Editorial

Wayne Hugo

hugow@ukzn.ac.za

Teacher education is a generative mechanism that has produced, and is currently producing, "designated consequences for designated parts of the social structure" (Merton, 1968, p. 43). A key function of research in education is to establish how this mechanism of teacher education came into being, came to have certain powers and failures, and is currently operating. The collection of articles in this issue helps us, to some extent, to picture teacher education as a generative mechanism.

The key historical work that provides a background to this endeavour is *Teacher preparation in South Africa: History, policy, and future direction* (Chisholm, 2019). In this book, the exceptional Linda Chisholm provides a detailed analysis of how the institutionalisation of teacher education, working within a framework of systemic oppression, produced colonised racialised teachers who, in turn, subjected their learners to colonial race-, class-, and gender-based dynamics.

Johannes Seroto's "The othering of teacher training in Lebowa buntustan: A historical perspective" adds to this growing area of research and shows how

> African teachers were othered from economic, educational, political, and technological power through the bantustan policy and that this othering was interconnected. For African teachers to be inferior, subjugated, and marginalised, they needed to be spatially isolated; they had to receive a segregated, racialised, gendered, and inferior curriculum.

Seroto uses the archives to build a picture of how the teacher training colleges of Lebowa (like Dr C. N. Phatudi, Kwena Moloto, Mamokgalake Chuene, Modjadji, Mokopane, and Sekhukhune) functioned, and I would like to frame his paper visually for you.

Here is the Sekhukhune Teachers College in 2020 as shown on Google Earth.

It is now the Nchabeleng campus of the Sekhukhune TVET college. We can see at once that it is in a desolate area without much cover or protection from the elements, and little surrounding infrastructure. Here is a wide angle shot that shows the college in the context of the surrounding community.
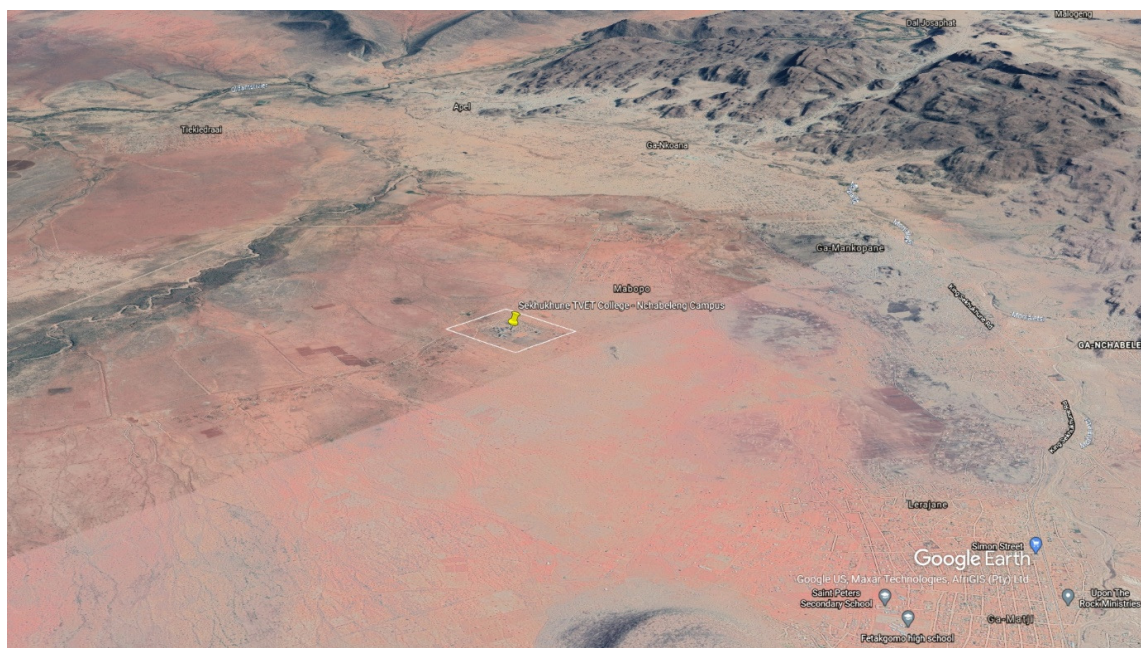
It is separated from the community whose members live in dispersed settlements that track the Mohlaletsi river, caught in the rain shadow of the Leolo mountains. Mr Legodi, Head of the Practical Subjects department, was interviewed about the history of the college by the South African Institute for Distance Education (SAIDE) in 2000.

