

Initial Teacher Education: Implications for reform from the Teacher Demographic Dividend project

Nick Taylor (December 2024)



INTRODUCTION

There is universal agreement that, while progress is being made, inadequate learning achievement in languages, literacy and numeracy in the early grades constitutes a major inhibition to progress in all other subjects at all levels of the education system and the workplace (van der Berg & Gustafsson, 2019)

Solutions to this problem are multi-faceted, including promulgating appropriate policies; deploying, supplying and managing primary schools and teachers in a learning-focused manner and, above all, significantly raising the knowledge and pedagogical skills of primary school teachers (Taylor, Forthcoming).

CONTEXT FOR TEACHER EDUCATION IN SOUTH AFRICA

This note captures the main findings and recommendations of a stream of research on teacher education that formed part of the three-year Teacher Demographic Dividend (2022–2024) research project managed by Research on Socio-Economic Policy (RESEP) in the Economics Department of Stellenbosch University.

Some progress has been made in recent years with respect to teacher development - both the continuous professional development (CPD) of existing teachers in schools (Spaull & Taylor, 2022) and the initial teacher education of teacher (ITE) in the higher education system (Taylor & Mawoyo, 2022). However, much remains to be done with respect to improving the way the country's primary school teachers are prepared, as reflected in the following quotes from the Department of Higher Education and Training (DHET) and the Council on Higher Education (CHE).

In 2018 DHET issued a proposed new draft of the *Minimum Requirements for Teacher Education Policy Qualifications (MRTEQ)*, motivating the proposed changes as follows:

Language competence and mathematics competence are serious developmental challenges that South Africa must overcome. This must be a primary focus of the BEd in Foundation Phase teaching, and sufficient credits and time must be allocated to ensure that all new Foundation Phase teacher graduates are well able to teach languages and mathematics (Department of Higher Education and Training, 2018)

In support of this view, CHE motivated the announcement of a *National Review of Teacher Education Programmes* in 2022 as follows:

*... concerns still persist that many of the initial teacher education graduates, particularly Foundation Phase and Intermediate Phase teacher graduates, do not emerge **with the requisite knowledge and skills** to teach **literacy/languages and numeracy/mathematics** in these critical **early years of schooling** (emphasis added) (Council on Higher Education, 2022).*

Raising the quality of ITE will entail coordinating the initiatives of seven key sets of stakeholders: the DHET, the Department of Basic Education (DBE), CHE, the South African Council for Educators (SACE), the National Student Financial Aid Scheme (NSFAS), the Education, Training and Development Sector Education and Training Authority (ETDP SETA) and the higher education institutions (HEIs) who deliver ITE to prospective primary school teachers.

The majority of resources and instruments required to achieve this goal already exist and are in operation. What is required is **sharper and smarter application of these systems**, and **tighter cooperation between the parties**, as outlined in the following set of recommendations dealing with different components of phases of teacher education and preparation for teaching in schools. In addition, as an important new component of the system of regulating teacher production, an objective measure of the quality of new graduates needs to be established.

METHOD

Two sources of data feed this discussion. First, close to 30 interviews were conducted with key actors in government and the regulatory agencies for teacher education, and with teacher educators situated in the public universities, private higher education institutions (HEIs) and non-government organisations (NGOs). Ethical clearance for these interviews was obtained as part of ethical clearance for the larger Teacher Demographic Dividend Research project. The second source of data is policy documents and the local and international research literature on teacher education, both published and unpublished. Where these documents have been cited, references are provided at the end of the note.

THE TRAINING TARGETS: DELIVERING A SMOOTH FLOW OF QUALITY PRIMARY SCHOOL TEACHERS

Currently the country's higher education institutions, public and private, produce nearly twice as many teachers as are finding employment in schools (Gustafsson, 2023a). **This means that, in 2021 the country produced around 10 000 teachers that were not employed in the public or private school sectors**, costing the country well more than R1bn per year. At the same time the profile of newly qualified teachers is a poor fit for the needs of schools, with twice as many graduates specialising in high school teaching than are needed and a shortage of graduates specialising in the FP and African languages, the very areas most in need of qualitative reform (Gustafsson, 2023b).

