

Educational value of Curiosity

“**Curiosity...** is the spark that can lead to breakthrough innovation. ... it helps produce more than new ideas.” (A. Ignatius, 2018).

We believe that curiosity is vital to learning. Many studies have shown that if a student is curious or the subject matter generates learners’ curiosity, then the student learning is deeper and that they remember better (Dyche & Epstein, 2011; Yuhas, 2014).

The quotation cited above is the editorial by Ignatius (2018) in a current issue of the Harvard Business Review. Ignatius, as the Editor-in-Chief, was drawing attention to the recent research “*The Business Case for Curiosity*” published in the same issue of HBR, by his colleague Francesca Gino (2018). According to Ignatius (2018), the “*Recent research ... points to several surprisingly practical benefits for business: In short, curiosity boosts business performance.*”

There is also an interesting *link* between the ‘*curiosity for learning*’ and ‘*lifelong learning*’, as reported by Yang (2018): “*In Finland, lifelong learning is fast becoming a way of life. Schools start kids young by nurturing their curiosity for learning... .*” Indeed, one of the major aims of medical and health professions education is to equip learners with lifelong learning skills so that, as the end-products of education (i.e. as learners become the new generation of healthcare practitioners upon graduation), they would already possess the skills and motivation for lifelong learning to ensure, firstly, their professional competence throughout their respective professional lives and, for a smaller cohort, to acquire new knowledge and skills to become discipline experts.

A learning design commonly used in the 21st century is interactive teaching- learning in which the teacher interacts with learners and the latter also interact among themselves. The teacher merely guides the learning process through ‘QUESTIONING–Listening and Responding’; learners also interact in like manner as they learn (with – from) each other (see figure 1, below). In such active learning situations, the *power of questioning* will induce learners need to *think deeply, critically and creatively* about likely answers to the questions posed! This should arouse the curiosity of learners about what they are learning (i.e. *arouse the curiosity for learning*) which should become habit-forming with time! Thus, ultimately, the *power of habit* should lead to the systematic development of lifelong learning skills.

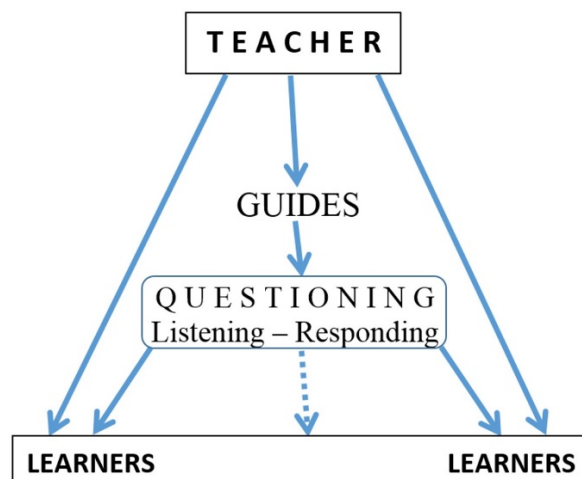


Figure 1. Interactive Teaching-Learning. A useful learning design to nurture, firstly, *curiosity for learning* through the power of questioning (i.e. by asking ‘smart’ questions like “why...”, “what if...”, “how might we...”) and, ultimately, to systematically develop lifelong learning skills through the power of habit.

Teachers will need a major role change to engage effectively in interactive teaching-learning: in particular, teachers need to undertake a major educational paradigm shift from “just informing” to “involving students actively” in the teaching-learning process. When our role as teachers is mainly that of “*just informing*” (as in didactic lectures), then the primary focus of student learning will be on *factual content* i.e. learning will be focused mainly on *fact memorisation*.

However, when learning is focused on involving students actively, then students need to engage in peer to peer learning, i.e. the students learn (with-from) each other through social learning that involves active social interaction; such learning will require intellectual as well as interpersonal inputs from learners, as they need to think and collaborate in their search for likely answers to the questions posed.

“Most of the breakthrough discoveries and remarkable inventions throughout history from flints for starting a fire to self-driving cars, have something in common: they are the result of curiosity.” (Gino, 2018).

Teachers should, therefore, exploit the phenomenon of curiosity (an innate human quality) to enhance student learning! But what is curiosity? There is a common saying that curiosity kills the cat! However, *curiosity* has been defined as “The impulse to seek new information and experiences and explore novel possibilities... [It is] a basic human attribute.” (Gino, 2018), and also as “... a penchant for seeking new experiences, knowledge, and feedback and an openness to change.” (Fernandez-Araoz, Roscoe, & Aramaki, 2018).

After all, there is a close link between curiosity for learning and lifelong learning, as discussed above. So curiosity should be the spark for learning, and nature has endowed all of us with the special gift, curiosity, to ensure our very own survival in this world.

Dujeepa D. Samarasekera & Matthew C. E. Gwee
Centre for Medical Education (CenMED), NUS Yong Loo Lin School of Medicine,
National University Health System, Singapore

Fernández-Aráoz, C., Roscoe, A., & Aramaki, K. (2018). From curious to competent. *Harvard Business Review*, September-October 2018. Retrieved on November 1st, 2018 from <https://hbr.org/2018/09/curiosity#from-curious-to-competent>.

Dyche, L., & Epstein, R. M. (2011). Curiosity and medical education. *Medical education*, 45(7), 663-668.

Gino, F. (2018). The business case for curiosity. *Harvard Business Review*, September-October 2018. Retrieved on November 1st, 2018 from <https://hbr.org/2018/09/curiosity>.

Ignatius, A. (2018). Cultivate curiosity. *Harvard Business Review*, September-October 2018. Retrieved on November 1st, 2018 from <https://hbr.org/2018/09/cultivate-curiosity>.

Yang, C. (2018, October 15). Lifelong learning is a big thing for Finns. *The Straits Times*. Retrieved on November 1st, 2018 from <https://www.straitstimes.com/world/lifelong-learning-is-a-big-thing-for-finns>.

Yuhas, D. (2014, October 2). Curiosity prepares the brain for better learning: Neuroimaging reveals how the brain’s reward and memory pathways prime inquiring minds for knowledge. *Scientific American*, 311(4), 6-100. Retrieved on November 1st, 2018 from www.scientificamerican.com/article/curiosity-prepares-the-brain-for-better-learning.