TBL ECOSYSTEM
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Introduction
The adoption of technology-mediated instruction is leading to significant transformations in the way that teaching is conducted and learning is facilitated within medical schools worldwide. Central to the success of this transformation will be the creation of innovative and enabling eLearning ecosystems.

This paper will focus on the approach that the newly established Lee Kong Chian School of Medicine (LKCMedicine) — a collaboration between Nanyang Technological University (NTU), Singapore and Imperial College (IC), London— is implementing in order to manage its own transformation. Utilising NTU’s existing eLearning platforms, IC’s eLearning content and LKCMedicine’s newly revised curriculum, content will be integrated to support the development of LKCMedicine’s nascent Learning Ecosystem.

An integral feature of the LKCMedicine transformative agenda to create a vibrant, robust and mobile learning ecosystem — featuring 24/7 access anywhere, anytime — will be the unveiling of LKCMedicine’s learning algorithm. This algorithm will drive the design and delivery of the eLearning curricular experience at the two main NTU campus locations, three polyclinics and two partner hospital clinics. Team-Based Learning (TBL) supported by Case Based Learning (CBL) scenarios will reflect the key elements of the learning algorithm, as well as our three governing learning design principles: Learning Support, Learning Resources and Learning Tasks.

Learning Support
In line with our governing design principles, LKCMedicine has developed an iMap framework to support learning. iMap will manage the learning outcomes for our medical students during their 5 year curriculum. With the Framework in place, we will be able to dynamically track and monitor the status of learning outcomes throughout the curriculum delivery process. The goals of the framework are:

- Provide real time, consistent and meaningful information on learning progress for both students and faculty members.
- Provide quality and timely data to ensure that student progress is easily tracked and monitored so that remedial action can be taken early and swiftly.
- Provide a visible blueprint to the students during their medical training lifecycle with respect to: (i) what they are going to learn, (ii) when they are going to learn it, and (iii) how they are going to experience such learning.

Learning Resources

iLecture
Learning Resources is one of the key elements in the learning ecosystem. All content and the associated derivative learning experiences will be delivered via Learning Tasks enabled by Learning Activity Management Sequences (LAMS). To attend classes in LKCMedicine, students will have to travel between two campus facilities, a polyclinic and partner hospital clinics. As a part of our mobile initiative, each student will be issued an iPad to ensure they have a secure mobile delivery of content anywhere and anytime — be it on the bus, in the MRT or a hospital ward.

A key component of the learning resources is the iLecture. This rich media platform facilitates seamless delivery of multimedia content. The Lecture is best visualised as a library which contains all audio and video content for the 5 years of the LKCMedicine’s curriculum. Each student will access the content using their iPads, via our one stop Learning Management System to ensure 24/7 digital access to their learning materials.

Learning Tasks
Learning tasks are activities designed to support LKCMedicine’s blended learning pegaogy. Each activity consists of topics tagged to a set of learning outcomes. In LKCMedicine, the Learning Tasks are managed and delivered digitally via LAMS — a highly intuitive, visual authoring environment for creating sequences of learning activities. These activities can include a range of individual tasks, small group work and whole class activities based on both content and collaboration. The activities will be integrated in the student’s timetable to support the Learning Algorithm highlighted in the iMap.

Communication
Communication is an essential requirement of the learning ecosystem. Various synchronous technologies will be used to enable academic support for students to communicate with the lecturers while in different locations, as well as amongst themselves. In LKCMedicine, this process is enabled via the use of Video Conferencing tools such as Webex and Skype.

As every student will be equipped with 3G iPads, they will be able to connect anywhere, anytime to seek clarification and build their knowledge and understanding of content.