In 2021 the country's higher education institutions produced nearly twice as many teachers as were finding employment in public schools. After accounting for privately-employed teachers, **the country produced around 10 000 teachers that were not employed in the public or private school sectors.**

At the same time the profile of newly qualified teachers is not an optimal fit for the needs of schools, with twice as many graduates specialising in high school teaching than are needed and a shortage of graduates specialising in the Foundation Phase and African languages, the very areas most in need of qualitative reform.

Cutting supply to more closely match demand would generate millions in annual savings, money which is desperately needed to employ additional teachers in a time of rapidly rising learner-educator ratios. However, cutting supply would involve risks, given the time lag between the first registration of a student and their eventual graduation. Nevertheless, in the interests of achieving both efficiency savings and quality gains, reducing numbers must remain an option during times of low demand, conditional on a comfortable cushion being provided to cater for the possibility of rapidly rising demand in the future. To keep a fine balance between the over- and under-production of teachers, accurate and timeous information is a prerequisite.

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THE 5-YEARLY QUOTAS FOR HEI INITIAL TEACHER EDUCATION INTAKE AND GRADUATION SHOULD BE BASED ON HISTORICAL TRENDS, SYSTEM NEEDS REGARDING NUMBERS AND TYPES OF TEACHERS AND ON THE QUALITY OF THE BEd (FP) AND BEd (IP) PROGRAMMES

Recommendation 1: DHET should commission studies in teacher supply and demand every 5 years. These studies should conclude with policy options for adjusting the size and shape of the system to meet the demands of provincial departments of education. Research should also be commissioned into a study of the costs of producing teachers, disaggregated by mode of production (contact, distance, internship). These commissions should include recommendations for improving data systems.

The mechanism used by DHET to regulate supply is the student quota set for each university in the 5-year enrolment planning process, an allocation based on history and future needs, and resulting from a negotiation with each institution. This is a key tool in controlling teacher supply, whether demand dictates it be increased, decreased or remain constant.

A smart(er) application of this tool would be not only to anticipate and provide for changes in demand, **but also to take account of the quality of graduates produced by each institution, something that is paid no heed currently.** This is where the quality measure discussed below becomes applicable: those institutions producing poor quality graduates should have their numbers reduced when demand goes down, while those whose graduates exhibit better levels of language and mathematics proficiency should be encouraged to expand, when increases in supply are required. In pursuit of these goals, the 5-yearly HEI quotas should be disaggregated by grade level and subject.

Recommendation 2: The 5-yearly quotas for HEI initial teacher education intake and graduation should be based on historical trends, system needs regarding numbers and types of teachers and on the quality of the BEd (FP) and BEd (IP) programmes, as reported by the CHE. The enrolment plan for ITE must be more nuanced, and in addition to specifying overall numbers, also specify the numbers of teachers needed for each phase and/or subject specialisation.

THE INTAKE: SELECTION INTO THE BEd PROGRAMME

Undergraduate teaching programmes at South African universities are in high demand. Universities apply very different standards in their acceptance of students (Pampallis, forthcoming). Given that the lower range is more frequently applied by larger institutions, it is not surprising that many candidates entering BEd programmes are academically underprepared both on entry to and graduation from ITE, have slow throughput rates, and frequently leave the teaching profession after just a few years (or do not enter teaching at all). This suggests that there is room for a more rigorous approach to selection into ITE.

While a more rigorous approach would demand more resources than the present model, the costs can be mitigated through screening applicants so that only the most qualified are required to participate in more resource-intensive procedures (such as

interviews or selection workshops) automating the assessment process as far as reasonably possible, and centralising both the applications process and screening procedures. Existing models of centralised processes, such as the Central Applications Office in operation in KZN and the Central Applications Service piloted for a number of years by DHET provide lessons for the successful upscaling of this idea (ibid).

Better selection practices hold the promise of identifying candidates who are well-suited for teaching, in terms of both temperament and academic skill, and who are willing to take on the challenge of teaching in hard-to-staff schools, thus increasing the efficiency of the teacher training system and raising the quality of teachers entering our schools.

Recommendation 3: DHET should commission research into the success of selection policies and practices, by tracking education students' time to graduation, competence at graduation, length of teaching career, and location of teaching career. This information should be matched with the students' application data, in order to develop profiles of successful applicants which can inform future selection policies.

