestot or death wish.^{vii} It stands to reason that we should be curious in death because it is something that escapes us, an enigma. However, that curiosity can turn into a morbid obsession if we are not careful to pull away from it.^{viii}

Figure 2: An affective hierarchy of curiosity (positive/negative)



6. Cultural expressions of curiosities

The Western tradition of curiosity has been rooted in an assumption that we can make sense of the world, that there are answers out there that will explain systems, structures and phenomena. This starts with the pre-Socratics believing that there was some fundamental entity that could explain the working of the world up to the giants of the 19th century who believed that there was some rational explanation for human thought, historical and biological change. The 21st century, with the large hadron collider searching for scientific answers to the origins of the universe, has not escaped the prism of logos.

This firm belief in reason as an answer to everything has led not only to a series of explanations and theories, but technological development which in turn has affected human societies in dramatic ways, not always positive.

We might be led to believe that curiosity is more prominent in Western scientific paradigms that encourage creative thinking, innovation, philosophical questioning and breaking away from traditions. However, we must keep our minds open to the idea that curiosity can take many forms and extends beyond the scientific, technical, philosophical or artistic domains.

Consider an elder in an African village who asks many questions about a young man's relatives, since he is curious to trace the man's genealogy, situate him in the large social network that he knows and transmits to younger. Here is a form of curiosity. Consider the long, exaggerated greetings that you may find in many Muslim societies, known as "Salamaleks" in French, where endless questions are asked about family members out of curiosity, here is an example of curiosity in other people.

If we turn to Chinese culture, think of Confucius' words in the Analects (*Lunyu*) where he speaks of a greater unity that binds all things: "He who learns without thought is utterly confused [says Confucius]. He who thinks without learning is in great danger" (II 15). These words of wisdom remind us that curiosity can be superficial and misguided, that it is a catalyst but not an answer in itself.

All this to say that whilst in a Western matrix of education, certain forms of scientific and artistic curiosity are generally considered as being of the higher worth, non-Western traditions of interpersonal, proverbial or wisdom-based curiosity have much to teach us too.

Part Three : How to Awaken Student Curiosity

7. Curiosity and Learning

"The first and simplest emotion which we discover in the human mind, is curiosity" (Edmund Burke).

Curiosity is a form of motivation that is an essential prerequisite to learning. It can be situated within the cognitive, affective and creative domains, but how do we activate it and nurture it to become a set of powerful thoughts, feelings and actions. If curiosity – like imagination – is a vital potential driver of learning, which pathways must be opened for it to develop?

The best learning occurs because the learner wants it to occur and is curious. If the individual is not interested in what we are trying to teach, the battle is lost before it has started. Hence the first great challenge of the educator: to make that which will be learned interesting for the learner. Jean Jacques Rousseau was one of the first philosophers to make this clear in his book *Emile* (1762). Before Rousseau, theories of education were mainly Platonic and played down the psychology of the learner. The Socratic method helps critical thinking by making the learner reflect on his or her assumptions and beliefs, it does little to stimulate curiosity. Figures who ask questions in the Socratic dialogues seem naturally curious, it's a given whereas Rousseau problematises curiosity and recognises that it must be nurtured by and of itself.

John Dewey turned to curiosity in his 1910 masterpiece *How We Think*.

Dewey advocated reflective thought, a consecutive ordering of thought into purposeful chains. This type of structured, consciously trained thought is a way of harnessing and carving curiosity productively so that it does not remain in the abstract mess of "inconsequential trifling with idle fancy and unsubstantial hope" (p. 31)

At the centre of human phenomenology is a vital and rudimentary curiosity that must be developed to attain higher levels of thought:

So curiosity in its raw state can simple be daydreaming [...]. In its first manifestations, curiosity is a vital overflow, an expression of an abundant organic energy. A physiological uneasiness leads a child to be "into everything" — to be reaching, poking, pounding, prying. . . The most casual notice of the activities of a young child reveals a ceaseless display of exploring and testing activity. Objects are sucked, fingered, and thumped; drawn and pushed, handled and thrown; in short, experimented with, till they cease to yield new qualities. Such activities are hardly intellectual, and yet without them intellectual activity would be feeble and intermittent through lack of stuff for its operations. [. . .] Curiosity rises above the organic and the social planes and becomes intellectual in the degree in which it is transformed into interest in *problems* provoked by the observation of things and the accumulation of material. (p. 31).

