

Transcript:

USF Last Lecture

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April 10, 2014

Oval Theater, Marshall Center, USF

The Last Lecture, by Dr. Autar Kaw [Applause]. >>Dr. Autar Kaw: It was a partly sunny day when -- not the day I was born, but when Dr. Kaplon and Dr. Mihelcic came to my office and asked me to give The Last Lecture. I readily accepted, as Dr. Kaplon said. But as soon as I accepted, my anxiety started going through the roof. You've got to understand, I'm a very introverted person. Although you might think that I'm here in front of all of you so I must not be introverted, I started getting a lot of anxiety in myself. My partly sunny day suddenly changed to a partly cloudy day. So I was thinking that I got 99 problems, and this wasn't supposed to be one of them. [Laughter]. So here I am. Then that night I started looking at who had given the lecture before me, and then I saw Dr. Johnny El-Rady, Bill Baker, Christian Wells, Barbara Cruz, and my partly cloudy day became a dark stormy night. [Laughter]. But I'm here now, so there is no going back for me, as well as you. So stay here and let's see what we have to say.

But before I say anything, I do want to thank Dr. Kaplon and Mr. Bowers, who is right there on the camera, for all the back and forth we've been through in order to get this all set up. It has been quite a feat on both of your part. Please accept my gratitude for that. And thank you for the Student Affairs [Applause], and Housing and Residential Education Office for making this possible, for sponsoring this event. I also want to thank the University Marketing-Communications and Marketing Department; Mark Schreiner of USF; Janet Gillis of College of Engineering; and my own staff in mechanical engineering for making this possible in terms of giving the publicity to this particular lecture.

Let me spend a few moments on where I am from, and I get this question quite a number of times. I want to tell you my narrative, because "narrative" means there's a compilation of stories here. First, I want to tell you about my family, where I grew up. Because many times when people ask me where I'm from, I say I'm from Tampa, they don't believe me at all. [Laughter].

This is my father and that's my mother. And you've got to see that these are two good-looking guys, so something good has to come out of that, right [laughter]? And this is what came out. My father was a very honest man in a country where bribing, corruption is prevalent. It's as if it's democratized just like a democracy in India. He never took a bribe, never received a bribe. So it was very hard for him to be a public schoolteacher. You're working for the government. If you're not taking bribes, you're not giving bribes, what you got to do is you've got to send this guy to a remote place so that he gets out of your hair. Half of his tenure was all in the remote places of Jammu and Kashmir in India. But he wanted the base to be just in the city he was just born in, Srinagar, Kashmir. Mom stayed with us and raised the kids while he would go to these places, which would be far away from our home base. He couldn't come back every day to be able to see us. It is quite a hard living in that respect, because he would be away. Since he didn't take bribes, didn't give bribes, we didn't have a whole lot of money. We lived very much a low-middle-class life when we were growing up, but that's okay because we had almost everything we needed, if we didn't have anything which we wanted. But that worked out pretty fine.

So this is my place of birth. I'm giving you a reductive story right here about my place of birth, because this is about two miles away from where I was born. This is the Dal Lake and behind there is the Himalayan range. So it's amazing that right at your doorstep, you have

the Himalayan range. You can see it from your house. When you see it every day, it becomes second nature to you. But that's the kind of neighborhood I lived in. That's the non-reductive part of my story right here. People might think that, hey, this is harsh living, but many other people live like that. So I didn't know any better. There were some privileged few in our city where we were living, but that was okay. You always try to compare with what other people have in terms of trying to see how well your life is or how good or bad your life is.

I don't have any pictures of homes where we lived in because twice, in the last century, my family had to flee. For the first time, it was 1948. This was one year after India gained independence from Britain and Kashmir, the state which I lived my life, was then an independent nation. It was a monarchy at that time. Pakistan, which was a neighboring country, sent a proxy army into Kashmir because they didn't want to send their own army into Kashmir, because that would not look good. We had just been independent for one year, both India and Pakistan itself. So my family, which was living a very good, prosperous life at that time, in 1947 - I was not born then - they had to move into the city at that time. We lost everything at that time as well. And then what happened was, in 1990, again, we were having some internal conflicts since 1989 or so. The Soviet-Afghanistan War had just ended, so the Mujahedeen, the independent fighters from Pakistan and Afghanistan, had to go somewhere. So they wanted to come to Kashmir in order to be able to save Kashmir for one reason or another. On August 24, 1990, my father was killed for the sole reason of being a Hindu. They had to flee; my mother and sister had to flee on the very same day.

