

Engineering education world

Contributions are invited for this feature. News items on policies that concern the engineering education world, new courses and curricula either of a unique nature or of international interest, new innovative laboratories and concepts, funding news for engineering research projects involving international participation, special international continuing education courses and news, industry-university interaction, engineering faculty news, and developments in engineering education of international interest. Please send news items and conference information to the Editor-in-Chief. Public relations offices of universities and human resources divisions in industry are requested to contact the Editor with news items concerning engineering education and training.

World

Now we know the frustration ranking

A survey conducted by the Carnegie Foundation for the Advancement of Teaching reveals a telling story of degrees of frustration among academics and students. Summarized in Fig. 1, the survey is based on a questionnaire answered by 20,000 academics in 14 countries. Top marks for autocratic administration were earned by Germany, where over 60% were dissatisfied with the inherent administration arrogance. This was closely followed by the UK, where nearly the same level of dissatisfaction exists. Best marks for administration were awarded to the Netherlands bureaucracy, closely followed by Japan. Job strain is most highly felt in Japan and Russia, while Israel and Mexico are the least strained. Academic respect is lowest in Brasil and the UK and best, although not really good, in Sweden and the Netherlands. Research funding is much easier to get nowadays compared to five years ago in Chile and Hong Kong, with much poorer situations today in Germany and the USA. Salaries were rated as good in Hong Kong and the Netherlands. In several countries academics need to supplement their income in order to maintain a reasonable standard of living—this is especially the case for the reformed countries of Eastern Europe. If we judge by the survey, academics should be happiest in the Netherlands.

The source of the survey is: *The Academic Profession*, \$8 from California/Princeton Fulfilment

Services, 14 Lower Ferry Rd, Ewing, NJ 08616, USA.

New European training foundation

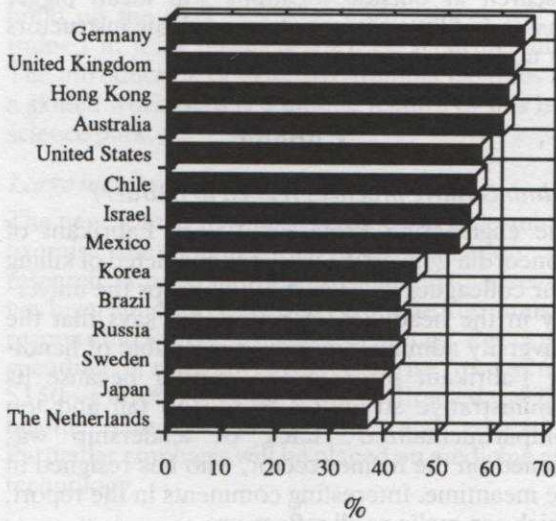
This new foundation, to be set up in Turin, Italy is destined to assist the countries of Central and Eastern Europe in reforming their vocational education and training systems. The foundation is also going to be the home of the EU TEMPUS programme, which is a tertiary education linking and development programme that was started in 1990 for the reformed countries in Eastern Europe. The foundation will help establish networks of contacts between East and West. It should also help to provide Europe-wide facilities like the existing COMETT and ERASMUS programmes, and the LEONARDO and SOCRATES programmes due to start in 1995.