ENSURING THAT NEW TEACHERS HAVE THE EXPERTISE TO TEACH LANGUAGES AND MATHEMATICS: THE NEED FOR CURRICULUM REFORM

Curriculum content of the BEd for primary school teachers

The large majority of learners who matriculate through no-fee schools matriculate through the English First Additional Language (EFAL) route, which further entrenches the disadvantage endowed by their low socio-economic background. Although the National Senior Certificate (NSC) obtained by means of this route is deemed to be equivalent to a certificate obtained by studying through the Home Language (HL) stream of English or Afrikaans, learners matriculating through these respective language tracks will end up with very different language proficiencies. A Ministerial Task Team commissioned to examine the quality of EFAL examination papers reported that the **cognitive levels assessed are heavily weighted towards lower-order skills such as literal comprehension and grammar translation tasks** with far fewer questions testing the higher-order processes of inference, evaluation and appreciation. (Department of Basic Education, 2014). These conclusions are borne out by the poor results of applicants to education faculties in the academic literacy component of the National Benchmark Tests (NBTs) (CTAP, 2020).

Teachers of all subjects require high levels of academic language proficiency in the languages used as media of instruction in the schools in which they teach. In addition, teachers specialising

MANY EDUCATION FACULTIES ARE NOT ADEQUATELY ADDRESSING THESE FOUNDATION DISCIPLINES ADEQUATELY

in primary school teaching require the theoretical and pedagogical knowledge needed to teach reading language use and mathematics effectively. **Recent research indicates that many education faculties are not adequately addressing these foundation disciplines adequately.**

What is required is that students follow a curriculum consisting of intensive study in mathematics and the linguistics and literature of English for all students for the full four years of the BEd, and that FP teachers and those specialising in an African language should, in addition, follow an equally intensive curriculum in the relevant language. Students not specialising in African languages or FP teaching should exhibit basic communicative proficiency in an African language before graduating.

Learning to teach reading requires mastering a set of routines, starting with developing vocabulary and verbal comprehension in Grade R and continuing through the grades, guiding FP children through the ability to associate written symbols with words to the point where the process is automatic and speedy, and nurturing ever more sophisticated reading comprehension skills. The majority of children should exhibit the latter, to the level of at least the Basic PIRLS benchmark and a good proportion reaching the Intermediate benchmark, by the end of Grade 3.

At the same time prospective primary school teachers should undergo an intensive course of study in mathematics. Students require a thorough grounding in both the subject content and pedagogical content knowledge required to teach the primary school curriculum. **Most important, is the ability to convey to learners the base-10 structure of the number system and how this understanding facilitates efficiency in performing the four arithmetic operations by the end of Grade 3.** It is imperative that teachers are adept at weaning learners off the notorious 'unit counting' methods by the end of Grade 2.

Recommendation 4: Faculties of education offering BEd (FP) and/or BEd (IP) degrees should undertake a programme of curriculum reform aimed at ensuring that teachers acquire the knowledge and skills required to teach languages, literacy and mathematics effectively.

Research

Until relatively recently, teacher educators have largely prosecuted their research interests on a small-scale, individual basis. The paucity of collective forms of collegiality is one important way in which teacher education does not follow the forms generally observed by the professions such as engineering, the law and accounting. In these sectors, practitioners collaborate on important matters of general interest to the occupational field, and in particular on formulating, delivering and assessing the standards of education and practice for members of the profession. In recent years there has been a splurge of research into teaching reading for in-service teachers, but very little in the field of ITE. In mathematics education, research output has been greatly stimulated over the past decade by the establishment of 10 research chairs. But here, too, the main focus is on programmes for in-service teachers (Venkat et al., 2023). With a few notable exceptions, **there is little investigation into how to improve the knowledge and skills of BEd students before graduation.**

Lecturers are strongly incentivised to publish in accredited journals, irrespective of the relevance of this work to their practices and the expertise of their students. It is both faster and more profitable to produce a single-authored publication, reporting on a small-scale study, in a rated journal than to participate in collaborative research programmes of larger scale and longer duration. **One way to address this discrepancy would be for donors and government to incentivise collaborative, curriculum-focused research-and-development programmes** and be responsive to applications from universities for funds to support them.