In 1976, at the age of 16, I went to my undergraduate institution. I went to a college called BITS Pilani. So you might think that I'm 16 years old, so I must be some kind of a prodigy. Far from it. Because in those days people went to school after 11th grade. You went to college after 11th

grade as opposed to 12th grade. And we went to a 5-year engineering college, which many of you are familiar with at USF also; right? So here I am going out of state for the first time, riding a train for the first time, and all these things are coming to me like a storm. I have never been exposed to all these things before I went to college. So I'm there for one week. One week I'm there. On a Saturday night, I run away. I run away back to New Delhi. And the reason why I run back to New Delhi is because that's where Mom is visiting my brother -- visiting her brother, my uncle, at that time. Although we lived about maybe 700, 800 miles away, but New Delhi was just a 6-hour bus ride from the place where I had gone for my undergraduate institution. I'm crying and crying. Can you imagine a 16-year-old crying? All these tears are coming down. And my mother said, just give it another week. What a recipe she gave me. So here I go back one more week. And next Saturday I go back. It's the same rainy, gloomy night. I take the 6-hour bus ride, and I go to New Delhi again. My mother is not there. She has gone with her brother somewhere, and I'm just sitting there at the porch of the rented house which my uncle had. I'm sitting there for two hours, three hours. I'm about to go back, but I was saying, no, no, I've got to see my mother, and start to cry again. So she comes late, about three hours later. I start crying again and all this kind of stuff. My mother is saying, what the heck I am going to do with this guy. So after a while, here is my mother, who is the eldest of seven children, she had to drop out of middle school because her mother got tuberculosis. She was the eldest in the family, so she had to drop out of the school and take care of the rest of the children in the house. She couldn't give me this shpiel about, hey, when I was in college, this happened and that happened and I did this and I did that. What was she going to say? Suddenly, something came out of her. It was just two sentences. It was -- she said, Pupu -- that was my, what's it called, nickname. She said, "It's your life; you decide." That's all she said. I'm glad she said that.

So here are my graduate days. What happened is after I graduated from BITS Pilani in 1981, I was very much a patriotic guy. I wanted to stay in India, solve India's problems and do all kinds of good stuff. But the bitterness which my father faced from time to time because of being honest, not giving bribes, not taking bribes, that was coming into me. I really didn't want to follow that bitterness. I wanted to go to a place where social justice is at least practiced. I know that some of you might believe that social justice is not practiced in the United States because of some singular event which might have taken place in your life, but it does happen. I think that the United States is one of the few countries where social justice is practiced and it is giving us a big reward. I wanted to go to a place where social justice is practiced, not to a place of opportunity or a place of milk and honey or anything like that. I just wanted to see that if I do something, that there will be some reward on the end. Life is not fair, but most of the time that it would be fair. I applied to all different schools and I finally ended up in Clemson University in South Carolina. Any Clemson Tigers here except for my Department chair? [Applause]Go Tigers! Yeah. I went to Clemson and there was not enough money for -- my parents didn't have enough money for the airline ticket and also for the initial fees which had to be paid. My mother had a little bit of gold, she wanted to sell it, but it was not still enough money. But my uncle came to my rescue. It was my mother's sister's husband, and he took a loan against his retirement fund and took out the money, enough for the airline fees as well as the initial fees which I had to pay. So what I'm here trying to say is that if you are trying to think I'm a self-made man, that's not my story. I have gotten help all along the way from other people. I don't know how many people who say they are self-made that somebody has not helped them somewhere. Maybe not monetarily, but in terms of some kind of encouragement or giving them a break or something like that.

I graduated in 1987, and I ended up at USF. This is my family.

This is my wife Sherrie. We've been married for 28 years. This is a photo from the day we got married outside the court in Greenville, South Carolina. We have been -- we have seen our ups and downs. We have had some good times, some bad times, more than what other people have had. But I think we've come stronger on the end. I don't want to tell a reductive story here, but it has been tough sometimes and sometimes it has been very joyous because I'm so happy. The rest of the family is here. That's Candace. Candace went to University of South Florida. She has a mass comm degree and she's right there. Candace? Yeah, yeah. And she works for the College of Arts. So if you have seen any of those videos or trailers or pictures from College of Arts for dance or theater, she is most probably is the one who has made those. My other daughter is Angelie. She graduated with an anthropology degree, and she has put it to good use and she is in the Armed Forces. I cannot say anything beyond that.