United Kingdom

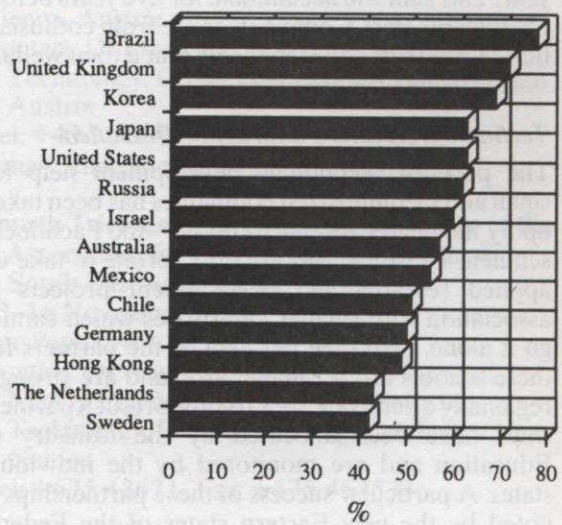
Virtual reality becomes reality

IBM and Virtuality, a company producing game software, have made an agreement to introduce affordable virtual reality development kits designed for engineering design, modelling and medical applications. The system will comprise Virtuality's C-Space applications toolkit, the V-PC operating system and a light Visette head-mounted virtual reality display, and a new controlling unit. IBM will assemble and distribute the development

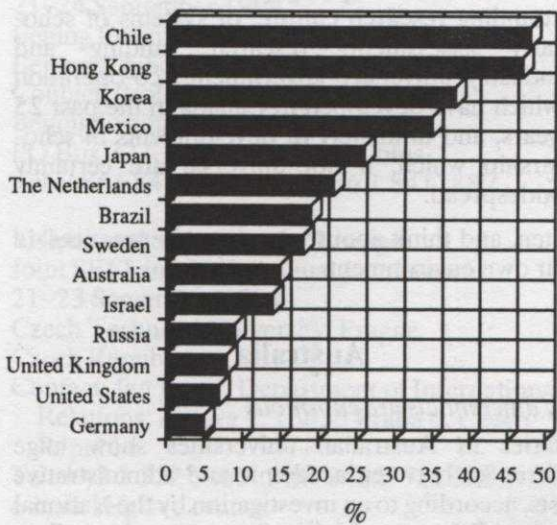
Administration is often autocratic
(% agreeing)



Respect for academics is declining
(% agreeing)



Research funding in my field is easier to get now than it was five years ago
(% agreeing)



My job is a source of considerable personal strain
(% agreeing)

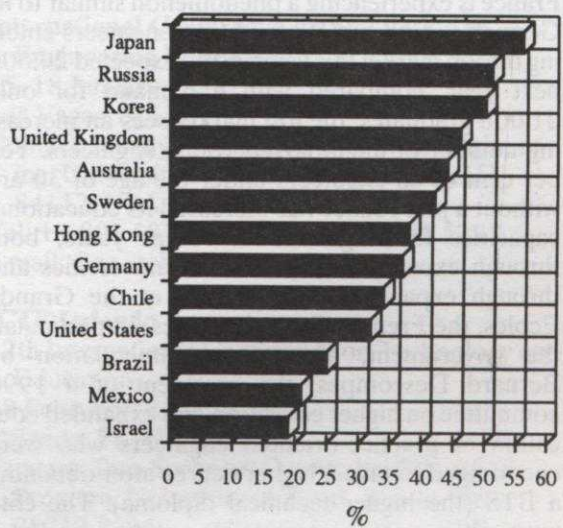


Fig. 1.

systems for personal computers. The kits are to be priced between \$10,000 and \$70,000—low for an integrated virtual reality system.

For information contact: Virtuality, tel +44 81575 7700; fax +44 81 575 8015.

Germany

A revolution in student support

The president of the University of Oldenburg, **Michael Daxner**, proposes that every student be supported at a level of DM800 per month. With

this he would like the current practice of student support, which is means based and gives every student a 'grown up, parent-independent monthly wage'. He argues that current support mechanisms are unable to keep the universities open and maintain social security. After completion of studies the students should repay the support without interest. All students should receive this support for the regular study period plus a further two years. For university students this would mean support for up to seven years and for Fachhochschule students for up to six years. If such a scheme were to begin today and encompass the current student

population of 1.8 million, the payments would amount to DM 1.4 billion (US\$ 870 million) per year. This sum will accumulate for five years before repayments start. Comments range from enthusiastic—by students—to statements that a total welfare state is being proposed here.

