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The One World Schoolhouse

The One World Schoolhouse, written by Salman Khan, is a combination of a biographical story about how Khan personally discovered and launched Khan Academy, his views about education in the past, present and the future and how young people can better their education by learning how to think about it in a much different manner.

Salman Khan did not start out looking for a way to provide a free education for all; he started out looking for a way to help his junior high school aged niece that had recently performed poorly on a 6th grade math placement test.  According to Khan, “She believed she just wasn’t good at math.  I saw it differently.  I saw real potential in her” (Khan, 2012, p.16). So, he devised a plan where they would schedule times to talk on the phone and use a program called Yahoo Doodle that allowed each of them to see what the other was writing on their respective computer screens.  With his niece as a student as well as several other family members and friends, Khan began to understand how best his pupils were learning and understanding the concepts he was covering with them.  He discovered that recording and posting videos on YouTube was more convenient for the students because this allowed them to watch them on their own time and to watch them over and over again if they needed more help with the topic.  There was a study done in 1996 that focused on how much time a student would have optimal focus and, through this, he learned that students needed a few minutes to settle down with their notebook paper, pencils and calculators and then watch a video that lasted between 10 and 18 minutes.  After that time, the students would have a lapse in their attention span. Removing the human face from the videos was also an important discovery in this learning process because humans are hardwired to focus on faces.  By removing the face from the teaching videos, it allows the student to focus fully on the content being taught rather than being distracted by the human face on the computer screen.

While Khan was building his video library on YouTube for his niece, family members and friends, he began to put time into researching how to improve the process so that it would allow his pupils to know when they had mastered a particular topic and how the learning process actually occurs.  One of the most profound arguments in the book that set the pace for how Khan Academy was going to work was this this; “In a traditional academic model, the time allotted to learn something is fixed while the comprehension of the concept is variable.  What should be fixed is high level of comprehension and what should be variable is the amount of time students have to understand a concept” (Khan, 2012, p. 39). Students need as much time as they need to understand a topic rather than being on a pacing guide and their level of comprehension needs to be high in order to successfully move through the subject area and truly master the content.

In the second section of the book, Khan offers the reader great insight into the broken model of education today.  He takes us back to the Committee of Ten that originally designed the model of students attending school from the age of 6 to the age of 18 that would include eight years of elementary education and 4 years of high school.  He also talks in great deal about the current state of tests and testing and homework.  He ends this section with the introduction to the idea of flipping the classroom which then allows him to move into his invention of Khan Academy and how it will fit into the real world.  In regards to testing, Khan explains that tests are typically only a look into what a student knows at that particular time rather than a true idea of why they chose the answer they chose and how much they truly understood the subject matter being tested.  Unfortunately, a variety of factors such as environment, how the students feels, their attendance during the time the concepts were being taught, how the teacher taught the content, what is going on with the student for the rest of the day and many more can affect the testing capability of the students.  In regards to homework, Khan focuses on why it being sent home and how much is being sent home.  He specifically addresses the number of hours that students are being required to do homework, which, in turn, takes away from valuable time with family and friends as well as the sleep required to be alert in school the next day.  He also points out the imbalance between sending home work for the students to do without the proper support for assistance since many parents may not know how to assist and/or be available to assist which then leaves the student to learn on their own.  Enter the idea of the flipping the classroom where students have the opportunity to learn at home or outside of the classroom and then have their teacher available to them the next day to work through the problems or situations that applies their learning.

In the third section of the book, the reader gets a bird’s eye view into the creation of Khan Academy and how it can and was used in a real world classroom.  His first obstacle was to determine when a student was ready to move on to the next level, (i.e. how would he know if a pupil had mastered the subject matter that he was teaching).  He wanted to stay away from the typical percentages because none of them really mattered when it came to mastery.  For example, if you have a student do 10 questions and pass them with a 70% then that means they did not understand almost one-third of the material.  And, in his research, he learned that “even a 95% grasp of basic concepts led to difficulties later on” (Khan, 2012, p. 137).  What he finally determined, through the work with his niece and others, was that the student should work on a concept until they could get ten right answers in a row.  This proved to be a good indicator of the students’ true understanding of the underlying concept being taught.  The software was designed such that, if the student fell short, they could go back and review and if they needed more problems to try then the program would create that for them.

After a successful test in the summer of 2007 with the Peninsula Bridge program in the Bay Area, Kahn received an email from Ann Doerr who happened to be the wife of a famed venture capitalist and who eventually led him to a meeting with Bill Gates (who, at the time, was using Khan Academy to teach his own kids).  Within a month, The Gates Foundation funded Khan Academy with a $1.5 grant so that Khan could hire staff and rent office space.  He later received another $4 million from Gates along with a $2 million grant from Google to further build out the library and translate the videos into the ten most spoken languages across the world.  With this funding, Khan was able to focus more now on how Khan Academy worked in the classroom and started a pilot program of the flipped classroom using Khan Academy with four classrooms in the Palo Alto School District.  As the students worked and interacted with the website, engineers were in the background tweaking the different features to make the program more robust.  By the end of the pilot, a 96% proficiency level was reached which was higher than they had ever seen before.  This led to more pilots in the district and across the country and the results that the districts were seeing was astounding.  Before moving into the last section of the book which focuses on the spirit of The One World Schoolhouse, Khan addresses the subject of education for all ages, especially the adult learner.  We learn that the adult learner must choose to learn and, according to Malcolm Knowles in his book *The Adult Learner* “if we know *why* we are learning and if the reason fits our needs as we perceive them, we will learn quickly and deeply” (Khan, 2012, p. 176).

