How do supervisors build such a diverse group of students?

First, it is important to be open to new ideas and be willing to recruit students not only domestically but also internationally. Second, the supervisor must be willing to collaborate with other researchers, especially internationally. Third, supervisors must be prepared to set disciplinary boundaries to create a multidisciplinary team.

For example, it is often beneficial to have a sociologist within a team of engineering students. Of course, certain disciplines such as artificial intelligence, which involve computer science, psychology and biological sciences, are better aligned to building multidisciplinary teams than others such as mathematics.

I have often found that it is beneficial to let some of my master’s graduates pursue doctoral qualifications elsewhere in the world as they act as goodwill ambassadors and build international networks for our research enterprise. Some of the students I have supervised, and who were incidentally black South Africans, went on to complete their postgraduate studies in universities such as Oxford, Cambridge, Harvard, Purdue, Rutgers, Concordia and British Colombia.

Financial implications

Building research student teams requires financial resources because the team not only needs to be paid stipends but also requires well-equipped laboratories, running costs and conference attendance support.

Excellent research students are attracted by the academic capacity of supervisors and the financial resources required to make postgraduate studies successful. Science councils such as the National Research Foundation and the Council for Scientific and Industrial Research have research grant funds that are accessible to academics, provided that they are in line with the developmental agenda of South Africa.

It is also important for academics to access grants in the private sector and internationally. Accessing private sector grants requires that their research is in line with the objectives of companies. In this regard academics must spend time in industry trying to understand what industry requires and use this information to apply for grants that will be used to support postgraduate student training.

Students should also be offered international experience, and this can be achieved by encouraging and enabling them to participate in international conferences. This is best done after students have conducted a substantial body of work that can be presented - because it is generally fruitful to build collaborative relationships between international conferences if they do not have papers that they are presenting.

Another mechanism for giving students international experience is to put them on exchange programmes whereby an overseas university sends a student to work in our laboratories. I have found that this is best done if there are ongoing collaborative relationships between academics from different countries. The National Research Foundation has bilateral agreements with sister institutions overseas to promote the mobility of students and staff and encourage research. The National Research Foundation is an important attractor of black students, in particular, it deals with the factors necessary for the successful supervision of postgraduate students. In particular, it deals with how to transform the South African academic sector in relation to bringing back black South Africans into the mainstream of academic life.

Much has been written about South Africa as a developmental state. What is not discussed is the fact that, for South Africa to be a dynamic developmental state, appropriately qualified human capacity is a critical requirement.

What is developmental state and what does it intend to achieve?

The goal of our developmental agenda is to attain a society where everyone is educated at all levels. To achieve this goal we require that the number of master’s and postgraduate students are able to research it faster because the number of innovation and industrial designs.

Why is it important that South African students are able to research it faster because the number of master’s and postgraduate levels? It has been found that there is in fact a causal link between the number of postgraduate and industrial designs.

In particular, it deals with the factors necessary for the successful supervision of postgraduate students. In particular, it deals with how to transform the South African academic sector in relation to bringing back black South Africans into the mainstream of academic life.