

# Teacher feedback important

Innovation in schools—change designed to enhance the quality of education—improves student learning, but the simplest prescription for improvement is 'dollops of feedback' from teachers.

And, contrary to prevailing belief, schooling plays a far stronger role than home influence in enhancing a student's achievement.

These are among striking findings by Professor John Hattie of the UWA Department of Education after a unique study of data from educational research in Australia over the past 30 years based on 20 million students.

It is the first ever such research into research or study of studies in this country.

'Feedback is undoubtedly the most powerful single factor in raising students' levels of achievement', he stresses.

'It increases their performance in the everyday class situation. It also makes homework more effective and enables students to gain greater benefit when different systems or new teaching aids, such as computers, are introduced. It is a major ingredient in making smaller classes, computing and peer tutoring work.

'Feedback does not mean teachers should use larger numbers of tests or be over-prescriptive about what students should or should not know.

'It means ensuring that students understand. It involves working with them to assess their problems, and providing information that will set them in the right direction to improve performance.'

Professor Hattie found that feedback is

important in relation to homework, an area where students often do not receive it. 'Pupils who get teacher reaction and follow-up benefit more from that exercise than those who do not.'

'The majority of education researchers and teachers argue for treating students individually yet attempts to do this have not been noted by success', Professor Hattie says. 'Individualisation means the child is left alone to work on a specific task, which usually relates to his or her special needs, progress, pace and behaviour.

'It might seem that this would be beneficial to the child, but there is usually little feedback and often very little attention from a busy teacher who has to cater to the other 30 or so students. Typically, the student has little information about success or failure in the detailed aspects of the task.

'The feedback component is particularly important when you consider that all students spend about 66 per cent of their time working alone.'

Professor Hattie's study shows that innovation, in the form of 'a constant and deliberate attempt' to improve the quality of learning through the education system, the principal and the teacher, has generally worked.

'Innovation probably captures the enthusiasm of the teacher who carries it out and of the students who are attempting something new. Of course, the aim should not be to implement everything that enhances learning. The costs in time, energy and money have to be taken into account.'

In his examination of numerous

research reports on the effects of schooling, Professor Hattie found that the school influence greatly outweighs home and social influences on a child's learning achievement, yet this is not generally realised.

The competence of teachers makes a major difference so that the in-class effects of schooling are the most dominant. In this area the main factors involved are the teachers' skills in teaching and their interaction with students: 'Feedback again', Professor Hattie says.

Another finding of interest is that the introduction of computers speeds up the learning process, so that students using them are more advanced than those in classes without them.

However, the effects decrease with age: primary students gain most; secondary students have medium gains and college and university students gain least.

At primary level there is no difference between boys and girls' attitudes to and achievements after using computers; after that boys gain more than girls.

In his unusual research project Professor Hattie used meta-analysis. This 'big picture' approach enabled him to make a summary of 30 years of research projects covering many areas and involving 20 million students.

His work therefore takes into account 'myriads of factors' which are normally examined separately—different teachers, subjects, school administration systems, teaching styles, ages, gender and prior ability of students, quality of instruction, teaching packages and innovation.



## Engineering camp

More than 60 Year 10 students from as far afield as Port Hedland, Kalgoorlie and Albany enrolled for the Engineering departments' fourth annual summer camp in January.

Coordinator Dr Kamy Cheng of Mechanical Engineering and other staff members volunteered their help and the youngsters attended free of charge. As well as hands-on experience in the Mechanical, Civil and Environmental, and Electrical and Electronic Engineering Departments, they visited a range of industrial installations.

*Left: Mr Keith Godfrey of Electrical and Electronic Engineering (standing) with Sunny Yeung, left (Duncraig Senior High School), Bang Seng Kwang (Morley Senior High School) and Shannon Walker (Iona Presentation Convent) as they gain hands-on experience in one of the department's laboratories.*