ADDRESS BY
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DOCTOR OF EDUCATION, *honoris causa*

Council Chairman Dr David Wong and members of the Council, President Professor Stephen Cheung, staff and friends of The Education University of Hong Kong (EdUHK),

It's my pleasure to be here today to express my deep appreciation for the honorary doctorate degree you are bestowing on me. This is a valued recognition from one of Asia's pre-eminent universities in the field of education.

This is a time of enormous change and possibilities in education. So much of our world is now a world of information. What used to be abstract, untouchable ideas are now accessible even to children.

I majored in mathematics at university, doing abstract advanced mathematics. When I came to the Massachusetts Institute of Technology (MIT) as a graduate student, I had the tremendous good fortune to meet mathematics Professor Seymour Papert.

Professor Papert had an amazing idea that computers could be powerful tools for teaching children thinking skills – that by programming computers, children could learn how to make scientific ideas concrete, and turn ideas into things that they could manipulate and shape for themselves. This might seem apparent today, with so much activity in teaching computing in schools, but this was in 1970 – 50 years ago – when a computer cost millions of dollars and computers were used only by large industries and governments.

And here Professor Papert was saying in 1970 that computers are for kids!

That was an awakening for me – that the beautiful ideas of mathematics that had so inspired me as a student could be made tangible and useful for children, and that this technology could be placed in their hands.

And more than that, children could use computing technology to improve their lives and the lives of people in their families, their communities and their country.

At MIT we've been blessed by being able to work with EdUHK, which has the knowledge and the skills to help bring this vision to Hong Kong, where we are starting to bring the tools of computing to local primary schools.

The message I'd like to emphasise today is that these amazing, powerful information tools can now be tools for students – even primary school students. This is enormous power.

Fifty years ago, people walked on the moon for the first time. The computing power on one student's mobile phone today is more than the computing power that was available to America's space agency NASA for carrying out the moon landing 50 years ago.

The opportunities today are immense.

I said a moment ago that this is a time of enormous change. And this change is accelerating.

Over the past year, researchers at Google, Microsoft, and other companies demonstrated a breakthrough in a new kind of computer called a quantum computer.

Google, for example built an experimental computer that can solve a problem in 200 seconds that previously would have taken the world's fastest computer 10,000 years to solve. That was just an experiment, but it's the beginning of something extraordinary. By way of analogy, consider that the first aeroplane flight lasted only 12 seconds, but look what those 12 seconds led to.

It might be the same with this new kind of computing technology. It could lead to possibilities that we can barely imagine today. And those new possibilities could lead to many exciting possibilities for students worldwide.

Will the students have the talent, know-how and imagination to make optimal use of this power? We can be sure they have the potential. Young people are inspiring and amazing.

But will students have the wisdom to use that power for good? That is the job of teachers. That is the great opportunity and responsibility that lies before them.

I wish the University all the very best of luck and success, and my deepest congratulations on your achievements. Thank you.