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## Types of intelligence

Two students are walking in Yellowstone Park when they come across a grizzly bear. The first, an Ivy league graduate from the top drawer of academic achievement, calculates that the bear can reach them in 17 seconds.

"We can't outpace him," he tells his companion, who is pulling on his running shoes. The other boy, who struggled to get a degree in one of the minor colleges, says to his friend: "I don't need to outpace the grizzly, I just need to outpace you."

A version of the story is used by Robert Sternberg, professor of psychology and education at Yale University, to illustrate his ideas on intelligence.

"Both boys were smart," he says. But while the Yale student was intelligent in the conventional analytical way used to define excellence in universities, the second was intelligent "to the extent that you define intelligence as the ability to adapt to the environment".

Speaking to the Oxford Forum for Assessment and Development meeting in London, Prof Sternberg outlined three definitions of intelligence - analytical, practical and creative. The first type, he says, seems to be understood and emphasised by academic institutions. But the second two, he fears, have been neglected and ignored. "You need more than IQ skills to get through life," he says.

"In US society if you're good at IQ-like skills - the type of things that get you As in school - you are extremely highly rewarded by the system. These systems promoted you from an early age so there is no incentive to acquire creative or practical skills."

People, he argues, need an understanding of all three abilities. "Many people have good ideas that never go anywhere because they lack the practical persuasive skills to convince anyone of their worth," he says.

He describes three students he has encountered over the years. One is Barbara, who had good grades but fared poorly in the ability tests used by universities. Teachers' letters told the university selectors that she was remarkably creative but she was rejected and, as Prof Sternberg pointed out, "if you didn't get into one university, you didn't get into any". He recruited her as a research assistant. She produced extremely creative work and, after two years, was accepted on to the programme. "But what happens to other Barbaras who don't get hired?" he asks.

Another student, Celia, achieved reasonable test scores. Her work was good but not outstanding. However, she did possess very good practical skills that can prove important to those working at all levels.

It would have helped another student, Paul, who was outstanding academically but also arrogant; a feature he was unable to hide, says Prof Sternberg. Although he had lined up eight job interviews when he graduated, he was offered only one, and this was the poorest of all the opportunities.

So why does society reward some attributes and not others? Prof Sternberg has identified the existence of what he calls "closed systems" - self-selecting societies

that shut out certain features.

The reason, he says, is that "it doesn't matter what system you have, it looks good once it's in place". Thus some societies may select on the basis of religion. If you belong to a certain sect you will succeed. You can then look around you at all the others in the same sect and conclude that their achievement is down to their religion, having, in effect, created a self-fulfilling prophecy.

It can apply to people's height, a noticeable feature of high achievers in the US. Chief executives, for example are, on average three inches taller than the people they supervise. Army generals are on average four inches taller than their troops.

The practice of exclusion has created too great a focus on one type of intelligence, says Prog Sternberg. Society should really be concerned with "successful intelligence", which combines the analytical, the practical and the creative, enabling people to achieve success in life "given one's personal standards within your socio-cultural context".

This means, he says, it is important that people recognise and capitalise on their strengths, while correcting or compensating for their weaknesses.

Prof Sternberg's ideas must draw some recognition from employers who have complained for years about the quality and sometimes naivety of graduate trainees. This does not mean the graduates lack potential. They may never have been exposed to practical decision-making or creative thinking by their teachers or their families.

On the other side of the coin it also suggests that some young people who may be "street wise" and brimming with ideas never get beyond the job application stage. Part of the blame for this inability to select people with learning potential, says Steve Blinkhorn, an occupational psychologist, must be shouldered by the psychometric test producers who have become too focused on their own products.

"We should bring in a rule that people who run test training courses cannot use material they publish and then see how interested they are," he told the seminar.

Mr Blinkhorn, a leading critic of conventional psychometric tests and a proponent of a new type of testing that involves a "structured learning" component, says that test psychologists will be a "sad little group" if they fail to recognise that aptitude testing can be improved.