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Is anybody there? Is there anyone who would like to communicate?

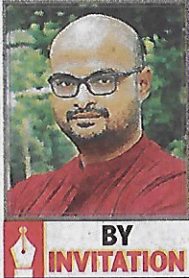
If you think these questions represent the proceedings of a séance, you are mistaken. For many of us in the business of teaching, it is our earnest, and often futile, invocation to students to participate in classes in the post-Covid online teaching world.

While we emerge gingerly from the Covid crisis, it is essential to deeply introspect what the new mode of education entails. The pandemic has brought about seismic shifts in how students and educators engage with the process of learning. I present an assessment and a few possibilities.

An initial analysis may focus our attention towards seemingly obvious impediments to traditional classroom experiences, such as intimate face-to-face deliberations, brought about by the online format. But this detracts us from exploring the opportunities the new reality presents.

Firstly, the sudden shift away from a brick-and-mortar environment, has put our existing skills to the test. For instance, how are we supposed to conduct case discussions à la Harvard, wherein the very architecture of the class (U-shaped, students face each other rather than the instructor) is instrumental to the efficacy of the pedagogy?

In an online set up such an arrangement is non-existent; herein, one is close to everyone but no one at once! Our natural and perhaps naïve proclivity is to, quite vainly, mandate that every student engages actively by keeping their camera switched-on at all times. We forget that our physical absence makes this difficult to achieve.



# To Teach or Not to Teach, That's the Question

Covid has thrown teaching methods into chaos. Teachers need to shed the traditional garb of instructors, emerge as learning architects and bring back the joy of learning to students

The above model based on enforcement implicitly instates the teacher as the sole source of authority and squarely falls into the traditional paradigm of: One must always listen to the teacher.

Ironically, the new medium, by design, is fiercely democratic. It empowers, and it endows participants with tremendous agency in taking charge of their learning needs. In this scenario any attempt at recreating the brick-and-mortar experience is Sisyphean at best.

It becomes convenient for one to attribute the failings to student disengagement, or to their insincerity. On the contrary, engaging students in the new environment depends on spurring them in self-propelled goal directed searches. These searches assume a liberal use of the Internet and the Social Media.

Thus, technology can become inseparable from the learning process, versus distractions in their own right. In orchestrating a decentralized enterprise like so, educators must possess a map of learning possibilities (or pitfalls) that students may uncover (or fall into) following their organic searches, beforehand.

Such maps will be flexible and dynamic. Developing these will be non-trivial, given the unpredictability introduced by lack of control. Interdisciplinary thinking, constant tinkering, and the ability to deal with ambiguity will be at the heart of such developments. The educator can not expect to go

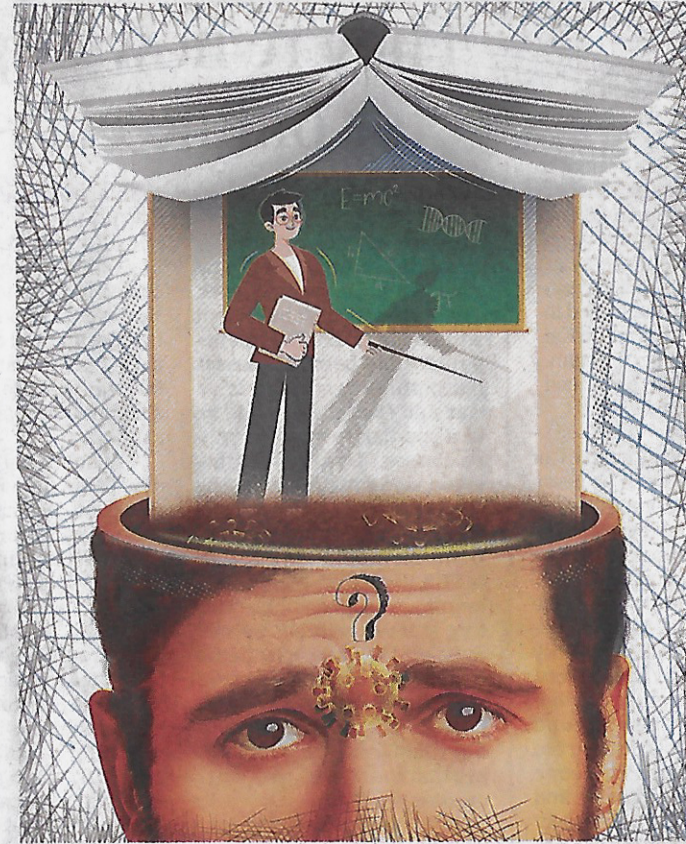
to class fully prepared like before.

