

# Importance of research driven approaches to improving undergraduate success

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## We have a problem

In 2008, the South African public higher education system enrolled 799 490 students and awarded 133 241 qualifications. At the undergraduate level, including bachelor's degrees, diplomas and certificate programmes, 653 398 students enrolled and 100 684 qualifications were awarded. These numbers translate to graduation rates of almost 17% overall and 15% at the undergraduate level.

Cohort studies that we have access to show that around 50% of students enrolling in first general academic bachelor's degrees will graduate within 5 years of enrolling and about 60% will eventually graduate, some over far longer periods. This still means that some 40% will spend a long time at university, but will never graduate.

Of course success is much more than just graduating. Students go to university with a range of different objectives – to get a better job, to acquire knowledge, to develop new skills, to have interesting experiences. If they achieve these objectives, they may well consider themselves successful. The student who spends one year deciding that university is not for him, has not necessarily failed and the student who struggles miserably through to graduation at great personal cost, has not necessarily succeeded. One report, trying to capture this diversity of understandings defined student success as “*academic achievement, engagement in educationally purposeful activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, attainment of educational objectives, and postcollege performance*” (Kuh et al. 2006).

We focus on crude measures of success because it is easier. But there have been studies that delve more deeply into aspects of student learning. The CHE completed a study in 2006 and 2007 that interviewed first and third year students at three universities to better understand the complex questions of how they negotiate entry into the university environment including coming to terms with new identities, new ways of learning and new social rules. That study illuminates how hard university study is, not only in its cognitive demands, but in the demands that students face to adapt and reinvent themselves.

It is all of these complex aspects of success that we need to examine, understand and improve.

Beyond the problems of individual students, higher education also has a bigger problem of credibility and is under increasing pressure to demonstrate the value of what we do. There are growing calls for accountability; that universities should demonstrate more clearly the benefits that result from the public funds they consume and that they should articulate better their value to society.

In no area is the call more prominent than with regard to teaching and learning. Reading through the speeches of the Minister of Higher Education and Training, the refrain “to improve access and success” is the one constant theme. I have yet to read a speech of his that does not touch on this.

## Higher education needs more research

So we face a problem in improving student success and a bigger problem in convincing others that higher education does a good job. I’m going to argue that the solution to both of these lies in having a better understanding, in other words in collecting more data and doing more research.

I like to characterize the higher education system as a complex adaptive system. It is comprised of many parts, including intelligent actors, that modify their behaviour in response

to external conditions and the actions of other actors. Such systems are difficult to manage or even to steer because the way in which the system will respond to a change in circumstances can never be fully predicted. But we have learned a few things about how to influence complex systems. One of these is that information and communication facilitates intelligent adaptations in the behaviour of individual actors.

I am aware of many innovative programmes underway at universities. There are special programmes that help students bridge the gap between school and university. There are programmes for students who are “first in family” to attend university. There are programmes that assist residence students to settle in to new social environments. There are field trips for students that help them to get to know each other but also to learn the discourses of their discipline. There are programmes for lecturing staff to improve assessment, learn to use e-learning tools and to develop course materials. And our institutions are full of support services that help staff to develop and improve their courses.

But on the whole these occur in isolation. We are still not good at collaborating and sharing, at showing each other what we do, and at learning from each other. In complex adaptive systems it is observing what others do that enables actors to develop new and creative responses to their circumstances. We need to find platforms to share more of this good work and more of these good ideas.

We are also not very good at understanding what impact these programmes have. We need to ask ourselves, when we design them: “How will we know that it is succeeding?” We need to monitor these interventions and evaluate the outcomes.

There are enormous gaps in our national picture of higher education. We do not know, when students are excluded at the end of the academic year, whether those exclusions were academic (the student failed to complete enough courses to progress) or financial (the student failed to pay their fees). We do not have data about enrolments and graduations by

campus. We do not have reliable data on disability. We don't know how many students are enrolled in private higher education or what their chance of graduating is.

Institutional research units are going to be important partners in better understanding the state of the higher education system as well as for tracking changes. We need more people who love data, who are prepared to spend time trawling through it and looking for new ways to view it.

There are surprising things to be discovered in data. For example, if we consider the (admittedly deeply flawed) graduation rates. Between 2005 (just after the mergers) and 2008 (the latest data that we have), the public universities managed a steady graduation rate of around 17%. If we exclude UNISA, the graduation rates at contact institutions average around 20%.

These numbers, the press likes to quote as evidence that universities are 'inefficient' at producing graduates. But if we look back at what was happening in the system between 1986 and 2002, we find that graduation rates were 16 to 17 percent at the historically advantaged universities. In fact if one examined graduation rates across the system, including universities and technikons, they averaged 13 percent.

So between 2002 and 2005 the graduation rates have improved across the system from 13% to 17% and the system as a whole is now producing graduates at about the same rate as the historically advantaged universities were in the last two decades of the 20<sup>th</sup> century. Those of you here representing the public universities, can pat yourselves on the back.

### **There is a lot of research being done**

An edition of the South African Journal of Higher Education published last year conveniently (for me) includes two articles that review higher education research in South Africa. The first of these (Deacon et al. 2009) found that almost a third of education research in South Africa focuses on higher education. This is good news for me. I have the unenviable task of

researching issues on which the CHE wants to advise the Minister, but with a very small staff. So my plan is to harness, wherever possible, the work of this larger research community.