To close out the book, Khan goes back to the basics of why it is so important to teach today’s young people how to teach themselves.  He tells us that “among the world’s children start grade school this year, 65 percent will end up doing jobs that haven’t even been invented yet” (Khan, 2012, p.179).  Therefore, kids need to have basic grounding in subjects but, at some point, they need to be taught how to learn and to be led to want to learn.  Khan’s vision of the future is to abandon the age based, grade-based classrooms and allow students to move through the grade levels at their own pace based on their mastery of the subjects.  In this model, peer to peer tutoring is introduced and older students are able to work with younger students, and, in turn, everyone is a student!  Dr. Rexford Brown, the director of publications for the Education Commission of the States in Denver, Colorado, once said “The future belongs to young people who know where the knowledge is, how to get it, how to think about it, and how to turn it into better work, better products, better lives” (About TEEAP, 2013)

Book Study - Challenge

          While there are many people and organizations that support Salman Khan’s Khan Academy, even names as big as Bill Gates, there are also some out there who are wary and offer criticisms to its claims and ideas.

          “One of the most relentless critics of Khan Academy is Frank Noschese, an award-winning physics teacher at John Jay High School in New York and a part-time blogger. In Noschese’s physics classes, students learn principles through experimentation—for instance, using little battery-powered buggies, rulers, and stopwatches to answer those traditional questions about when two trains leaving distant stations would meet. In a good classroom, Noschese says, “there’s a lot going on that I don’t think I can get from a video” like Khan’s.” (Vanderkam, 2012). Like Noschese, there are teachers who believe that hands on teaching with their students face to face and as well as cooperative learning opportunities with one another is more effective when teaching than watching a video.

Two professors from Michigan, David Coffey and John Golden, created a parody on one of Khan’s math lessons over positive and negative integers. They basically were poking “gentle fun” at the video and pointing out errors and imperfections in the lesson. While the critique by the two men was done in “good fun” and they actually feel like there can be some value to certain Khan teachings, they both feel, “lessons sometimes fall short. On the video ridiculed by Golden and Coffey, Khan didn't explain why multiplying two negative numbers produces a positive number, misnamed one mathematical rule (the commutative property) and inconsistently assigned positive signs to numbers. Besides minor errors, critics worry that the Khan Academy suite, used alone, promotes a shallow understanding of math. "It's easy for students to feel successful just repeating a computation they see somebody else do, while not constructing an understanding of the procedures involved," Golden said.” (Noguchi, 2012)

Additionally, some critics are pointing out the concern that while the idea of Khan Academy is a good one, trusting that the lessons are accurate and always effective can be dangerous. If we are going to rely on the teachings of the Academy as the best, more needs to be done make sure they really are the best. Brian Merchant, author of an article out of Motherhood Beta Journal, says “Nobody’s trying to say that the whole venture is a bad idea; it’s clearly a great one. And the Khan Academy represents an amazing step towards accessible, digitized universal education. But if millions of kids are going to be learning their lessons online, let’s embark on an ongoing effort to make sure as hell that those lessons are as good as they can be.” (Merchant, 2012)

Reaction – Reflection

        Through this process of finding critiques of Salman Khan and Khan Academy, we’ve realized the importance of always looking at both pros and cons of an idea or innovation. Prior to the research, it was hard to imagine anything negative to Khan’s ideas and approach to teaching. It all makes perfect sense, and the way he outlines his ideas and the success of his website and many teaching tutorial videos, it’s hard to disagree with him and call his ideas anything but genius. However, once looking into criticisms made my other teachers and authors, their opinions and findings are very interesting and offer an opportunity to really think about both sides and make your own decision on whether or not you think teaching concepts through video tutorials is a good idea.

        One of the biggest takeaways for us with Khan Academy is that it allows students to be taught a lesson in the comfort of their own home and at the pace that is comfortable for them. The fact that students can rewind, fast forward, or watch a tutorial as many times as needed with no judgment and then have the ability to test their understanding using the software within Khan Academy, creates a comfort factor for students of any age. Incorporating this model within school classrooms as a “flipped” approach can provide teachers and students with more class time during the school day to work together one on one on more guided practice for those who need it. It’s a win-win for everyone involved.

One point that kept coming up in the critiques is the concern that all tutorials on the site be taken as always accurate and error free along with being the best teaching on that concept available. While Khan Academy is a work in progress and will always be changing and bettering itself, is it dangerous to assume that its teachings are best for any and every one? Is it fair to say that everyone can benefit from an online teaching tutorial, or do we need to assume that some students still need the face to face teaching/ student teacher interaction to be able to learn and grasp the concepts?

While both sides offer valid points, we feel that the positives of Khan Academy and all it has to offer outweigh the negatives. While it may not be wise to say it should be adopted as the only teaching method used, it certainly can benefit both students and teachers when used in conjunction with traditional teaching methods.

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