Technology transfer from Fachhochschulen

The plea for technology development help for small and medium-sized companies has been taken up by the degree level institutions—the Fachhochschulen. These schools are more prone to take up applied research and development projects in association with smaller enterprises which cannot go it alone. Sixty-five per cent of the partners for these schools are of smaller size, and are strongly regionally oriented. Funds to support such partnerships have been allocated by the Ministry of Education and are monitored by the individual states. A particular success of these partnerships is noted by the new Eastern states of the Federal Republic.

France

Too many engineers are entering the job market

France is experiencing a phenomenon similar to its German neighbour. With 22,000 engineers entering the job market this year and an expected 24,500 next year, compared with a demand for only 21,000 graduates, the job market sees an increasing number of unemployed young engineers. Ten per cent of all engineers under the age of 30 are without a job. France has increased its educational capacities for engineers in recent years, both through expansion of provincial universities and through expansion of capacities at the Grande Ecoles, the French élite universities. In particular, the government, after a recommendation by Bernard Descompes, the president of a 1990 committee on higher education, has expanded education of practice-oriented engineers who were encouraged to take a higher degree after obtaining a BTS (the higher technical diploma). The élite universities—never interested in a glutted market—are now planning to throttle back their expanded capacities in order to remain true to their motto of producing quality and not quantity in engineering.

USA

Research funding and undergraduate teaching quality

Lean years in research funding are faced by US universities. **Karl Pister**, chancellor of the University of California at Santa Cruz, described the situation as a change from 'the cold war to the cold shower', with the cut in defence-related spending for research. The consequence is that universities are setting up research centres funded partly by the corporate sector—and these centres drain

resources needed for undergraduate teaching. At the big universities the switch to outside-funded research at outside locations will mean bigger classes and less instruction by graduate instructors for undergraduate classes.

Canada

Administrative practices related to murder?

The engineering Professor Valery Fabrikant of Concordia University, who was convicted of killing four colleagues in August 1992, keeps the university in the headlines. A report out says that the university administration was incapable of handling Fabrikant prior to the murder because its administrative structures were 'too tall and too compartmentalized'. Lack of leadership was blamed on the former rector, who has resigned in the meantime. Interesting comments in the report, which can make us all reflect, are

a production driven research culture has caused Canadian universities in general and Concordia in particular to be at risk, of corrupt practices. Problems originate not with individuals or particular university structures. Rather they are the almost inescapable pathology of the surrounding research culture, of systems of scholarly assessment, research funding and industry-university-government co-operation which have developed in Canada in the past 25 years, and ultimately of developments in scholarship which, if not universal are certainly widespread.

Listen, and think about 'questionable practices' in your own environment.

Australia

Pay differentials are enormous

Salaries in Australian universities show huge differences between academic and administrative posts, according to an investigation by the National Tertiary Education Union. Some vice-chancellors make up to US\$220,000 a year compared with US\$50,000 for professors and US\$18,000 for tutors. Some universities also provide a fat package for vice-chancellors, including house, car, chauffeur and more. Several universities declined to release details of the salaries of their top administrative staff, which they feared might cause student protests.

South Africa

Education-based science park

Two South African expatriates are planning a large new science park near Cape Town. The park will incorporate extensive student training facilities at a Technikon level, which is similar to UK poly-

technic or German Fachhochschule standard. Tertiary institutions from the UK—University College, London and Bristol University—will help build up the park. Students and trainees will be trained in joint business–university partnerships. The introduction of extensive training facilities for a skilled workforce is a unique feature of this new science park.

Large increase in research expenditure

The new South African government is determined to raise the country's level of education and research. A huge shift towards university research has been announced by **Ben Ngubane**, the minister responsible for culture and technology. Per capita spending on research is geared to rise from \$26 to \$150—a 600% rise. Funds will be directed towards health, housing, infrastructure and education. Particular emphasis will be placed on medicine and technology.