8. Teaching Curiosity

When reflecting upon curiosity specifically, the teacher's job is to create learning experiences that do four fundamental things:

a. *Creating an atmosphere of wonder*

Each student's curiosity needs to be awakened. This is done by communicating passion for learning (Hughes, 2012), the beauty of what it is to be learned, a sense of deep wonder in the unknown. There should be an energy in the classroom that provokes interest. If a teacher is tired, uncaring, ill-prepared and boring, how can anyone hope for a spirit of curiosity to reign in the classroom? Note that this does not mean pyrotechnics, sage-on-the-stage monologues, edutainment or teacher-centred self-indulgence, it means an attitude of curiosity: the teacher should be searching to know as much as the students, a co-learner battling to find out how the deep the rabbit hole goes. An atmosphere of wonder can set the socio-emotive stage for each student's curiosity can be taken to a higher level.

b. *Differentiating instruction to nurture each student's curiosity*

Each student's curiosity must be nurtured. Instruction and curriculum should be modified so that different approaches and types of questioning are met (Tomlinson, 2001). This means carefully designed differentiated tasks allowing for multiple levels of inquiry to flourish. If students know something, it should be compacted, if they are ready to follow the next logical step in their learning, the teacher should provide the scaffolding for that next task. Student's curiosity will wither if they are left idle at a table because a learning experience was too simple for them. Modern technologies with functionalities such as adaptive testing and the capacity for personalised learning paths can facilitate this.

c. *Designing Learning experiences that take students up the curiosity taxonomy*

Appropriate to each learning environment and stage of cognitive development, teachers can think about tasks that take students up the taxonomy. This table gives an idea of how that can be done:

Level of curiosity	Questions	Tasks	References
Factual & Comprehensive	What? Where? Who? Why?	Open-ended research projects; flipping the classroom, questioning for understanding	Kahn Academy Mitra (2013) (SOLE) Montessori method Short (1996) , Kolb (2000) (Inquiry cycles) Black & Wiliam (1998) (formative assessment to deepen the appreciation of learning) Pierce (2000) Flipping the classroom
Procedural	How?	Graphic organisers (Concept maps, fishbone diagrams, consequence wheels); Explanations using multiple intelligences; empathy and role-play; tasks promoting deep understanding of concepts and systems; dialogic learning;	Alexander (2006) (dialogic teaching) Erickson (2007) Concepts-focussed learning Wiggins & McTighe (<i>Understanding by Design</i>) Land (2005) (threshold concepts) Heritage (2008) (learning progressions) Gardner (1983) (Multiple Intelligences) Hattie & Timperly (2007)(feedback on learning)

		metacognition.	Flavell (1976) (metacognition)
Creative	What if?	Use of creativity protocols such as SCAMPER or TRIZ; problem- solving and problem-finding tasks (such as Odyssey of the Mind); design; programming; creating.	Ritchart & Perkins (2005) (Project Zero) Guilford (1950) (divergent thinking) Chandra Handa (2011) (Learner-centred framework of creative pedagogy) Altshuller (1996) (TRIZ) Odyssey of the Mind
Philosophical	Deep Why?	Philosophy for children, Service Learning; Mindfulness; Moral and civic education	Lipman (2003) (Philosophy for Children) Cam (2006) (Thinking Stories) Hughes (2014) (Prejudice Reduction)

d. Allowing for autonomy of learning

Students should be deprived of the answer. Problems should be set and the students should be left to find the answer. The teacher’s job is to take the spirit of inquiry further with the right kind of questions (why? How? What if? What makes you say that? What do others think? What if I said the opposite? Can you justify that? Can you say that or do that differently? Is there another way? Do you agree?) (Myhill, 2006).