Let me tell you about crazy idea I had in 1991. I was here at USF. I had been here for about four years, and I was teaching this course called Numerical Methods. Students would ask me all these questions. Dr. Kaw, what will happen if this changes, it becomes less, it becomes more or something like that, and I would not be able to readily answer those questions just like many other people are able to do so, because you have to write computer programs to be able to figure out what's going to happen. So I had this crazy idea that what I'm going to do is I'm going to start writing programs based on these student questions, and I'll be able to answer them readily. Then I also thought that, hey, maybe I'm not the only person, only numerical methods instructor in the nation or in the world who's being asked these questions. So what I'm doing to is I'm going to send these programs on these cheap 1.44 megabyte disks. I don't know how many of you remember those, but those were Godsend after those 3.5-inch floppy disks. And I wrote a proposal to National Science Foundation. I said, hey, can you give me

some money, because it's taking me a lot of time to make these simulations. I'll write a book also, I'll write multiple choice questions. It'll be almost like a course. It was unheard of at that time that somebody is going to develop a full course here. Oh, you've got a great proposal, but we cannot fund it because at that time the emphasis was on hardware-based education, as opposed to software-based education. So I didn't get any money. Next year we applied again, didn't get the money. Then in 2000, suddenly MIT suggested that, hey, we should have an open courseware initiative. So they start putting up these courses on the Internet. The Internet had become quite a regular phenomenon in our day-to-day life. We applied again to National Science Foundation. It was myself, Glen Besterfield, who is in charge of the INTO program and Jim Eison from College of Education. We wrote this proposal and it got rejected again. So my idea had not become any better in the last ten years or so. But I'm not the one to give up, especially when I've got a crazy idea. I've given up on many things. You have got to know when to give up also. But I didn't want to give up on this crazy idea. So I said, it's 2001. I asked Dr. Besterfield and Dr. Eison, let's go and do it again. It doesn't hurt. And they funded us. And ever since then we've been funded continuously until 2016, although we have gotten a number of rejections in the meanwhile. So please don't think it has been a linear path going through this process. Now, this particular course which we have developed, we get about one million views per year. Students from all over the world, about 150 different countries, watch the YouTube videos. We get about one million views of the YouTube videos also. It's a pretty popular website and it has done very well. I'm very pleased with it, that it is helping students not just in the United States but also throughout the world. But, again, I'm going to tell you that this is not something which I have done alone. So many times people might think that, hey, I'm the numerical guy or something like that or the numerical methods guy, but I had help from other people. When it was time to investigate the design from University of South Florida, my good friend and colleague, Dr. Yalcin

who is here, he stepped in and said, okay, I'll go and do the evaluation of the project itself. Since then he has molded the way we assess our results for numerical methods in many, many different ways I had never thought of. Even -- not even, I should say, also my department chair, Dr. Dubey, who is right here, for always entertaining my crazy ideas. He never told me once that, hey, what the heck are you talking about. He said just go for it. I have had help all over the place.

So let's do some -- let's talk about what students think about me. So as I told you that I have this -- we have one million views of the YouTube videos. I've got 10,000 subscribers for the Numerical Methods Guy channel, and they send me all kinds of good comments. It makes my day or night, depending on if I'm awake at 3:00 a.m. At night. This is what they say. They say, "Best channel ever." That's even better than all the cat channels and the makeup channels. [Laughter]. I feel terrific that these guys are able to say that. It is the best channel ever. "Brilliant teaching technique" and all kinds of good stuff. It makes my head grow big. And then I've got my own USF students, they take me down, take me down to earth [Laughter]. This is what they say [Laughter]. This is just a glimpse of it. They even told me that I run a sweat shop, quiz every day, and test every other week, something like that. They make Kathie Lee Gifford look like a goddess or something like that.

But I've learned quite a bit from my USF students. I have been here for 28 years. Many of them are right here. They have learned -- taught me humility. I see a lot of students in the college who have received quite a number of accolades, but, again, I see that it doesn't go to their heads. Just accept it. They say, okay, somebody has recognized us. Just take it in stride. I learned about grace. I've seen students who are taking care of their mother who has Alzheimer's, taking care of children who are chronically sick or sometimes even have a similar disease themselves. Never have they told me that, hey, I need a break because

of that. Only if it has become certain that, hey, they cannot do it, they have come to me and asked me that if I can give them a break and if I can sign a late drop or something like that. But most of the time, the grace they have maintained just blows me away. Well, there's a lot of optimism in USF students, and that optimism is as follows: Hey, I got this project due the day after spring break, but I can go to the Bahamas for the whole spring break [Laughter]. And most of the time it works. So I don't know how they do it. Maybe they come on Sunday night and do the project. The other thing, the last thing which I have learned is keeping my mouth shut when needed. I guess that work is still in progress, guys.

So I know that the last lecture is supposed to mean that I'm supposed to give some advice here, some wise advice. The reason why I consider myself an ordinary man is because I'm a man with flaws just like anybody else. I don't want to be put on a pedestal of any nature as such. I'm already finding out that my family and friends are already nodding their heads in agreement that I'm a man with flaws. But I plan not to use my opinions, as they would be just one data point as my friend Dr. Yalcin would say. If you just say your opinion, that's just one data point. That's not telling you something else. So what I want to do is I want to tell you what the experts are saying, those people who spend their whole lives trying to look at certain things which are a part of our lives. So that's what I'm doing to do today so far as the advice is concerned.