> Sekhukhune College of Education is where it is today because the two local chiefs were at loggerheads. They both demanded that the boarding school, which was

converted into a college of education, be erected on their lands. The mediator offered his farm, which was some kilometres away from both chiefs' land. The farm was a distance away from the villages of Ga-Nchabeleng. The road to the college is not in good condition, and there is a huge transport problem. Many students prefer to walk long distance to the college to minimise costs. This has very strong limitations because they often miss classes when it is raining. During the rain, the road conditions are in a poor state and are dangerous (p. 6).

Massive opportunity costs are incurred and great inefficiency results when key infrastructural projects are built on such a basis. And Sekhukhune college is not one isolated example; most of the colleges were built in open fields without proper infrastructure or a reasonable degree of accessibility.

Mr Legodi explained why there were so many teacher education colleges. He said,

The Northern Province had too many primary and secondary schools, but not enough teaching staff. Each region thought that having a college would solve the problem. At first, teaching as a profession guaranteed many people with professional jobs. But unfortunately, the colleges did not limit the number of teachers, so currently there is an enormous over supply of teachers in the province. This situation leaves approximately 8,000 teachers unemployed (SAIDE, 2000, p. 5).

The college was closed down, abandoned, and left to rot for over a decade before the community was finally able to convince local government to convert it into a TVET college campus with residences.

A wider angle shot gives even more context.

In this picture we can see the old Sekhukhune College of education on the top left, and, on the middle right, the CN Phatudi campus (also an old college of education).[1] The dirty grey line running through the middle is the eastern limb of the Bushveld Igneous Complex, which is one of the richest resources of minerals in the world, currently being mined out by huge consortiums of historically white and currently international mining operations, operating in an area of stark actually lived poverty.

Seroto's paper speaks powerfully about this context in which the resources of South Africa are unequally distributed with white, well-resourced, beautiful colleges of education progressively churning out well- qualified and trained teachers and black colleges of education struggling in a world of pain, exploitation, and built-in inefficiencies.

One response of the post-apartheid state has been to use the taxes generated from extractive industries to fund access to higher education for students from areas such as the old Sekhukhuneland though initiatives such as the National Student Financial Aid Scheme (NSFAS). Unlike during the apartheid era, when one of the only access points to higher education was teacher colleges, NSFAS enables deserving students from poor and working-class backgrounds to access the full range of further and higher education possibilities. Angelique Wildschut, Ebenezer Megbowon, and Amanda Miselo provide a statistical analysis of the relationship between student funding and academic performance at Wits University and at Rhodes with a dataset of 29,619 students registered in the 2018 academic year.

It is a vital relationship, given that over a 100 billion rand is allocated to assist almost 3 million students obtain their qualifications from universities and TVET colleges, and not just any kind of student, but students from disadvantaged backgrounds.

We all have built-in statistical inference capabilities; we live in a world in which we make predictions and then adjust our beliefs and actions based on the results thereof, so I want to start with some of the intuitive predictions I made about the NSFAS students as I began to read the paper, and then update my understanding according to what Wildschut, Megbowon, and Miselo found.

Regarding the role played in academic performance by the age of the student, especially a NSFAS student, I predicted, given my own experience, that older students respond more maturely and have better self-regulation skills than younger students. I guessed that the older students in a class would do better on average than younger students. Wildschut et al.'s analysis shows that, at least at Wits and Rhodes for the 2018 cohort, younger students are performing better than older ones.

---

[1]   I have taken this snapshot with a precise centre at Dsjate, the site of the capital of Sekhukhuneland with the fighting hill of Thaba Mosega, where Sekhukhune successfully defended against Boer and British invasions, until his final defeat in 1879.