In September last year, I distributed a letter to researchers of higher education that invited them to share with the CHE research that they were doing or had done that might be of relevance to our advice activities and projects. I listed five key focus areas that are of interest to the CHE at present. They are:

- Student access and success
- Funding and accountability
- The contribution of higher education to development
- Staffing higher education
- Institutional differentiation

We received a number of responses, almost all of them related to the first focus area: student access and success. While I am disappointed that few people can help me with understanding the contribution that higher education makes to development, it is heartening to see that many people are applying their minds to the matter of student access and success.

The two review papers that I mentioned confirm that research into higher education in South Africa does indeed focus on a few key themes. Access of students to higher education is one of those and so are a cluster of themes related to student success such as the acquisition of academic literacy, assessment and e-learning. Other areas that have been frequently researched include higher education transformation, the Africanisation of higher education, the promotion of indigenous knowledges, and matters of higher education policy. There is also some research into accountability and autonomy, and student and staff diversity (Deacon et al. 2009; le Grange 2009).

## The problem with education research

There are several challenges inherent in the nature of education research. Firstly, research in education does not result in nice neat answers that make it clear what you should or should not do. Knowledge in education is contested so that even when we have a half a dozen “well researched” ways to improve undergraduate success, the chances are that we will not agree on which ones to implement.

Secondly, our views on teaching and learning are informed by our own experiences, both as students and as lecturers, as well as by our own dispositions. Are we constructivists, behaviourists or cognitivists at heart? The answer will influence how we interpret research results and what we believe the implications are. Research might just turn up results that we simply can't live with.

Another of the challenges with education research is that it is highly contextual. What works in one place may not work in another and it is difficult to predict the factors that will make one practice transferable and another not.

While research into education is messy and often inconclusive, it does not mean that we should give up on it. It just means that we need to get smarter and more ambitious.

The reviews that I have referred to suggest that much of the research into higher education that is undertaken is small scale and localized and that this research could result in new insights and have greater impact if these small studies could be coordinated, perhaps under the umbrella of a large-scale project. Certainly, if studies could compare and contrast across programmes, across faculties and across institutions we would gain a better understanding of how teaching and learning happens in different contexts and what is and is not transferable across contexts.

From where I sit, trying to monitor higher education from a systemic perspective, what is particularly important is to collect data that is comparable across institutions and that is

comprehensive. This means better communication across institutions about what data is being collected, in what formats and how at a national level, data can be shared.

It is of course difficult to collaborate across 23 universities, especially universities that are geographically distant and even more distant in terms of institutional culture and capacity. But even on a smaller scale, collaboration can be helpful. The universities of technology have created for themselves a set of indicators that they will use to measure their performance and development. If each institution works on collecting the data that supports those indicators, and makes that data available for our monitoring purposes, we will be able to build a comprehensive picture of the universities of technology.

In the 2009 State of Higher Education report the CHE identified an increasing trend towards self-differentiation among institutions and this is something that I would like to encourage. If institutions could identify their peers – the institutions that they consider themselves to be sufficiently “like” to be able to make meaningful comparisons – and will work together to create coherent data sets to address issues of concern to them, I would be able to use that data to make meaningful comparisons across sub-sectors rather than the whole system.

I would also like to encourage the private institutions to look around and decide who they feel they want to be associated with and what data and information needs to be compiled to understand the challenges they face and the contribution they make to higher education.

Incidentally, in the letter to higher education researchers, we also identified a number of knowledge gaps that are hampering our monitoring activities. We are still eager to get our hands on any research that contributes to closing these gaps. For those of you who do research higher education and did not get this letter, there are copies on the display table outside. Please take one.

## South African's are great idealists

South Africans are great idealists. Starting with our ambitious constitution, we put in place policies that reflected ideal cases and took less cognizance of the realities of implementation. The National Commission on Higher Education's 1996 discussion document which emphasized "equity, democratisation, development, quality, academic freedom, and efficiency" was applauded internationally but, as a variety of researchers have noted, "was initially too grandiose and idealistic" (Deacon, Osman, & Buchler 2009).

This same idealism was evident in the changes that we made to the school curriculum where a wonderful vision of what education could (and perhaps should) be, ran up against a lack of resources and capacity.

I like that we live in a country that takes idealistic positions and that works towards grandiose ideals. But if we are to succeed in improving student success at university, however that might be defined, we have to learn to be great pragmatists. We must acknowledge where less optimal, but workable solutions might get better results in the short to medium term.

In order to identify what works, we need to put greater creativity and effort into thinking about how we will be able to tell that our interventions are working. We also need to be more consistent in monitoring these effects. For this we need ongoing research. We need strong institutional research departments that will be able to advise academic staff on how to measure impacts and support them in tracking the results.

And if we want to be able to understand what particular interventions might mean for the system as a whole, we need to co-ordinate efforts across institutions. Applying similar interventions at different institutions and tracking what happens will give us a better understanding of how specific contexts affect results.

## Conclusion

I met earlier this week with three senior students. They were not shy to tell me what was wrong with universities. They told me in no uncertain terms that their lecturers were old, fixed in their ways, teaching outdated materials, and lacking in imagination. Administrators and senior management got the same treatment.

But as I listened to these articulate, well-informed and passionate young people telling me not only what was wrong with higher education, but also about their plans to change it, I could not help reflecting that we must be doing something right. If their years at university had anything to do with their self-confidence, their willingness to challenge the status quo, and their ability to conceptualize and put together a significant programme of work, then universities, and those old lecturers, are succeeding.

This makes me hopeful that we will be able to improve student success and to demonstrate the value of higher education, we just need to pay more attention to observing, recording and sharing what we do.

## References

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