The first one is work ethic. In terms of work ethic, you've got to work hard and smart. And that work hard and smart means wax on, wax off, guys. There is no substitute for wax on, wax off. Many times people think I will take the easy way out, I'm going to do this, I'm going to do that, I'm going to ask my friends. Eventually you have to do the wax on, wax off. When I think of some of the assignments which your teachers are giving to you, they are of wax on, wax off style. Hey, what is it

going to do to me? The thing is that you will realize that maybe while you are getting educated or when you go to your workplace that, hey, those wax on, wax off assignments were for a certain reason. Think of school as a boot camp. That's the best way to think of school. It's a boot camp for your real life, not only to get you ready for the career but also to make you a good citizen. I look at the university education of as more of making a good citizen as opposed to getting you ready for the corporate life. It has turned the other way around. It's unfortunate, but that's part of our times. We cannot do anything about it. Now, I know that some of you might be too young for wax on, wax off, so I put this on. So I think some people are saying, oh, get it now. But the thing is that what has been happened is that they made it even more difficult for the millennium generation. They've added two more steps. It's not just wax on, wax off or jacket on, jacket off. It's jacket on, jacket off, throw it to the ground, pick it up. That's my new rap song, guys. So if anybody who is in the millennium generation here, somebody is telling you, hey, you guys are a no good generation or something like that, people have been complaining about that all the time, guys, even since the Middle Ages. Oh, this next generation is going to take us down the tubes. Some of them have, but I don't believe that the current generation is going to do so [Laughter].

But one of the things which I have realized over the years is that I find more people somehow delaying the adolescence, extending the adolescence into their late 20s. That's an unfortunate thing, because the kind of energy that you have in your 20s, you're not going to have the same energy in your 30s or 40s. It's a different kind of energy. I'm not saying that you'll have less energy or more energy. I'm only saying that it will be a different kind of energy that you are going to have that you have in your 20s. So don't waste it by simply delaying your adolescence into the late 20s. There's a noted psychologist named Meg Jay. She gave a talk that 30s is not the new 20s, in which she mentions the fact that eight out of ten -- let me rephrase it. The major

experiences that you are going to have in your life, the major aha moments you are going to have your life, the major decisions you are going to make in your life, if you add them all up, eight out of ten of those, 80 percent of those, you make them before the age of 35. By pushing what you are supposed to do in your 20s into 30s, like finding a partner, having kids, finding a career, making a home base, if you push it into your 30s, it's doable. I'm not saying that, hey, we're all done now. It's doable, but it's much harder. So I'm hoping that you will take my advice there that you will at least plan. Some people don't have kids. Some people don't get married. That's all right. That's something which is your choice. At least you should plan what you have to do in order that it doesn't become a big burden for you as you go.

Don't be a pimp all your life, guys [laughter]. Time and again I find that people, they want to be a pimp. They want to -- they are given some work and they just want to give it to somebody else. You do it. It's not going to do you any good. You've got to get your hands dirty, at least for a while. Maybe once you start becoming older then you know how to -- you still should know how to delegate at any age, but the thing is that you've got to make your hands dirty, you've got to get your hands dirty in order to learn the craft which you want to become an expert in. If you look at anybody, whether it is The Beatles or whether it is Bill Gates, whether it is Steve Jobs, they got their hands dirty. They wrote the code. For example, Steve Jobs and Bill Gates. The Beatles were playing in bars three shows a day. So you cannot simply look at the reductive stories, Steve Jobs was the CEO of Apple or he came up with iPad, you've got to look at the back stories and see how these people went to that particular level. Now, you have got to understand that some people say, oh, I want to be a pimp, but you know it's a hard life for a pimp out there. [Music playing] you know it's hard out here for a pimp when he trying to get his money for the rent, for the Cadillacs and gas money spent [laughter].