The focus and modalities of research into teacher education have begun to change in recent years. Stimulated by research in the field exposing the inadequacies in current curricula and urged on by policy recommendations and financial support from DHET and the prospect of an audit by CHE, a number of teacher educators have begun to collaborate in developing standards for languages, literacy and mathematics, in experimenting with more appropriate BEd curricula and in constructing tests to gauge the progress of their students in achieving the standards (Primary Teacher Education

Project, 2020); (Primary Teacher Education Project, 2022); (Roberts & Molo, 2022) . **A good forum through which to channel such collaboration in South Africa would be the Education Deans' Forum (EDF)**, given its aims ...*to foster research in the broad field of education towards continuous improvement to teacher education; to promote South Africa's education interests by providing a platform for deans to discuss matters of common concern in the delivery of teacher education, and, finally, to bring to the attention of policy makers, emerging issues pertaining to the Education discipline*(Council on Higher Education, 2022)¹.

Recommendation 5: The Education Deans' Forum should lead professional collaboration among Education Faculties on matters pertaining to standards, curriculum, assessment, policy and funding.

Recommendation 6: DHET should give attention to the reward system for teaching and research. The system should accord equal attention to effective teaching and research outputs, and balance rewards for 'blue sky' research with investigations aimed at improving the quality of student outcomes.

Staff

Effective enactment of intended curricula depends heavily on the expertise of university teaching staff. Anecdotal evidence indicates that many lecturers responsible for teaching languages, literacy and mathematics in the BEd, by their own admission, do not have the required knowledge and skills for the job.

Recommendation 7: HEI Education Faculties must employ lecturers and teaching practice mentors with the knowledge and skills required to educate students in language, literacy and mathematics, to the level of proficiency required by the curriculum.

Recommendation 8: Where suitable candidates are not available to teach the foundation disciplines, accredited programmes should be established and made available to staff. Continued employment should be contingent on staff demonstrating the appropriate expertise.

Recommendation 9: Donors should support the establishment and administration of training programmes for university staff in the foundation disciplines. Promising students should be supported to undertake higher degrees relevant to teaching languages and literacy to student teachers. In addition, donors should incentivise research, development and evaluation of initiatives in ITE curriculum and assessment

Measuring outcomes

It is one thing to reform intended curricula but quite another to achieve the targeted outcomes. Allied to this is the challenge of measuring the extent to which outcomes are achieved. Faculty staff need to track the progress of students over the course of the BEd. **In this context, valid and reliable test scores are important**, first, for formative purposes, to determine curriculum suitability and pedagogical effectiveness and, second, to serve a summative function in determining student competence.

¹ <https://usaf.ac.za/communities-of-practice/education-deans-forum/>

UNIVERSITIES SHOULD MEASURE THE PROGRESS OF THEIR STUDENTS OVER THE COURSE OF THEIR STUDIES AND USE THE RESULTS TO IMPROVE CURRICULA AND THE PEDAGOGICAL PRACTICES

Recommendation 10: Universities should measure the progress of their students over the course of their studies and use the results to improve curricula and the pedagogical practices of staff and to assess the competence of students following BEd (FP) and BEd (IP) programmes to teach languages, literacy and maths prior to graduation.

Teaching practice

Teaching Practice (TP) is a key element of teacher education. Despite the specifications of policy, the TP components practiced in university faculties are highly variable, ranging from carefully constructed, well-staffed programmes with links with well-functioning schools, to those in which TP is given only perfunctory attention. It needs to be integrated into the theory components and students provided with guidance in how to effect successful classroom routines and to reflect on their school experiences following each period of in-school work.

Given widespread poor teaching practices in the majority of the country's schools, it is quite inappropriate to leave the job of mentoring students to teachers in poorly performing schools. On the contrary, **students need to be mentored by highly experienced teachers and former teachers who have demonstrated success in classrooms.** Such mentoring is unlikely to take hold as a result of one or two sessions a year, but needs to be part of an intensive programme, carried out in real and simulated classrooms, over the four years of the BEd.

Recommendation 11: Faculties of Education should strengthen the quality of the Teaching Practice experience. This should include subject-specific mentorship and supervision by educators who have demonstrated pedagogical expertise.

Recommendation 12: Schools in which TP is practiced should be carefully selected and be contracted by the university as partners. This should involve regular contact between the faculty and teachers selected as mentors.

