

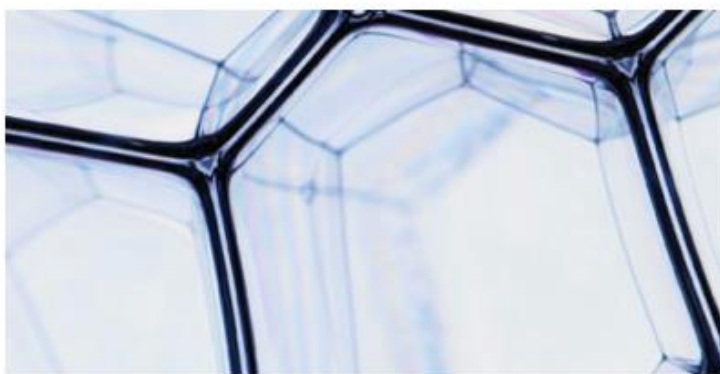


## Class in the Cloud

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*Customized learning in the Digital Age.*

GUEST COLUMN | by CV Raman



Teachers and students today have a wide variety of devices and platforms at their disposal to assist with the learning process. From computers to tablets, there are more tools available than ever to make learning a more visual and dynamic experience.

But is this technology being optimized? In a way, and in pockets, yes – many school districts are offering handheld devices, high-speed internet and network access to students. However, the way students are being taught is largely still the same as it has been for the last 50 years, in that they are taught together on one curriculum – often toward the goal of fulfilling standardized testing requirements.

**One example of this being done at scale is in Malaysia, where the country's five million K-12 students use a single VLE platform.**

There is growing evidence that self-paced learning could help improve overall student performance. According a study done by leading education researcher Benjamin Bloom<sup>[1]</sup>, tutoring was found to be the optimal choice in helping students successfully learn at their own pace. As a specific example, in 2011, a Colorado school implemented an ability-based learning system<sup>[2]</sup>, which led to positive results.

Since it's not cost -or time – effective for many districts to tutor each and every student, a cloud-based Virtual Learning Environment (VLE) may be a way for districts, even the largest ones, to get closer to the tutoring model and bring self-paced/ability-based learning to life. One example of this being done at scale is in Malaysia, where the country's five million K-12 students use a single VLE platform.

### **Enabling Self-Paced and Ability-Based Learning**

Everyone learns at his or her own pace. However, most educational systems in the U.S. employ a "one size fits all" model of education, which may not be the most effective way to address individual students' needs. With more technology available to school districts than ever, there is an emerging opportunity to adapt to the changing needs of students and parents.

Ability-based learning via a VLE requires additional teaching and learning content consistent with a more dynamic curriculum which offers 24/7 access to rich, multimedia learning material. Students can learn at their own pace, engage in collaborative learning and teachers can keep track of each individual student in real time.

Parents can also have access to the system to stay abreast of their child's progress. Greater visibility through a VLE platform gives parents a more-informed opportunity to help their children learn. Tools that can help increase transparency as well as collaboration with educators include:

- **E-monitoring** – ensures availability of high-quality data to report real-time information on school performance metrics, which empowers parents and teachers to address challenges quickly and effectively.
- **School Management System (SMS)** – offers a single cloud-based platform for monitoring and managing the district's system efficiently, which provides a holistic and accurate view of schools', teachers', and students' performances.
- **Content store** – access to content created by teachers and selected by teachers from the internet and from educational content service providers.

### **Securing the VLE**

When handling data involving children, security is always a top concern. Using a secured network, having a multi-tiered, secured infrastructure and a watch-dog function that manages the system in real time, as well as ensuring access to the right educational content sources are all key to maintaining a protected environment. Additionally, to mitigate any would-be hacker attacks to access personal data and to further secure the environment, administrators must restrict students and other users from accessing content that is not education-related or not suitable for the system.

For the Malaysian program, external technology and service partners manage and monitor any potential threats and risks that could possibly impact the system. The cloud-hosted platform with multi-tiered architecture has multiple validations on logins, is frequently updated, and requires users to change passwords frequently to further ensure security. The system is also designed with robust disaster recovery measures to ensure that service can be maintained in case of an unforeseen event or emergency, improving system uptime and mitigating any potential data loss.

### **Making the Idea into Reality**

A VLE could be a viable solution to address contemporary learning needs and opportunities and to enable students to learn at their own pace, empower teachers and engage parents. Early results from the Malaysian program indicate the following:

- 55 percent of teachers could develop richer lesson plans
- 75 percent of teachers broadly agree that use of the VLE makes them more effective in their teaching process

For the U.S. education system, a VLE could be an option to help students succeed in a self-paced or ability-based learning environment. Because many districts have the technology infrastructure in place, at least to some degree, implementing a VLE to maximize learning in the digital age could be a viable and relatively cost-effective opportunity.

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[1] <http://www.comp.dit.ie/dgordon/Courses/ILT/ILT0004/TheTwoSigmaProblem.pdf>

[2] <http://www.cnn.com/2011/US/05/14/education.gradeless/>

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