



Leon Liebenberg

→ Professor Roelf Sandenbergh

INCULCATING REAL SCHOLARSHIP

"I believe the time has come to move beyond the tired old 'teaching versus research' debate that is so popular in academic circles.

Let's rather talk about "scholarship," a term

that brings legitimacy to the full scope of academic work," says Roelf Sandenbergh,

Dean of the Faculty of Engineering, Built

Environment and Information Technology (EBIT) at the University of Pretoria.

"The work of the professoriate might be thought of as having four separate, yet overlapping, functions: the scholarships of research, integration, application and of teaching," says Sandenbergh, who speaks with a conviction brought on by more than 30 years of experience in academia.

Research

"I believe that research should be the distinguishing activity of the professoriate. It is that activity which gives an academic the sense of contribution and leadership," says Sandenbergh, who demands that each of his professors publish at least three top-class papers annually in peer-reviewed journals. This is not to detract from activities such as design, teaching and other professional activities, but to give them perspective.

It is important to realise that students will respect someone whose interests are not static, and is seen to be immersed in his or her own ideas and projects. Research therefore also acts as fuel to keep alive the fire in one's own belly and not foam to extinguish the sparks in other people. Says Sandenbergh: "Research therefore enriches teaching, and is indispensable to good teaching because interest cannot be inculcated by teaching; it can only be caught, like an infection."

Integration

The scholarship of integration is work that makes connections across disciplines, but is inter-disciplinary, not just multi-disciplinary. It is an attempt to put specialities in a larger context, and is in partly a response to the demands of industry that is increasingly dealing with problems not bound by specific disciplines. Sandenbergh's own research specialisations serve as a good example; extractive metallurgy, failure analysis and corrosion, all of which require inter-disciplinary work of the highest order.

Application of knowledge

"The application of knowledge involves service tied directly to a Faculty member's special field of knowledge, and includes things such as serving clients with consulting work, design of buildings, working with industry on the design of a new heat exchanger, the development of novel hardware components or secure systems for computers and introducing these into the market," according to Sandenbergh.

But this dean also believes that universities would be doing a great disservice to the country by flooding it with a wave of disillusioned, unreflective graduates whose only assets are a stock of ill-digested information of doubtful use. So he introduced compulsory community service for each of the undergraduates in the Schools of Engineering, the Built Environment, and Information Technology. The student body and academic staff have welcomed this step, and so has industry. "Has not every university these days a responsibility to get its students thinking about the direction in which civilisation is going - a civilisation of which the student him/herself is very much a part?"

He adds: "A university cannot be of the right shape and character if it fails to find a way to get some central questions of value and purpose posed to every student in it in a way that brings him/her up sharp; it will not be enough to give him/her only what he/she is conscious of wanting."

Teaching

The scholarship of teaching both educates and entices future scholars. It means not only transmitting knowledge, but also transforming and extending it.

Sandenbergh believes in teaching excellence and strongly supports initiatives such as the new CDIO (Conceive, Design, Implement, Operate) framework for restructuring the engineering curriculum. "Our teaching activities must ensure that we deliver graduates with the appropriate skills and training; this must be done in the context of the University's quest for local relevance and international competitiveness. I also see the University as a place of conversation, so that people are vividly and personally confronted with new evaluations," he says. Sandenbergh is not only still an active researcher, but also lectures undergraduate students. "I attempt to instil in my students a keen sense for performing problem-solving with an open mind. This is something which I was taught early on in my career by the legendary professor G.T. van Rooyen, my mentor."

It is apparent that Professor Roelf Sandenbergh believes that scholarship relates not to a catalogue of accomplishments, but rather to qualities of character. Standards are, of course, very important. But even more important are persistence, creativity, humanity, and integrity, all of which are at the very heart of academic life. [👉](#)

- interviewed by [Leon Liebenberg](#)