QUALITY ASSURANCE OF ITE

Periodic external assessment is required to measure the extent to which the sector as a whole is moving in the right direction and to identify institutions which are performing unsatisfactorily. In this respect the audit of BEd programmes by the CHE currently in progress is central to the application of the quality component of the proposed smart system for regulating teacher supply referred to above. The review will take place after the development and finalisation of a set of *Qualification Standards*, which focus on the purpose of a qualification, the graduate attributes that are aligned with the purpose and need to be demonstrated (Council on Higher Education, 2022). Institutions will; be required to develop a self-evaluation report (SER) and a peer review team will engage the SER and undertake a verification site visit to each institution, based on lines of inquiry developed from the SERs.

It is all very well to identify institutional practices, but such reviews are only useful in raising the quality of higher education in general, and of ITE in particular, if appropriate action follows. Using the kind of smart regulatory system envisaged above, the appropriate action in this case would be to significantly limit student numbers at institutions which are manifestly underperforming, and to set an improvement programme the achievement of which would determine future student numbers allocated to the institution. The quality of provision identified by the CHE process will be invaluable in identifying institutions in which increasing or decreasing the allowed quantum of graduates will be appropriate.

Recommendation 13: Higher education institutions which receive a negative finding in the CHE Sector Review of BEd (FP) and BEd (IP) programmes should have their allocation of student enrolments curtailed by DHET (see Recommendation 2) until they are able to demonstrate that they have addressed the identified weaknesses in the programmes.

Recommendation 14: In approving BEd (FP) and BEd (IP) curricula, DHET and CHE should assess the extent to which the content gives the degree of attention, in duration and content, to languages and maths required to fulfil the goals of MRTEQ.

POLICY

One of the reasons for the shortcomings in the initial preparation of primary school teachers described above is that many BEd curricula allocate insufficient time to the study of languages and mathematics. In its proposal for a review of policy regulations for teacher education qualifications, DHET advocates that sufficient credits be allocated to language and mathematics to ensure that graduates are equipped to teach these subjects.

Given vested interests in current BEd curricula, increases in the time allocated to any subjects are likely to meet resistance from those whose allocations will have to be reduced to accommodate adequate time for languages/literacy and numeracy/mathematics. The best way around this problem would for policy to specify minimum allocations for languages and mathematics in the BEd (FP) and BEd (IP) curricula.

Recommendation 15: MRTEQ should specify that a minimum of 150 credits (out of 480) be allocated to languages and literacy and 100 credits for maths for BEd (FP) and BEd (IP) programmes.

FUNDING

Funding is a key element in the success of supplying adequate numbers of teachers, specifically in the form of the Funza Lushaka bursary programme for teacher education students. Administered by DBE, applicants must sign up for particular tracks and are held accountable to those commitments. Unfortunately, several factors interfere with this plan. Some students may have signed up to be Maths teachers, but find they cannot cope with the demands of the course and change courses. Another factor is that NSFAS also awards bursaries to education students, regardless of their areas of specialisation, a problem aggravated by HEIs not taking heed of national or provincial teacher demands when awarding places to students. As a result, the system produces teachers with teaching specialisations that are in over- or under-supply, resulting in unemployment or inappropriate employment of new teacher graduates.

RECOMMENDATION
CENTRALISE ALL STATE
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A more effective approach would be to channel all state funding for teacher education through Funza Lushaka, ensuring tighter alignment with national needs. This would require a comprehensive funding review and transferring resources from NSFAS and the fiscus to Funza Lushaka.

Recommendation 16: DHET and DBE should review ITE student funding through both NSFAS and the Funza Lushaka scheme, with a view to channeling all state funding for BEd and PGCE programmes through Funza Lushaka.

Recommendation 17: Following the review mentioned in Recommendation 16, all state funding for BEd and PGCE programmes should be channeled through Funza Lushaka. Only students who are accepted by a university will be allocated Funza Lushaka support.

CONCLUSION

Reform of the initial education of primary school teachers will only begin to manifest in improved scores in reading and mathematics at any significant scale after years of consistent application of the policies and practices recommended above. There are no quick fixes in turning a vicious cycle system which reproduces inequality to a virtuous cycle which offers opportunities to all citizens to reach their potential. But progress can only begin to be made once the journey has commenced.

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Requests for additional information on the Teacher Demographic Dividend project can be directed to info@tdd.sun.ac.za.

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