Universities foster technology, talent and tolerance

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Chennai: India has a huge advantage over the US because so many of its young people excel in mathematics, says Richard Florida in 'The Flight of the Creative Class' (www.landmarkonthenet.com). This advantage, he says, translates into jobs not only in computer science and software programming but also in market research and the development of new financial instruments.

The author, therefore, urges the US to prepare its children with a comprehensive education, "something that takes them from aesthetics to algebra without pretending that the two are mutually exclusive." From an early age, the entire population should be encouraged to develop "its people skills with its multiplication tables and its creative and entrepreneurial potential with its reading abilities."

In the creative age, Florida sees a role for vocational schools, experiential and study-abroad programmes, and music labs. Science and engineering will always be important fields, he clarifies. "But as part of a renewed educational effort we ought to make sure that our children feel just as socially validated entering the glass-blowing course or culinary arts master's class of their dreams."

In today's global economy, the places that attract and retain talent will win, and those that don’t will lose, predicts the author. He cites numbers from the US patent statistics of 2002, thus: Nearly 90,000 of the 1,70,000 patents granted in the US went to Americans; some 35,000 went to Japanese inventors, and 11,000 to Germans; the next 10 most innovative countries, including 'the usual suspects in Europe plus Taiwan, South Korea, Israel, and Canada' earned roughly 25,000 more patents.

"In 2003, India generated 341 US patents and China 297. The University of California alone generated more than either country. IBM accounted for five times as many as the two combined."

This is not to say that Indians and Chinese are not innovative, argues Florida. He quotes AnnaLee Saxenian of the University of California at Berkeley for the data that Indian and Chinese entrepreneurs founded or co-founded roughly 30 per cent of all Silicon Valley startups in the late 1990s. "But these fundamentally creative people had to travel to Silicon Valley and be absorbed into its innovative ecosystem before their ideas became economically viable."

A chapter titled 'building a creative society' declares that universities are the intellectual hubs of the creative economy. Universities foster technology, and also 'the other two Ts of economic growth: talent and tolerance.' Florida rues that with budget cuts in the US' public higher education, the system has become less and less accessible to those whom it could benefit the most.

"Creativity is not a tangible asset like mineral deposits, something that can be hoarded or fought over, or even bought and sold," avers Florida. "We must begin to think of creativity as a common good, like liberty or security. It's something essential that belongs to all of us, and that must always be nourished, renewed,
and maintained – or else it will slip away."

Guidelines for Web text

When looking at material on computer screens, do you read word by word? The more likely answer is ‘no’ than ‘yes,’ because a research by J. Nielsen found that only 16 per cent read word by word.

“Most scan the material to rapidly pick out key concepts. They tend to avoid long, dense passages typical of books and articles,” explain Calhoun Wick, Roy Pollock, Andrew Jefferson and Richard Flanagan in ‘The Six Disciplines of Breakthrough Learning’ (www.pfeiffer.com). The general preference, the authors say, is for ‘short, clear writing, frequent paragraph breaks, bullets, and other condensation techniques.’

Nielsen, therefore, recommends that material for presentation on the Web be rewritten by using ‘scannable’ text, as follows:

Highlight keywords, using hypertext links, typeface variations and colours. Give meaningful, rather than clever, subheadings.

Use bulleted lists.

Let there be one idea per paragraph, because ‘users will skip over any additional ideas if they are not caught by the first few words in the paragraph.’

Follow the inverted pyramid style, by starting with conclusion. Aim at ‘half the world count (or less) than conventional writing’. An interesting example in the book is about researchers at Sun Microsystems who ‘found that they could double the usability of information on the Web when it was rewritten’ following Nielsen’s guidelines. “Improvements were seen in all key metrics: reduced task time, fewer errors, greater content retention, and higher user satisfaction.”

The authors draw attention of readability enthusiasts to the need for maintaining a balance between speed and depth, because brevity can result in superficial sound bites. "Use the capabilities of electronic media to present ‘top-line’ information succinctly, with hypertext links to more in-depth treatment and references,” they advise. "This allows users to retain control; they can quickly review a large amount of summary information with the option to pursue knowledge in depth in areas of special interest."

The Phoenix Threshold

Medicine over the Net will be pervasive by 2015 and virtual face-to-face doctor-patient relationship will exist without the barrier of time and space, predicts James Canton in ‘The Extreme Future’ (www.penguin.com). “Sometimes, the doctor may be a computer, or cyberdoc,” he adds.

Lest you panic, the author assures that it is likely that consumers may get more help from an interactive, intelligent computer than a stressed-out human physician. "This makes sense especially if there is a life-threatening illness and there is no room for human error.”

Going further, Canton is hopeful that insurance companies may come to require that robodocs and cyberdocs be used because their precision and reliability are higher than that of humans. "The use of robotics or cyberdocs will be a shock to many at first, but so was voice mail and shopping on the Net,” he reasons.

In a chapter titled ‘weird science: what’s next,’ the author announces that we are getting close to the spontaneous emergence of a global network-based virtual awareness – an awareness of one’s own existence, even if not human! The Internet points to a linkage of millions of computer minds, a digital unity, with powers that defy traditional measure, explains Canton.

"We are fast approaching a critical juncture, what I call the Phoenix Threshold, where networked intelligence will emerge, rise up like the Phoenix, and become comparable to the human brain."

As more of our essential services for planet management – including energy, health, security, defence, communications, finance, and markets – are run by supercomputers that are networked together into one global interconnected network, the threshold is getting closer, warns Canton.
"The combination of sheer power of so many computer brains and networks is a reality soup of infinite possibilities – one being artificial life. Things are not just getting more connected, but smarter and vastly more powerful. This self-awareness may be beyond human understanding."