

## OCCASIONAL ADDRESS

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Delivered at the graduation ceremony for graduates of the Faculty of Education

Great Hall, City campus, 27 September 2007 at 2.30 pm

### CAPTURING CREATIVITY

Chancellor, Prof Sara Vice Chancellor Prof Milbourne; Dean, Prof Johnstone,  
Distinguished Staff, Graduates, and Guests.

It is an honour to give this Occasional Address, and I thank you for the privilege. I have called it "*Capturing Creativity*." This theme applies to all engineering. Over the years I have spent considerable time thinking about how a business is structured to support such an attitude amongst its people and which encourages innovation at all levels.

But first I must congratulate the Graduates today. The degrees you receive today mark the culmination of hard work and commitment. But more importantly, your attitudes should have been changed by an education like no other, and I hope you will put it to good use.

You are entering an exciting profession, you have the tools to succeed, you have as alma mater a fine university, and arguably as fine an engineering school as any in the country, and the equal to any of its type in the world. You must apply your skills well, to the best of your ability. And in that you will have an increasing need of science and technology.

People, firms, and communities thrive when they are probing, questioning, focussed, responsive, responsible and rewarded. Remember this message of restlessness and motivation.

Andrew Carnegie, the great 19<sup>th</sup> Century American steel magnet who generously supported music and after whom Carnegie Hall in New York is named said the following memorable quotes:

*"Ask not "What MUST I do for my employer, ....but "What CAN I do?"*

*"No task should be so low or so simple.....nor any so high."*

*"The rising man must do something exceptional. He must attract attention"*

*"Boss your boss, try it on early."*

That last quotation applies to those who have a cheeky Australian attitude, and have lived for a time in Sydney, as commercial a town as Carnegie's New York. Why do I believe it's possible? 25 years ago I sent a young Sydney engineer to New York to open an office. Like you, he had worked in my engineering firm before he had a degree. He was cheeky and talented. Today he heads an office which employs 500 staff and has work on some of the most prestigious projects in the city, the new

Underground along 2<sup>nd</sup> Ave in Manhattan, now under construction, and the recently completed International Terminal Building at JFK Airport.

Half the graduates here today are receiving post-graduate degrees, the others their Bachelor's Degrees, sometimes two degrees. I have messages for both groups this afternoon. I will to speak on:

- Engineering skills, and their role. and
- Creativity

### **Skills**

At undergraduate level, UTS has a different style of engineering education. The internships programme at the heart of UTS Engineering education is a powerful formula. It is a three-way partnership - student, university, industry. Mix these together with academic learning, practical applications, team involvement and it is possible to see how to achieve successful business outcomes. Take heed of what one large engineering firm uses as employment criteria - drive for results, communication skills, judgement, working with others, and good technical knowledge. Perhaps there is a message in placing technical skills last of six but remember there would be no interview without the necessary engineering knowledge.

Engineering is an applied technology. It is not science but delivery of science. It's about finding a solution and adding value. It has purpose and creates wealth. Such applications require more than just technical knowledge - intuition, creativity, judgement, and motivation. Those are the values that UTS tries to instil into its students.

### **Creativity**

Creativity is at the heart of innovation and application. It is a common theme that innovation is essential to a progressive society, that Australia is good in parts and poor in others, that in some areas of science we are world leaders, but that industrial support for R & D is far too low, among the lowest of the industrial nations.

Many of us are concerned with this attitude of business and the serious adverse effect it will have on Australia's well being,

It has often been explained away that the cause is a shortage of technological entrepreneurs, those special champions who are prepared to risk and fail, and through persistence and motivation, ultimately prevail. I do not believe that's the correct assessment. Weak industrial R & D reflects an ignorance or timidity on the part of management in fostering innovation. A shortage of opportunities for champions raises the question of national culture and attitude; the focus on short rather than long term returns is a product of investment goals; and the weakness in creating value is a sad reflection on our educated society.

### **Opportunities**

You who have gone to UTS have already made a conscious decision. At undergraduate level, you have chosen a university where the course is a year longer than others because of its internship program. At post-graduate level, your lecturers have good business experience. You should be business oriented through experience, background or perhaps necessity. You should apply those qualities of leadership and entrepreneurship that you have in you.

You should seek to undertake the most difficult and challenging tasks in the workplace. And that will require courage. Let me urge you to do so, to make that your goal. By definition, innovation is new and untried. It is more risky than the routine. The risks must be controlled and understood. Success requires determination, opportunity and skill in many fields including science, business and in leadership. And failure is always close at hand. A fundamental attitude which has to be embraced is not to fear the dangers, rather accept the risk and ensure that you control it.

Are there rewards? Yes, in abundance for those who have courage. Look through the list published annually by Engineers Australia of the Australia's 100 most influential engineers. I have been on the selection panel for some years now. It has been an inspiring time. I am impressed with the diversity and quality of those nominated. Of course there are some who have received financial rewards like the founder of a small engineering consultancy in Sydney 30 years ago who now runs a global firm employing 25,000 staff. But others have achieved distinction through service to government, the public service, academia, research and a host of other community organisations where they give of their time generously.

So let me finish on this optimistic note as it touches on you.

*'How common is this creative ability?'* asks Professor Allan Snyder, the Director of the Centre of the Mind, Canberra. **"It exists in all"**, he believes.

Thank you.