9. School Environments for the Development of Curiosity

a. Valorising student’s curiosity

If a school cares about student curiosity then it should not only expect students to show a curious attitude towards the things it requires students to know but should try to show some interest in students’ various curiosities and interests. This can be done by promoting student portfolios that allow students to share with others what they do outside of school (Jones, 2012), broadcasting student passions (in the performing arts for example) around the school, ensuring that there are extra and co- curricular learning adventures that allow the furthering of student curiosity (fieldtrips, exchanges, competitions, visits).

b. Following up on students’ curiosity

School needs to identify and nurture the curiosity of students by giving them opportunities to follow their interests further, whether these are part of the formal curriculum or not. The school librarian has a crucial role to play in this as (s)he will be able to direct students to sources that will reinforce their interests. Teachers should ask students what their interests are and direct them to sources that will further nourish this curiosity. Schools should ensure that assemblies, performances and celebrations allow students to extend their curiosity and develop it.

c. Creating an environment that stimulates curiosity

Schools should constantly seek to expose students to a variety of human, artistic, scientific and physical experiences that will inspire them, give them new ideas and pique their curiosities. These can include what we do already: visits to fairs, museums, industries, galleries and concerts; apprenticeships; conferences etc but it can go much further with teachers not being afraid to share their passions with students and allowing students more power in the sharing of knowledge. The school, like the family, needs to model a

relentless interest in other people. It is sad to be in a conversation with someone who shows no interest in what you do or who you are. I believe that it is a universal construct to show interest in other people, not to sit before them without asking any questions about them. Self-interest and a lack of interest in others is merely bad manners and schools, like other educational institutions, must educate students out of this .

Conclusions

Schools can do much more to nurture young people's curiosity. Student voice can play a much more active role in designing learning experiences. Students are capable of improving teachers' course outlines, they can find problems, dream up scenarios, imagine lessons and make connections we might not be able to, for they are curious and imaginative. None of this will weaken the teacher, only strengthen the learning. As the Indian poet Rabindranath Tagore said, "don't limit a child to your own learning, for he was born in another time".

Conversations with young minds should take them further and further down the road of curiosity. "What would happen then?" we should ask, "what would the consequences be?", "what if we did it this way or that way?", "what do you think?", "why do you say that?", "what else?", "what more?", "keep going, don't stop imagining, dreaming, seeking!" we should proclaim. If we can design tasks that push students to probe deeper and if we can reward the seeking more than the right answer, we will be promoting curiosity.

The Internet, according to Ian Lesley, detracts from "epistemic curiosity" and makes us less curious.^{ix} I disagree. Whilst many elements of modern society are displeasing, yoking an unlikely mix of hedonism, narcissism, violence, fundamentalism, selfishness, greed and unsustainability, there is little proof that we are less curious because of it – although our curiosities might not always be turned to the higher things in life, as history has shown.

Without curiosity, there is no life. Curiosity drives survival and makes us human. It is our job to awaken, nurture and develop higher forms of curiosity and not to let such vital energy turn to petty, undeveloped, unethical or addictive behaviours. If we look at ourselves critically, if we value wisdom and inner-harmony, we will move to the highest levels, the spiritual, cosmic "why" questions, those that put character development at the centre of education.

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ⁱ Averroes, Al-Gazali and Avicenna.

ⁱⁱ such as Dante, Chaucer or Boccaccio.

ⁱⁱⁱ with figures such as Giordano Bruno, Johannes Kepler, Galileo Galilee, Nicolas Copernicus.

^{iv} such as Auguste Comte, Emile Durkheim and Max Weber.

^v such as Claude Levi-Strauss.

^{vi} a completely unscientific notion invented by the journalist Thomas Friedman.

^{vii} A good example of this can be seen in the short story *Death in Venice* by Thomas Mann: Gustave Von Aschenbach is drawn to his demise by an insatiable curiosity in the dark side: his alter ego. Von Aschebach's demise is brought about by his obsession for a boy with whom he falls in love. This relates to the twin brothers, love and death, Eros and Thanatos in Greek mythology: the children of chaos.

^{viii} the way that Odysseus had his sailors tie him to the mast of his ship as the boat sailed passed the sirens, whose shrill cries no man could resist.

^{ix} Francis Bacon complained about curiosity serving petty causes in *The Advancement of Learning* (1605). The text could well apply to the 21st Century: “For men have entered into a desire of learning and knowledge, sometimes upon a natural curiosity and inquisitive appetite; sometimes to entertain their minds with variety and delight; sometimes for ornament and reputation; and sometimes to enable them to victory of wit and contradiction; and most times for lucre and profession; and seldom sincerely to give a true account of their gift of reason”