The big question today is what is the biggest hindrance to learning? I've been doing research with other colleagues of mine on learning for the last 15 years or so. What I'm finding out, the biggest hindrance for learning is multitasking. I know that some of you might say, hey, what the heck does Dr. Kaw know? He's 54 years old. He's not of our times. He's from a different time. We were also doing multitasking when we were your age. When we were studying in the park, if a nice-looking girl went by, we would see her. So that was multitasking. So multitasking has been there all the time. But the kind of multitasking I'm talking about is when you have to concentrate on things. Those are the times when you should not be multitasking. If you are folding towels and watching TV, talking to your friends or talking to your family members, that's not the kind of multitasking I'm talking about. Those people have been doing that for a long time. It's because a different part of the brain has been used for that. This is an example of what happened yesterday. Somebody was texting and driving and hit one of our students in the back. If I asked you how many of you text and drive, I hope that nobody raises their hand. The reason why people will say, no, I don't text and drive is because the consequences are immediate. Your brain is going to register that, hey, if I go out and text and drive, I'm going to have an accident, I might hurt somebody, I might get hurt myself and so on and so forth. So you are able to at least magnify those consequences in your brain. When you say that, hey, somebody is drinking heavily every day or maybe he is smoking two packs of cigarettes every day or maybe eating a little bit too much every day, you can very well see the consequences are not immediate. So when those consequences are not immediate, we are not able to register that, hey, it's not good for us. So when you are multitasking, let's suppose you are reading a book, also doing your homework, also texting somebody, doing something else, the consequences aren't immediate. You're not able to register in your brain. We have to make a conscious effort of figuring out whether we should be multitasking or not. There are two circuits in the brain. There are many other circuits.

I'm not saying there are only two circuits in the brain which I want to talk to you about. The first circuit is the one for the reactive attention. That's the striatum, which is right here on the right side. That's the part of the brain that you use for doing procedural stuff like learning how to drive or learning how to bike. But imagine how much time does it take you to learn to bike, how much time it takes to learn to drive. So that's the part which is the reactive, where somebody comes behind and says [noise], that's the part of the brain which is going to be activated. The part of the brain that needs to get activated when you are concentrating or something is the hippocampus. If you are multitasking, it's not that part of the brain which is getting activated. It's this part of the brain that's getting activated. That's why your learning is going to be shallow. Look at this young lady here. She is texting, she is reading a book, she is on the computer. I don't know what else she is doing. David Meyer of University of Virginia is a noted researcher in multitasking. University of Michigan, not Virginia. University of Michigan. He talks about four consequences, negative consequences, of doing college work while multitasking. The first one is time spent. If you are multitasking while you are doing college work, you do have to go from one task to another. That is going to take you some time to get re-familiarized with what you were doing in this first place. So you are spending actually more time doing your college work than if you were not multitasking. The second one is mental fatigue. What mental fatigue simply means is that you might be still doing two tasks of the same nature. So let's suppose you are texting somebody and you are also writing a laboratory report. They are both writing assignments as such, right? The thing is that when you are texting somebody, you can use LOL, OMG, all kinds of good stuff. It's an informal language which you are going to use. But when you are writing a laboratory, technical report that requires very formal writing to be done. What's going to happen is that because you are going back and forth between those two activities, it's going to create mental fatigue because different parts of the brain are being used for those

two activities. The third one is memory failure, which not a lot of people understand about what it means, memory failure. If you're having a test and suddenly you're not able to recall something, it's not because you're multitasking while you are taking a test. During your test, everything is off. What has happened is that when you were multitasking and you were trying to read for your test, it got encoded in a different fashion. So when you are multitasking, when you are reading, when you are multitasking, the encoding in the brain is of a different nature than if you are not multitasking. You might blame that, hey, there's something wrong that I did study for this test, and I'm not able to do it. It's because it got encoded the wrong way. And the fourth one is that your higher order learning is going to suffer. The National Academy of Sciences published a paper in which they took two groups of students and they gave the same reading assignment to the two groups of students. In one group there was no multitasking, no distractions. In the other one, the only thing which they had to do was sound tones would come intermittently and they had to count them. They wanted to make sure that the people are getting distracted rather than simply ignoring the sound tone, so they wanted them to count them. They are giving them a test afterwards, and said, hey, go ahead and take the test and let's see how well you perform. Both groups performed equally well. At the time you might think that, hey, so there is nothing wrong with multitasking. They gave them another test where they had to higher order thinking, what you might be knowing as critical thinking, where you are supposed to apply, synthesize and evaluate information. In that case what happened was the multitasking people had a lot more trouble in relating what they had learned to another context as was the non-multitasking.

Finance 101. So let me talk about money. I think everybody is worried about money, but some people will tell you that money is not important. And the reason why they will tell you money is not important is because they all have it. It's not because they have it