Further, the learning material and the learning experience will co-evolve, being loosely controlled by the educator who will now assume the role of a cognizant facilitator (versus a knowledge disseminator) in co-creating knowledge with the participants. Given the centrality of goal directed search, the new mode is bound to stoke participants' curiosity and their sense of intrigue and discovery.

Most significantly, the new mode can greatly encourage participants and bestow them with a sense of journey and joy in line with Anatole France's (French littérateur and Nobel laureate) submission: nine-tenths of education is encouragement. Engagement may become a foregone conclusion hence. Other essential ingredients in this regard may include elements of improvisational theater and storytelling, wherein the skill to manage the learning experience (or the show) seamlessly, by manipulating content and media in real time, becomes indispensable.

In designing environments conducive to self-driven learning, we can take inspiration from both the past and the future. Seymour Papert, the inventor of the computer language: LOGO, in his seminal book: Mindstorms, challenges the institutionalization of education.

Papert surmises that our collective failure in creating a learning environment is the *raison d'être* for physical classrooms. In simple terms, by artificially designating places of learning we implicitly contain learning at particular times of the day (classroom



hours), and at particular places (physical classrooms).

Papert notes that for a child in France, learning French comes naturally, sans a formal classroom. This notion is a fantastic model for us; it is imperative to design environments where learning becomes inevitable. Herein, contemporary technological developments present a tremendous scope.

Mitchel Resnick, Lego Papert Professor of Learning Research at the MIT Media Lab, underscores the importance of engaging participants' senses through physical manipulative materials such as the Froebel's Gifts (after the German educator Friedrich Fröbel, the founder of the kindergarten): a collection of seemingly innocuous play-items: yarn balls, wooden

blocks, strings, toothpicks, etc.

In his book titled: *Lifelong Kindergarten*, Professor Resnick narrates how the toothpicks became the inspiration for Buckminster Fuller's (famous American architect) unique geodesic domes. The simplicity of these elemental materials is its greatest strength: simplicity creates space for the child's (or the learner's) imagination to blossom ('kindergarten' in German means 'a garden of children').

Similarly, we need to create the Froebel's gifts of today and present learners with basic objects that they can easily manipulate and think with. Thereby, we can help learners craft their own theories of the matter they are interested in learning. Contemporary technological developments in AI, Augmented Reality, Virtual Reality, printing, computer vision and imaging promise to take us further in this regard by integrating our physical and digital spaces.

In these integrated environments participants can, for example, work jointly in developing shared models that evolve in near real time with class deliberations. Such a situation is reflective of an intranet of minds, a group of highly connected participants engaged in joint exploration and integration of ideas, in co-creating coherent learning outcomes.

Our ability to access, present and manipulate information at will, facilitated by technology, will be the cornerstone of such an experience. Ultimately, we will be limited only by our creativity.

An important part of experiential learning is our ability to use

our bodies in the process. Imagine a child turning three times at right angles after subsequent moves in a straight line to chart out a square in the sandpit. Pioneering advancements in Human-Computer Interaction at the Tangible Media Group, MIT Media Lab, headed by Professor Hiroshi Ishii, provide intriguing possibilities.

These advancements are specifically aimed at enriching human interaction with the digital world by creating physical embodiments of digital information or by creating programmable materials that change form or appearance dynamically (eg. materials that respond to hand gestures). These models thrive on our natural tendency to learn from our multisensory and tactile experiences.

These artefacts are protean by design, but tactile in nature, lending unprecedented interactivity, superseding the sensorial limitations posed by graphical user interfaces (GUIs). This new environment marries the flexibility of the digital environment with the tactile, or more generally, the sensorial nature of the modalities fundamental to human experience.

We will be at one with the environment, the ideal classroom where learning just occurs (from Martin Heidegger's: *What is Called Thinking?*). A paradoxical corollary of this will be educators' simultaneous existence and non-existence, much like Mark Weiser's (father of ubiquitous computing) futuristic vision of technology: An invisible servant available anywhere and everywhere.

The pandemic is a clarion call for us to shed our traditional garb of instructors, and emerge as learning architects. At the core of our enterprise will be our duty to bring back the joy of learning in engaging our students.

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