Conferences

The Development and Role of Women in Technology

21–24 September 1994

Beijing Institute of Technology
Beijing, China

Contact: Professor Li shizhi

Beijing Institute of Technology

PO Box 327, Beijing 100081, China

Tel: +861 8416688 Fax: +86 1 8412889

Visions and Strategies for Europe

Joint SEFI and IGIP Annual Conference

21–23 September 1994

Czech Technical University, Prague
Czech Republic

Contact: Jan Pozar, Department of International Relations, Zikova 4, 16635 Praha 6, Czech Republic

Tel: +42 2 332 3465 Fax: +42 2 311 9692

e-mail: seig@vc.cvut.cz

Product Development in Engineering Education

Engineering Education Integrating Engineering Design, Management and Marketing

28–31 October 1994

University of Limerick, Ireland

Contact: Gaye Moynihan, Department of Mechanical and Production Engineering, University of Limerick, Ireland

Tel: +353 61 333644 Fax: +353 61 330316

3rd European Forum for Continuing Engineering Education

9–11 November 1994

Vienna, Austria

Contact: Dr Franz Reichl, Vienna University of Technology, Gusshausstrasse 28, 1040, Vienna, Austria

Tel: +43 1 58801 Fax: 43 1 5054961

e-mail: Internet.reichl@email.tuwien.ac.at

Fourth Triennial International Conference of the Association for Engineering Education of South East Asia and the Pacific

13–16 November 1994

Lae Papua New Guinea

Contact: Dr Nimal Subasighe, Department of Mining Engineering, PNG University of Technology, Private Mail Bag, Lae, Papua New Guinea

Tel: +675 43671 Fax: +675 457534

Third UNESCO World Conference on Engineering Education

14–18 November 1994

Cairo, Egypt

Contact: Dr Saad M. El-Raghy, Faculty of Engineering, University of Cairo, Cairo, Egypt

International Conference on Simulation in Engineering Education

15–18 January 1995

Las Vegas, N, USA

Contact: Magdy F. Iskander, Electrical Engineering, University of Utah, Salt Lake City, UT 84112, USA

Tel: +1 801 581 6944 Fax: 1 801 581 5281

e-mail: @ee.utah.edu

ICTE Orlando

12th International Conference on Technology and Education

28 February–3 March 1995

Orlando, FL, USA

Contact: Tom Sechrest, Continuing Education Program, University of Texas, Austin, TX 78712, USA

Tel: +1 512-471 4080 Fax: +1 512 471 8786

e-mail: sechrest@mail.utexas.edu

Sixth World Conference on Continuing Engineering Education

8–12 May 1995

Sao Paulo/Rio de Janeiro, Brazil

Contact: Professor Edith Ranzini, Escola Politecnica-EPUSP, Caixa Postal 8174, 01065–970 Sao Paulo-SP, Brazil

Fax: +55 118137415

e-mail: wcce95@lsd.usp.br

**American Society for Engineering Education
Annual Conference**

25-28 June 1995
Anaheim, CA
Contact: ASEE, 1818 N St NW, Washington, DC
20036, USA
Tel: +1 202 331 3500 Fax: +1 202 265 8504

**International Congress of Engineering Deans
and Industry Leaders**

3-6 July 1995
Monash University, Melbourne, Australia
Contact: Professor Z. J. Pudlowski, Faculty of
Engineering, Monash University, Clayton,
Victoria 3168, Australia
Tel: +61 3 905 4977 Fax: +61 3 905 6069
e-mail: zjp@eng.monash.edu.au

**Fourth World Conference on Engineering
Education**

15-20 October 1995
Minneapolis-Saint Paul, Minnesota, USA
Contact: Dr E. R. Krueger, William C. Norris
Institute, 245 East Sixth St., St Paul, MN
55101, USA
Tel: +1 612-225 1433 Fax: +1 612 225 1241
e-mail: wcnrex@epx.cis.umn.edu

**Active and Productive Learning in Higher
Engineering Education**

1-4 November 1995
University of Twente, The Netherlands
Contact: Huib J. van Oort, Department of
Mechanical Engineering, University of Twente
7500 AE Enschede, The Netherlands
Tel: +31 53 892474 Fax: +31 53 356490