that's why they are telling that, hey, money is not important. It's because they have moved on. Money has become second nature to them. Just like if you don't think twice about where your square meal a day is going to come from, you don't think about it every day. Now, poverty is glamorized only in movies made in India, the Bollywood movies. Glamorized quite a bit. As author, J.K. Rowling, said this about her rags-to-riches story. "Poverty entails fear and stress and sometimes depression. "It meets a thousand humiliations and hardships. "Climbing out of poverty by your own efforts, that is something on which to pride yourself; but poverty itself is romanticized by fools." I hope that you won't romanticize poverty that you will try to see that, hey, money is important. Of course, you cannot do it at the sacrifice of your health, of your relationships and things like that. You have to make that decision, but don't make it to be a small part of your life. Now, you don't have to go as far as Kesha, for example, putting a dollar sign in her name. What I heard last month that she came out of rehab and dropped the dollar sign. Is that true? Yes, that's true. So she has dropped the dollar sign. So even she knows that you don't have to go as far as that. Another group of people who tell you that money is not important is the people who confuse that money is not important because money is the only thing. Even in the Bible, Timothy Chapter 6 doesn't say that, hey, the root of all evil is money. It says the love of money is the root of all evil. You've got to differentiate between the two. This was an old saying which my professor at Clemson University, Dr. Bauld, would say that if you want a job, you've got to convince the employer that, hey, he can make money out of you. So if you are able to do that, I think you have a job. Many times you might find out that, hey, I'm not able to make the proper decision about money. So all I ever think about is PMS. Suze Orman, who is a financial guru, I like her very much, at least I liked her very much at one point. And she talks about whenever you have to make a decision about money and you don't know what to do, you should think about -- she doesn't think

about PMS, she says think about this: People first, Money next, Stuff last. So if you take care of that, I think you should be in good shape.

Marriage 101. Is everybody getting married here? Yes? There was this old philosopher, I don't know what his name was. Somebody asked him, should I marry at all? And you know what he said? He said, by all means marry. And this is what he said [laughter]. Now, I know that everybody is looking -- if you are with spouse or your partner, they are looking at each other. Are you happy, or are you a philosopher? [Laughter]I'll let you decide that when you go home. Some people might say, hey, I'm going to just simply marry well. I don't need to do anything. I'll just marry some super rich guy or super rich girl. That's all going to take care of. The question is, what if I marry a trophy spouse. The answer is as follows [laughter]. Nowadays, with everybody getting trophies, please ask them what the trophy was for. Let's look at lessons in marriage. An article written in The Atlantic by Christine Gross just two months ago reminds us that marriage affects all aspects of your life, and divorce is the second most stressful event of somebody's life. So the thing is that we have to take marriage seriously, if that's what we want to be doing. I know that some people call divorce conscious uncoupling, but please don't look at marriage as conscious -- what is it called? Divorce is looked at as conscious uncoupling, right? Conscious uncoupling. But don't look at marriage as unconscious coupling. You've got to take it with some -- think hard about it. The first myth which I want to bust about marriage, or at least in this article which it says that we all think that we have soul mates. There are no soul mates, guys. As much as you would like to believe that there are soul mates, it's not the truth. You might think you have a soul mate sitting next to you, most probably because you just fell in love and everything is hazy with hormones, or you might be sitting with somebody who has been your partner for a while. And what you are going to find out is that soul mate, which you are calling your partner, is actually an earned title. It's not something which automatically happened. So there are several of

these lessons which are in this course, called Marriage 101 which is taught at Northwestern University, and that's what I'm going to talk to you a little bit about. The first lesson is called self-understanding that your mission in marriage should not be to find the partner, but to meet the right person to be yourself with. If you are not able to attract the right person that means that you've got to work on yourself. The second one is that you cannot avoid marital conflict. No matter how much people say "we never fight," then the next day I find them to be divorced. So that comes as a surprise to me. It doesn't mean go home today and pick up a fight with your partner because you have not fought for a long time. Conflict should not be looked at as a win/lose situation, but something as, hey, let me go and see how we can resolve the problem. A good marriage takes skill. As much as we like to think in our culture, American culture especially, that a good marriage automatically happens, it does require work. Doesn't have to be work like work itself, but you have to consciously think about what you can do for another person. You and your partner do need similar world views. As much as we like to think that opposites attract, you will find out that you will have a lot more problems if you are opposite in nature. You do need to have a similar world view. I'm not saying you have to have the same world view, but a similar world view. It's quite possible that's why christianmingle.com might be one of the most successful online sites, because at least in respect of religion they have the same world view.

Work-life balance. Everybody talks about work-life balance. It's very hard, guys. No matter how much people tell you that I have achieved work-life balance, it's very hard. Sometimes you will have it. I'm not saying that you will never have work-life balance. You have work-life balance sometimes, and some of those times you won't have it in the proportion you want. Also, your idea about work-life balance will change as time goes by. You will find out that when you are single, when you are dating, when you are getting married and you have kids

and your kids are out of the nest, those work-life balances are going to change. One of the things which Nigel Marsh talks about is that you can elongate the time frame by which you measure your work-life balance. That's one way of making this work-life balance a little bit acceptable to you. For example, somebody might say I want to have work-life balance every day. I want to have dinner with my family every day. It's almost impossible for most of us to have dinner with our family every day. But if somebody tells his boss that, hey, at 5 o'clock I'm punching my clock no matter what, what's going to happen is that if you are one of those guys that's going to punch the clock at 5 o'clock every day, tomorrow if your son has a recital at 12 noon, most probably your boss is not going to think good of you. But, hey, you are the one who punches the clock every day at 5 o'clock. So we have to look at work-life balance not only a daily basis, but at least on a weekly basis, so that our time frame is little bit elongated. What that does is that we have the weekends; we have the nights, the evenings; we have Friday nights. We have all these different days available, and we don't have to necessarily, each and every day, to be able to at least get a feeling that we have work-life balance. Nigel Marsh should know because he wrote a book called Fat, Forty and Fired. And his second book was "Overworked and Underlaid." [Laughter]

