Innovations and Revolutions in Education
By Dr. Richard Kelley

Very recently, I had the opportunity to attend a seminar and presentation by Salman “Sal” Khan, a 35-year old Bangladeshi-American who, almost singlehandedly, is turning the world of education upside down. By creating new concepts and technology that can be brought to classrooms almost anywhere in the world, he is causing everyone, including Outrigger Enterprises Group, to re-examine how we transmit and acquire the knowledge and skills that are so vital in today’s fast-moving global economy.

Khan told us he did not start out with this vast mission in mind. He was born in New Orleans, Louisiana. His father was from Barisal, Bangladesh, and his mother from Kolkata (formerly Calcutta), India. He went to public schools but his brilliance in mathematics got him into the Massachusetts Institute of Technology (MIT), where he earned three degrees (a bachelor’s in math, and a second bachelor’s plus a master’s in electrical engineering and computer science) and then went across town to Harvard Business School where he earned an MBA.

He went to work at a hedge fund, Wohl Capital, and might still be in the world of corporate finance if, in the summer of 2004, his 13-year-old cousin Nadia, who lived across the country, had not called him to ask for help in math. He agreed to tutor her on the telephone, but to help illustrate the concepts he was talking about, they used a drawing program on Yahoo Messenger. If they could not schedule a mutually convenient time to talk, Khan would record a lesson as a video, talking about the lesson and illustrating the concepts with Microsoft Paint.

After a while, Nadia told him she preferred the video lessons to the live conversations because she could replay the parts of a lesson where she needed more time to understand the concepts and fast-forward through sections she knew well.

Word of Khan’s talents spread rapidly through the family and other cousins asked for help too. He was pleased to assist, but quickly realized that the cousins’ grasp of basic math concepts was very weak—a major problem across the U.S. where students routinely lag behind those from other countries in international mathematics competitions.

To help his cousins, Khan programmed training sessions where students would get questions on one concept rapidly fired at them. When they had finally mastered the concept and could answer 10 questions in a row correctly, they could move on to the next concept and testing module. (Educators call this “mastery-based learning”—requiring students to prove they understand and can use material before they move ahead.)

Khan kept creating math training videos and when he started to publish them on YouTube he began to receive emails from all over the country praising his work. In 2009, he decided to make his hobby a full-time job. With limited capital, he produced his videos in a walk-in closet in his Mountain View, California, home.

Khan did know that one of his viewers was computer mogul Bill Gates, chairman of Microsoft Corporation. Gates had been using the videos to tutor his 11-year-old son Rory in a variety of topics, from algebra to biology.

When I heard Kahn speak, his recounting of his feelings and what went through his mind when he first received a phone call from Bill Gates brought a wave of excitement through the audience. “Th… Th… THE Bill Gates? Wants to speak to me?”

Khan did speak with him and a few days later, he met Bill and Melinda Gates at their Belleview, Washington, home. The Bill & Melinda Gates Foundation donated $1.5 million to the Khan Academy to expand and improve its video lessons. Google, Inc. followed with a $2 million contribution.

That propelled Khan from his closet studio into professional offices in Mountain View with state-of-the-art equipment to produce lessons. They now have over 3,200 videos on everything from arithmetic to physics, finance and history, and hundreds of skills to practice, and they are on a mission to help people learn what they want, at their own pace.

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Check out the Khan Academy website at [www.khanacademy.org](http://www.khanacademy.org). You will be amazed at the youth and vigor of the people working there. Downloadable Khan Academy videos are available free online, and a network of volunteers is adding subtitles in most of the world’s major languages. In addition, many of the tapes have been dubbed (that is, voiced over) in languages other than English – 16 languages so far, according to the Khan Academy website.

Khan and his colleagues are also working with traditional schools to integrate Khan Academy techniques and materials into their classes. (See CBS 60 Minutes, March 2012 at [http://tinyurl.com/khan60min](http://tinyurl.com/khan60min)) It’s a different concept – almost a flip-flop.

• In traditional schools, a teacher lectures to students in the classroom and the students attempt to demonstrate their skills and knowledge by completing assignments (homework) at home.

• In the Kahn model, the students turn on their computers to receive their lectures at home in small modules over the Internet. They later demonstrate their skills and knowledge in the classroom by completing assignments and participating in discussions and creative activities with their teacher present.

In the Khan model, smart, hard-working students move ahead rapidly. Some old-time education veterans and teachers’ union leaders are having a problem with that. Traditional teachers and schools are not always prepared to deal with strikingly different levels of achievement in one classroom.

It’s not surprising that Salman Khan was named one of “The 100 Most Influential People in the World” by *Time* magazine last month and that the tribute was written by Bill Gates.

The Khan Academy is not the only one changing the way we teach and learn. Onnexions, Engineer Guy, iTunes U, Google Code University, YouTube Edu, PBS Teachers and the Museum of Modern Art offer a wide variety of instruction. Some of it is free. Some requires a fee.

At Outrigger Enterprises Group we have developed a series of instructional systems in Human Resources and at our Denver Reservations Center to train and improve the skills of members of our ‘ohana. The creation of our online Stellex training library is one of Outrigger’s latest achievements in using technology to train employees. To accomplish this we used Oracle’s User Productivity Kit (UPK), a software simulation application.

Outrigger University is also moving toward offering more blended learning opportunities to employees. One example is the use of Harvard ManageMentor (HMM), an online training library, as part of our Navigating Leadership Excellence program. We are currently working to create our own General Manager training track using HMM. The hospitality training video produced last year for Outrigger’s CARE Training to prepare our employees for APEC, produced by Kaipo Ho, Cultural Experiences Manager, and Pila Hanson, Manager, Organizational Development & Internal Communications, was widely acclaimed.

In Denver, Director of Human Resources and eLearning Kathy Sylvester has put together training for new employees that is a blended program using eLearning, virtual meetings and in-person meetings with a supervisor before a new hire speaks with customers on the phone. The eLearning section includes over 20 hours of video training. Additional learning modules keep our service agents up to date on specials and product changes. They all are somewhat similar to the Khan Academy model and use “mastery-based learning.” Competence must be demonstrated before anyone can move on.

The dramatic changes in education described above are symbolic of how rapidly today’s world is evolving. Many in our company are working hard to make Outrigger a leader in offering training and educational opportunities for every member of our ‘ohana.

Yes, “Outrigger is a great place to work and grow!”