I predicted that the gender of a student would play a role in academic performance and that female students, given my experience, perform much better than male students, and this was confirmed by the statistical analysis. Wildschut et al. go on to discuss how male students tend to enter higher education later than female students and how this could be one of the reasons behind younger students performing better than older ones.

I predicted that full- time students would do better than part time students given my own experience of both; this informed prediction proved correct.

I predicted that science, engineering, and technology (S, E & T) students would perform less well than business and commerce (B & C) students. I based my prediction on the notion that S, E & T involves mathematics and hierarchical learning. which requires a sound knowledge of some basics while B & C subjects are easier to understand and often involve more rote learning. My prediction was hopelessly incorrect. Students doing B & C modules had the lowest marks and S, E & T the highest. It threw me into confusion, especially as I had thought there were far more men doing S, E & T modules.

I predicted that the year of study would affect academic performance and that by third year students would be managing better than they did in first year. Wildschut et al. bear out this assumption.

I predicted that NSFAS students would not perform as well as self-funded and other funded students. In my experience the stereotyped young white middle-class student with lots of family support, a long history of privileged schooling, being home speakers of the language of instruction, and having enough time and space to engage with the rigours of higher learning would do far better.

Given the stereotype of a NSFAS-funded student being young and black from a rural or peri urban township area, being often the first person in the family to break through into higher education, having a home language that is not the language of instruction at the university, and having had a long experience of disadvantaged schooling, I predicted much less success. However, the issue is not whether NSFAS students are performing less well than self-funded students, but the extent to which NSFAS has helped bridge the gap between historically disadvantaged and advantaged students. The statistical analysis by Wildschut et al. helps us to start answering this question

These are both fairly crude stereotypes; they are dangerous and useful at the same time, so it was with great pleasure that I read Sarita Ramsaroop and Nadine Petersen's paper in which they use portraiture research. They developed six personas in their first-year cohort of primary school teacher education students at the University of Johannesburg who shared some basic similarities based on two qualitative questionnaires. Content analysis combined with information about the students'

> demographic classification, their socio-economic situation, their geographic home
> background/origins, any financial support for university studies and current living

conditions, home language, whether or not they were first-generation students, family expectations, their first experiences of social integration at the institution, and current challenges helped these researchers to create these personas.

Nkososana is a young female student from an impoverished rural area; Lerumo is a male student from a rural background; Zunaid is a male student from a middle-class urban background; Thabo is an urban male from a low socio-economic background; Laura is an urban female from a middle-class background; and Lydia is an impoverished urbanite. The crux of the article is a discussion of how these different personas dealt with first-year issues like being scared at first about making friends, having poverty and hunger intersect with academic success, and struggling with English and academic discourse at university level. Creating these personas from their insights based on the racial, gendered, and classed background of their students helped these lecturers to examine their own practices in relation to these personalised and individualised details.

Each of these personas necessarily had very different experiences of schooling in the 12 or more years they spent as learners, and these experiences will have structured deeply how they view themselves as teachers. Lortie (1975) calls this the "apprenticeship of observation" since student teachers at university have already observed teachers for most of their lives. Unlike doctors who have to familiarise themselves with a hospital, and lawyers with a court room, student teachers have grown up, to a large extent, in their future place of work. If you ask a first-year student teacher if she or he can go out and teach immediately, many of them think they could.

We know from work done on the brain that we have mirror neurons that fire continuously when we watch other people do things, and this lays down neuronal pathways that enable us, as observers, to copy an action far more quickly and easily than someone who has not observed the action. Our young teacher education students come to university with years and years of observation that lay down well-established neuronal paths that should make teaching much easier, but what happens if the kind of pedagogy expected by the university is all about learner-centred, constructivist, open-ended, creative exploration and all the student has experienced is teacher-centred, positivist teaching along with rote learning and copying down notes from the textbook? Carolina Botha not only asks this and related questions in her fascinating article, "The impact of the apprenticeship of observation on pre-service teachers' perceptions of teaching" but also suggests using Schlossberg's Transition Theory as an analytical tool to help us think through how to acknowledge, challenge, and disrupt the deeply rooted experiences of teaching already embodied in our young students when they enter a higher education teacher education programme.