Communication. If you survey any of the employers, four things, three things come to the top for employers, when they want to hire you, of what kind of deficiencies they see. One is that our students do not have good verbal and written communication. The second one is teamwork or team skills, and the third one is problem solving. For engineers and scientists, they also include data analysis as the fourth item on which they are supposed to be working on. So this is coming from me. I made all As and Bs in my undergraduate, when I was at BITS Pilani. But these are three Cs I made: English I, English II, English III [laughter]. It took me a while. When I first came to USF, I wrote proposals left and right for the first five years. None of them got

funded. When I was showing it to people, they were nice to me. They'd say, hey, your ideas are great, but there's something missing. And they wouldn't tell me. So the something missing was because I was not able to write. So what I did was, with the help of my wife, who reads voraciously -- she said, you go and simply write. Write anything. You don't have to show it to anybody, just start writing. So I started writing like crazy. And I would write, and I would throw it away. Write again, throw it away. At the age of 38, I got my first article published in Tampa Tribune. I was so happy. And since then, I have been writing proposals and things like that. And it looks like I have gotten the hang of it. If you really want to improve your communication, not just enough to read books, you've got to be in the writing mode. Show your writing to your partner or to your family members, or just read it and put it in a file somewhere. That's the best way to improve your writing.

I had to put this in here: Don't believe everything this guy says, for some reason. It is irrelevant to my presentation here because of this fact. Too many liberals in the house.

Happiness 101. Everybody says how to be happy. So this is the time when my few volunteers are going to come to the stage and they are going to be happy like crazy. So where are those volunteers, guys? I've got Laura, Kaya here, another Laura, Christina, Nyssa, Rachana, Leonardo. Howard Fox, where are you going? [Laughter]. Are you guys ready? [Music playing] Come on, guys. [Clapping] Okay, guys. I have a prize for you because I told them that, hey, they are going to get one dollar. And somebody pointed out that, hey, for one minute of dance, they are going to get \$1.00. That's \$60.00 an hour. How many jobs out there would pay \$60.00 an hour? Leonardo. Guys, one more round of applause for my volunteers. [Applause and cheering]. Guys, as much as we want to talk about the secret of happiness, I'm here to tell you that there is no secret of happiness. Nobody knows about it. People have written books, some of the best books. I like "Stumbling on Happiness"

by Gilbert; "The Art of Happiness" by Dalai Lama. But there are correlational things, which means that if we look at happy people, what kind of traits do they have? The first trait which you find a correlation in happy people is that they have a social network. Not Facebook, guys. They have a social network, which means they get together with each other and things like that. One of the things that you have got to see is that we human beings always want to get connected. As much as we want to think that we can live alone, we want to get connected. That's my mother and sister there in Delhi. I Skype with them about two to three times a week. They have been a source of encouragement during my days of despair and also sharing my moments of joy throughout the time I have been here in the United States. I also have a few buddies, Dr. Yalcin and Dr. Dubey here. We go for tea sometimes at Starbucks. You might have seen us there. We have solved all the world's problems, guys. [Laughter]. I also have my walking buddy Fred here, and we talk about faith and living all the time. We have not solved any of those problems either. But one of the things why you have got to have a social network is that a social network cannot be all about gossiping and complaining. If you find other people that are happy, they spend a lot of time together with other people, they might gossip a little bit for five or ten minutes. They might complain about their life or somebody else's life for five or ten minutes, but the rest of the conversation is on substantial things. It can be politics, religion, whatever topic you want to raise. The second aspect of happy people is they have love, some kind of unconditional love from somebody. It doesn't have to be from all the people in the world. I've seen too many people who seek love where none is to be given. That is going to simply add to your sadness. If you have a single person who is going to give you some unconditional love, consider yourself lucky. Good health. That's an automatic thing about being happy. Of course, many of us have chronic conditions, especially when we get older. But it's all about the attitude which we have towards the chronic condition to see how we deal with it. The last and most important part is empathy. If you

