WORLD VIEW A personal take on events



China needs workers more than academics

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As it faces a glut of unemployed graduates despite labour shortages, China should end its worship of qualifications over skills, argues **Qiang Wang**.

Gibb hunting season in the nation's history. As of April, seven out of ten students in their final year had not signed an employment contract. Last autumn in the northern Chinese city of Harbin, 2,954 graduates and 29 with a higher degree applied for 457 jobs to be street cleaners.

The situation in China seems typical of a worldwide trend in which the economic slump has seen the title of 'graduate' become almost synonymous with 'soon-to-be unemployed'. Yet this bleak outlook for Chinese college graduates is happening as the country heads towards a period of labour shortage. The legacy of China's one-child policy combined with recent economic growth has created a demand for workers and a dwindling supply.

In Guangdong province, the shortfall of skilled factory workers rose

to more than a million people this year. Meanwhile, Chinese teenagers continue to enrol in universities, lured by the promised rewards of an academic qualification in science or other subjects.

The Chinese people have long believed that higher education is a way to reach the top of the country's pyramid-shaped social structure and join the elite ranks of officialdom: a Confucian slogan for education is "he who excels in study can follow an official career". But whereas academic education is valued, vocational education is held in deep and wide contempt. Vocational students are usually seen as the losers of education, even by themselves and their parents. Furthermore, the Chinese government sees US

innovation as a product of that country's education system and has set US higher education — with its heavy focus on academic achievement over useful skills — as an example to follow. Yet China's productionoriented economy does not need more graduates with pieces of paper to proclaim how clever they are. It needs more well-trained workers.

China began a centrally planned college-development programme in 1998. The number of undergraduate students soared from just over one million that year to almost seven million in 2013. The target was to develop world-class academic universities that would be judged by their ranking in national and international league tables of research performance. Many Chinese vocational schools, which previously trained students to prepare for blue-collar work, were merged into these kinds of university. In a single generation, China's higher-education system shifted from being measured by the skill of the students it sent into soci-

ety to being measured by the quantity and quality of the academic papers it produced. This violent tilt towards academic and away from vocational education has contributed to the improvement of Chinese scholarly papers — the number of

ONATURE.COM Discuss this article online at: go.nature.com/x9pnpf articles published by China-based authors in *Nature*-branded journals, for example, increased from 12 in 2000 to 303 in 2012. However, this deliberate unbalancing of higher education has also created a generation of students who are over-educated and under-skilled.

Many young Chinese people with a degree are in jobs that do not require one. And students with master's and PhD degrees are finding it even harder than graduates with lower degrees to find employment. Statistics from the Department of Education of Guangdong show that the employment rate of postgraduates in the region has been lower than that of undergraduates since 2006. At the same time, a shortage of skilled workers in China has led to salary inflation. Between 2009 and 2010, the labour cost in the Pearl River delta and Yangtze River delta, two Chinese manufacturing centres, has risen by 20–25%, and nationally the average minimum wage has risen by 12%. In 2012, migrant

workers earned an average of 2,290 renminbi (US\$374) per month, a higher salary than 69% of that year's college graduates.

If the situation is not addressed, the problem will grow more severe. China should look not to the United States but to Germany, which has a long tradition of balancing academic and vocational education. In Germany, more than half of all high-school students go into technical and vocational education and training, which integrates work- and school-based learning to prepare apprentices for full-time employment. Most German universities focus more on teaching than on research, which tends to take place in independent institutes that are embedded in academic clusters. Through creating well-trained employees, Ger-

man higher education is widely recognized as contributing not only to the success of Germany's export-dependent economy, but also to a low rate of youth unemployment (7.6%). By comparison, over the past 5 years in the United States, youth unemployment has risen more than in previous recessions and is currently more than 16%. It should also be pointed out that German manufacturing workers make around 30% more per hour than those in the United States (\$47 compared with \$36).

The revival of vocational education is crucial to rebalance higher education in China. Community colleges should become vocational schools in manufacturing centres, and private investments — guaranteed by the government — should be used to build new vocational schools.

China must no longer look down its nose at vocational education. The Chinese economy needs it, and the country's bright young people deserve more than a certificate and a handshake for their efforts.

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