One way to disrupt unsuitable teaching models built up through years of inadequate schooling is to get the students in their first year to actively participate in, and enact, more suitable pedagogies. Moeniera Moosa and Laura Dison tried this form of disruption at Wits university with their first-year students, using Bandura's Social Learning Theory. Students were put into groups and tasked with producing a physical artefact that materially symbolised their conceptions of teacher identity in South Africa. They had to interact, discuss, argue,

construct, write individual reflections, and generally participate in a type of learning that might have been very foreign to them at school. These researchers provides charming examples of what the student groups came up with, ranging from fledgling owls to teachers enabling learners to graduate into the world of professions.

The issue of our education students arriving at university with huge gaps and wounds based on racial, class, and gendered forms of discrimination, and also having very different embodied understandings of what teaching is, based on their own apprenticeships of observation, makes it vital that we ask what our students and teachers are able to do and be (their functioning), and what opportunities they have to realise and achieve their own possibilities (capabilities). Edwin Darrell de Klerk and Emma Pricilla Barnett from Sol Plaatje University in Kimberley provide a sustained meditation on what current spaces there are for teachers to enhance their own autonomy actively through self-attention and care of the self. Their opening epigram catches this well.

> Knowledge is like a garden: if it is not cultivated, it cannot be harvested

This is a coming-of-age story in part, with de Klerk giving his own account that refers to many of the insights in the paper.

> When I was Head of Department at a school, the principal usually approached all staff members to attend development courses offered by the South African Department of Education (SADoE) in a location far from our school. Teachers would not be willing and my hand would frequently rise to indicate my willingness to attend staff development courses such as curriculum changes and planning, assessment methods, and remedial work, among others. On return from such workshops, I committed myself to train the teachers at school so that they could obtain the knowledge I acquired during these staff development sessions. I would then convince our principal

to invite teachers from the surrounding schools for training sessions and would afford my colleagues opportunities to take charge of presentations and skills development. Upon reflecting, I regarded my commitment to my work as valuable to me and I realised how independently I acted and how I contributed to the capacitation of colleagues so that they could also act in an autonomous way.

What is commendable about this account is how these researchers demonstrate the ways in which they exercise agency, how they show what self-attention means and what it can lead to, and how this contributes to teachers' self-constitution and self-empowerment as they learn to become worthwhile school leaders and academics.

How academics come of age, and how our learners come of age, are, of course, two very different trajectories. Our learners have to negotiate exceptionally complex sexual dynamics in South Africa, and to help them stand up in this space, the Department of Basic Education (DBE) has issued a set of detailed comprehensive sexuality education (CSE) scripted lesson plans. The DBE (2019) maintains that CSE is a holistic value-driven strategy meant to prepare learners to make conscious, healthy decisions about their relationships and sexuality, rather than sexualise them and encourage them into enacting inappropriate behaviour. Lindokuhle Ubisi, from the University of Pretoria, investigates how South African media made sense of CSE. His article makes for captivating reading. Defendants of CSE argued that parents were not doing enough at home, that youth and principals were demanding such interventions, and that CSE has been a part of the Life Orientation curriculum for years anyway. Those against worried that the quality of CSE would be marred in being taught by teachers who are often ill-equipped and embarrassed. (Guidance counsellors are often not attached to schools.) Some teachers push for complete abstinence from any kind of sexual practice until marriage while others argue that CSE is a neo-colonial western plot to corrupt and poison the minds of children by introducing them to non-African values. But of great interest is a third category that Ubisi found in the more neutral and ambivalent responses of news article readers who tried to be either balanced or who were simply trying to assist in the crisis. Two extracts here will serve to illustrate this response to CSE.