look at the people, as I talk to different people about -- if I think that they are happy, they say love and empathy are the two things which keeps them grounded and keeps them happy. What is empathy all about? Empathy has three levels. The first one is the cognitive level. The cognitive is simply where you understand what the other person is going through. You understand what the other person's distress is. That's the cognitive level. The second level is the one which is emotional. That one, if a doctor is giving bad news to a patient, that he also starts crying. So you are basically able to feel the pain and distress the other person is feeling. Feeling the same kind of emotions as the person which it is happening to. What we have to do is we have to go to next level, which is the compassionate levels. All of these ideas are coming from two books, which I would like you to read, by Daniel Goleman. One is "Emotional Intelligence" and the second one is "Focus," which he just came out with recently. "Emotional Intelligence" was back in 1990 or so. And it's the compassionate level where people talk about that's the one which you should be practicing. Of course, you have to go through the first two levels to be able to get to the compassionate level. The compassionate level is where if somebody is in distress, you do something about it. Somebody's car breaks down, give them a ride. Somebody's parent falls sick, you take care of his child. Somebody is struggling in math in your neighborhood, you help them, tutor them. Those compassionate things are what's going to make you happy.

Now, the question is that -- I get asked this question many times. Is college worth it? All I'm going to say is again correlational: 95 percent of the CEOs of Fortune 500 companies have a college degree. Seventy percent of those CEOs also have an advanced degree, such as MBA. It's all correlational. I'm not saying that just because they went to college that they ended up as a CEO but you can make your own judgments about that. But this other guy which I came to know through YouTube, who says that he can reduce the college of four years to five minutes,

and you only got to pay \$20. I'm sure that you are interested in that, right? Let's go and see what this guy has to say.

>>Father Guido: "I find that education, I think it don't matter where you go to school, Italy, America, Brazil, it's all the same. It's all just memorization. It don't matter how long you can remember anything, just so you can parrot it back for the test. And I got this idea for a school I would like to start, something called the Five-Minute University [Laughter]. And the idea is that in five minutes, you learn what the average college graduate remembers five years after he or she is out of school. [Laughter and Applause]. It would cost like \$20 [Laughter]. That might seem like a lot of money, \$20 just for five minutes, but that's for like tuition, cap and gown rental, graduation picture, snacks, everything. Everything included. You know like in college, you have to take foreign language. Well, at the Five-Minute University, you can have your choice. Any language you want, you can take it. Say if you want to take Spanish, what I teach you como esta usted. That means, how are you? And then the answer is muy bien, means very well. And believe me, if you took two years of college Spanish, five years after you are out of school, como esta usted and muy bien is about all you're going to remember. [Laughter and applause]. So my school, that's all they learn. You don't have to waste your time with conjugations, vocabulary, all that junk. You'll just forget it anyway; what's the difference. Economics: supply and demand [laughter]. That's it. Business is, you buy something and you sell it for more. Theology. I'm going to have a theology department. Since I'm a priest, it's only right. What you have to learn in theology is the answer to the question: Where is God? And the answer is, God is everywhere [laughter]. Why? Because he likes you [laughter]. That's kind of a combination of the Disney and Roman Catholic philosophy [laughter]. It's just perfect for the late '70s, early '80s, just perfect. Well, after the courses are all over, then it's time for a little Easter vacation. No time to go to Ft. Lauderdale. Only last like 20 seconds [laughter]. But what I do for you,

I like to turn on the sunlamp, and I give you a little glass of orange juice. That is the snack, orange juice. Then after vacation, after you swallow it real quickly, then it's time for the final exams. I say to you como esta usted, you say muy bien. Where is God? God is everywhere. Economics is supply and demand. Then I put on your cap and gown, I get out my Polaroid camera and make a little snap flash picture for you. I give you the picture, you give me \$20, I give you diploma and you're a college graduate ready to go [applause]. I'm not sure, but I'm pretty sure right next door to the Five-Minute University, I might open up a little law school [laughter]. You know, you got another minute [laughter]?" >>

Dr. Autar Kaw: I want to tell you I've been blessed by you coming here, you've carved out a big amount of your time driving here, being here, and listening to what I have to say. Even if you don't agree with me, that's fine. I would like you to stay in touch with me. You can watch me on YouTube as much as you want. You can become a subscriber, but you are only going to learn numerical methods, guys. This is my official website. That's my email. That's the best way to get in touch with me. You can become my Facebook friend. I'll open it to everyone, not just friends of friends at this time. So the next two days you can become my Facebook friend. Am I going to get any new ones? Yes. Okay. You get a special joke every day. You can be my Twitter friend. You can phone me [music playing]. See, I'm so impressed with you guys, I feel like as if I'm your best friend. I'm even going to give you a cell number [music playing]. But the best way to see me is face-to-face, ENC 2215 in the third engineering building, Engineering Building Number 3. Thank you so much. I wish that your life is as good as your Facebook status updates, guys. [Laughter and Applause].