Redesigning the medical school learning environment to meet 21st century skills

Marambe, K.N.

Introduction

The learning environment, in a broad sense, refers to the educational (approaches to teaching, learning and assessment) and the organizational environment (influenced by administrative and financial regulations of the institute). Addressing the issue as to how the educational and organizational environment of educational institutes influence students' and teachers' behaviour, Genn (2001) indicated that perceptions of the environment designated as 'climate' are related to learning behaviour. The learning environment is also viewed as manifestations of the operationalization or conceptualization of the curriculum. Hence, according to Boomer (1982), 'curriculuming' or curriculum development should consist of changes in the educational as well as organizational structure of the institute.

Furthermore, as described by Abbott (2014), the learning environment encompasses diverse physical locations, contexts, and cultures in which students learn. The term "learning environment" suggests place and space, which could be a library, faculty, hospital, or a community. It is observed that, similar to the past, much of 21st century learning takes place in physical locations such as these. However, reflecting on today's interconnected and technology-driven world, a learning environment can be virtual, online, or remote, i.e. it does not have to be a place at all. In this regard, drawing on the ideas expressed in Partnerships for 21st Century Skills Document (*www.p21.org/storage/documents/le_white_ paper-1.pdf*), a better way to think of 21st century learning environments is as support systems that organize the condition in which humans learn best. Systems that accommodate the unique learning needs of every learner and support positive human relationships are needed for effective learning.

Thus, learning environments are the structures, tools, and communities that inspire students and educators to attain the knowledge and skills the 21st century demands of us all.

Director, Medical Education Unit
Faculty of Medicine, University of Peradeniya, Sri Lanka

Email: kosalnm@yahoo.com

Learning does occur outside the classroom and in a wide variety of settings, such as in the community and outdoor environments. The term learning environment also encompasses the culture of an institute, its presiding ethos and characteristics, including how individuals interact with and treat one another, as well as ways in which teachers may organize an educational setting to facilitate learning, e.g. by conducting classes in different contexts (hospitals and community settings), arranging classrooms for greater interactions or utilizing audio, visual, and digital technologies. It is also well known that qualities and characteristics of a learning environment are determined by a wide variety of factors, institute's policies, governance structures, and other features. Hence, they are also considered elements of a learning environment. Moreover, how adults interact with students and how students interact with one another may also be considered aspects of a learning environment, and phrases such as "positive learning environment" or "negative learning environment" are commonly used in reference to the social and emotional dimensions of a school or class.

Shift in teacher-centred to student-centred environments

Several decades ago, when the availability of text books, technologies such as photocopiers and printing devices were limited, and the internet was absent, the teacher-centred environments were popular and prescribed-teaching was the most sought after. Teacher-centred environments are characterized by many didactic lectures and few student-teacher interactions. In such environments, students have little flexibility to decide on the place and time of learning, and thus the learning process is under strong teacher-control. Such strong teacher-control, especially in the first year in the Medical Schools with prescriptive teaching is thought to be helpful in the transition process leading to less drop outs. However, in this digital age amidst rapid advancement of knowledge and increasing demand for active and contextual learning, the trend is for all educational institutes to move towards the learner-centred end of the spectrum. Learner-centred environments respect the individuality of learners and offer more support for students

in the form of early and frequent feedback and facilities for learning in a flexible way.

Outcome-based education and redesigning learning environments

At a time when outcome-based education (OBE) has gained popularity, higher education institutes are busy trying to redesign their learning environments. According to Spady (1994), OBE means 'clearly focusing on and organising everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experience'. Therefore, outcome-based institutes first develop a clear set of program outcomes. In these institutes, decisions are made in relation to organizing content, student assessments, facilities for learning, human and physical infrastructure and governing policies in order to ensure constructive alignment of the teaching-learning process with the stated outcomes (Harden 2007). It is unarguable that providing a conducive learning environment is the result of a concerted effort. Thus, a system with on-going professional development activities to enhance teacher expertise needs to be backed up with new technology and other facilities. Such acts will facilitate implementing desirable changes such as more opportunities for active learning, maybe through project work, electives and innovative teaching methods. Once the learning environment is modified to cater to the program outcomes planned with the needs of the 21st century in mind, half of the task is accomplished, i.e. a conducive learning environment is expected to facilitate the transformation of learners at the point of graduation through a process of enculturation.

It is frequently argued that learning environments have both a direct and indirect influence on student learning, including students' engagement with what is being taught, development of higher order skills, their motivation to learn, their sense of well-being, belonging and personal safety. Hence, it can be argued that the institutional culture with positive behaviour such as relationships characterized by openness, trust and appreciation, more collaborative and productive staff relations, recognition and appreciation of student and staff achievements, equal access to resources and learning opportunities and a good academic support system are factors that motivate students and enable students to realize their full potential. Although advances in tele-communications and digital technologies can enable much of this learning, it is just as important for policy makers to incorporate evidence on human learning. Research shows, over and over again, that learning tools are only as effective as the tool users. Thus, along with sophisticated architectures of physical sites and technology infrastructures, it is imperative that the higher educational institutes be mindful of support for human growth and development that these architectures could support.

Conclusion

Citizens of the 21st century need to think critically and creatively, embrace diversity and ambiguity and create as well as consume information. They need to be resourceful and self-reliant, skilled at collaboration and group process (*www.p21.org/storage/documents/le_ white_paper-1.pdf*). Therefore, the learning environments of the 21st century are required to encompass a rich mix of media and devices, varied cultures, and virtual and real-life relationships. Policy must serve as the steering mechanism to guide the creation of learning environments that are both more expansive and more inclusive. According to experts, 21st century learning should take place in contexts that "promote interaction and a sense of community in order to enable formal and informal learning." Though this is an essential need, making all this happen in higher educational institutions will not be easy, inexpensive or quick.

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