> Sapphire Primary School principal Bruce Damons said he has "ambivalent feelings" as he is afraid that learners in his school are sexually active from a very age in his community. . . To save a life on the one hand [making condoms and CSE available to learners] makes sense. On the other side, will it encourage promiscuity? (van Rooyen, *The Herald*, May 16, 2015, p. 5).

> And the principal has tried everything to deter pupils from engaging in early sex: sex education lessons—part of life orientation classes—help from adults like female police officers and nurses; talks and assistance from NGOs, religious groups, parents and even officials from the department of education (Sokutu, *Citizen*, October 23, 2019, p. 3).

I have left for last the answer that Devika Naidoo and Mbali Mabaso give to the question: "What opportunities for deep conceptual learning and cognitive advance are provided in business studies classrooms?"

The short answer is that in some schools this is not much, but it is how Naidoo and Mabaso go about giving the long answer that the value in this paper becomes apparent. There is recent alignment of educational theorising about the importance of knowing how to use the concepts and content of a subject learning area to make inferences and judgements to enable deep learning to take place. Philosophers like Robert Brandom (1994, 2000, 2008) point to the importance of inference, while educational sociologists like Barrett and Rata (2014) in their edited collection, Hoadley (2018), and Muller (2000) all point to the importance of understanding the specific conceptual structure and content of different subjects while Winch (2017) looks at the key role of inference in teacher education. There is a huge and growing amount of literature on this issue so it is useful to have someone produce a simple model with three or four steps. Graham McPhail (2020) from the University of Auckland has produced such a model, called the Curriculum Design Coherence Model, and Naidoo and Mabaso have used it to analyse business studies pedagogic practices in four schools. (You can watch McPhail set out his model here: https://www.bera.ac.uk/media/curriculum-design-for-deep-learning)

I leave you to read and make sense of Naidoo and Mabaso's superb paper, but here is a little encouragement from what is currently being aligned in relation to this area.

Cognitive Psychology is aflame right now with work on predictive processing and the embodied mind that looks at how our mind/brains are "prediction-driven, uncertainty sensitive, machinery" (Clark, 2016, p. xiv). I tried to enact a little of this in this editorial where I spoke about my own inferences and predictions about the NSFAS students.

The whole world of probability-driven inference is being used in Artificial Intelligence, new forms of coding, big data, and deep learning. All of this is feeding into new innovations and exploitations in the education space. COVID-19 has taken these trends and put them on supercharge, and at the centre of all these drives is the functioning heart of inference, with Naidoo and Mabaso providing us with a simple introduction to how it plays out in curriculum design and pedagogy.

References

Brandom, R. (1994). *Making it explicit*. Harvard University Press.

Brandom, R. (2000). *Articulating reasons*. Harvard University Press.

Brandom, R. (2008). *Between saying and doing: Towards an analytic pragmatism*. Cambridge University Press.

Clark, A. (2016). *Surfing uncertainty: Prediction, action, and the embodied mind*. Oxford University Press.

Barrett, B., & Rata, E. (Eds.). (2014). *Knowledge and the future of the curriculum*. Palgrave Macmillan.

Chisholm, L. (2019) *Teacher preparation in South Africa: History, policy, and future direction*. Emerald Publishing Limited.

Hoadley, U. (2017). *Pedagogy in poverty: Lessons from the twenty years of curriculum reform in South Africa*. Routledge.

Lortie, C. D. (1975). *Schoolteacher: A sociological study*. University of Chicago Press.

McPhail, G. (2020). The search for deep learning: A curriculum coherence model. *Journal of Curriculum Studies*. https://doi.org/: 10.1080/00220272.2020.1748231

Merton, R. K. (1968). *Social theory and social structure.* The Free Press.

Muller, J. (2000). *Reclaiming knowledge: Social theory, curriculum and education policy*. Routledge Falmer.

SAIDE (2000). Investigation into Further Education and Training and Higher Education opportunities in three districts in the Northern Province. Available at https://www.saide.org.za/resources/Kellogg%20Rural%20Development/FET%20and%20HE%20Investigation%202.pdf

Winch, C. (2017). *Teachers' know-how: A philosophical investigation*. Wiley Blackwell.