FUNZA LUSHAKA BURSARY PROGRAMME IMPLEMENTATION EVALUATION

EVALUATION REPORT

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Glossary of Acronyms and Abbreviations

Abbreviation	Description
B.Ed.	Bachelor of Education
CATI	Computer Assisted Telephonic Interview
CBA	Cost Benefit Analysis
CEA	Cost Effective Analysis
CHE	Council on Higher Education
CPUT	Cape Peninsula University of Technology
CUA	Cost Utility Analysis
CUT	Central University of Technology
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DPME	Department of Performance Monitoring and Evaluation
DSD	Department of Social Development
DUT	Durban University of Technology
ECD	Early Childhood Development
ELRC	Education Labour Relations Council
EMIS	Education Management Information System
FET	Further Education and Training
FLBP	Funza Lushaka Bursary Programme
FLIMS	Funza Lushaka Information Management System
GCSE	General Certificate of Secondary Education
GET	General Education and Training
GITO	Government Information Technology Office
GP	Gauteng Province
HEI	Higher Education Institution
HEMIS	Higher Education Management Information System
HEQC	Higher Education Quality Committee
HEQF	Higher Education Qualifications Framework
HEQSF	Higher Education Qualifications Sub-Framework
HESA	Higher Education Statistics Agency
HOD	Head of Department
HR	Human Resource(s)
HRDSSA	Human Resource Development Strategy for South Africa
ISPFTED	Integrated Strategic Planning Framework for Teacher Education and Development
IT	Information Technology
ITE	Initial Teacher Education
ITT	Initial Teacher Training
JET	JET Education Services
KZN	KwaZulu Natal
MEC	Member of the Executive Committee
MRTEQ	Minimum Requirements for Teacher Education Qualifications
NCTL	National College for Teaching and Leadership
NDP	National Development Plan
NEEDU	National Education Evaluation and Development Unit
NIHE (Mp)	National Institute for Higher Education (Mpumalanga)
NIHE (NC)	National Institute for Higher Education (Northern Cape)
NMMU	Nelson Mandela Metropolitan University
NNSSF	National Norms and Standards for School Funding
NPC	National Planning Commission
NPDE	National Professional Diploma in Education
NQF	National Qualifications Framework

Abbreviation	Description
NSC	National Senior Certificate
NSFAS	National Student Financial Aid Scheme
NWU	North West University
OECD	The Organisation for Economic Co-operation and Development
PCP	Project Charter and Plan
PED	Provincial Education Department
PERSAL	Personnel and Salary System (of government)
PGCE	Postgraduate Certificate in Education
PIRLS	Progress in International Reading Literacy Study
PTEDC	Provincial Teacher Education and Development Committee
QA	Quality Assurance
RATEP	Remote Area Teacher Education Programme
RCT	Randomised Control Trial
REQV	Relative Education Qualification Value
RU	Rhodes University
SACE	South African Council for Educators
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Education Quality
SARS	South African Revenue Service
SASAMS	South African School Administration and Management System
SEN	Special Educational Needs
SETA	Sector Education and Training Authority
SGB	School Governing Body
SOP	Standard Operating Procedures
Stats SA	Statistics South Africa
TIMSS	Trends in International Mathematics and Science Study
TOC	Theory of Change
TUT	Tshwane University of Technology
UFH	University of Fort Hare
UFS	University of Free State
UJ	University of Johannesburg
UKZN	University of KwaZulu Natal
UL	University of Limpopo
UNISA	University of South Africa
UNIVEN	University of Venda
UNIZUL	University of Zululand
UP	University of Pretoria
US	University of Stellenbosch
UWC	University of The Western Cape
Wits	University of the Witwatersrand
WSU	Walter Sisulu University

Executive Summary

Introduction and background

This is an implementation evaluation of the Funza Lushaka Bursary Programme (FLBP), established in 2007 with the goal of attracting greater numbers of students into initial teacher education (ITE) programmes in South African universities. High-achieving students are given generous full-cost bursaries to undertake ITE programmes in priority education phases and subject areas to address both supply and quality issues in the education system. In return, recipients of the bursary are expected to teach in public schools for a period equal to the number of years they have received funding. The Programme is large-scale: during the period covered by the evaluation (2007-2012) 23,392 students were funded under the Programme, representing on average 15% of the total ITE enrolment over the period.

The FLBP is a complex Programme involving a large number of stakeholders who have different roles and responsibilities in relation to the key business processes of the Programme, grouped for the purposes of this evaluation into four processes: recruitment, selection, disbursement and placement. These stakeholders include 22 universities offering ITE programmes, the National Student Financial Aid Scheme (NSFAS), nine provincial education departments (PEDs), and the ITE Directorate in the Department of Basic Education (DBE), which is the administrative hub of the FLBP.

The key evaluation questions to be answered were:

1. What are the measurable results of the FLBP, specifically with regard to supply and placement of FLBP-sponsored teachers? To what extent has the FLBP been effective in achieving its major goals, objectives and intended outcomes? Have recruitment strategies been effective?

2. Is the design of the FLBP appropriate and to what extent is the intervention design consistent with education sector priorities, policies and partnerships with all key stakeholders?

3. To what extent has the FLBP been efficient in its implementation, with specific reference to administration and management arrangements?

4. How sustainable is the FLBP? What key insights, lessons and recommendations are offered, with a view on the possible scaling up of the FLBP?

A programme theory and logframe were clarified with stakeholders at the beginning of the evaluation process and guided the evaluation. A summary of the theory of change which was proposed for the FLBP and agreed to by the evaluation steering committee is presented below:

In Chapter 6 of the main report, amendments are proposed to the programme theory and in Annexure B amendments are proposed to the logframe in light of the evaluation findings.

> **If** you provide a sufficient full-cost bursary as an incentive to recruit students for initial teacher education, **and** you select teacher students based on merit (academic performance) and suitability (passion for teaching, teaching ability and desire to teach in priority subjects, phases and identified areas), **and then** you develop induction and academic support programmes and tracking systems to ensure satisfactory completion of funded students, **and** you link bursaries to service contracts and place FLBP graduates in posts where they will be teaching priority subjects and phases in identified geographical areas of need, **then** you should be able to increase the supply of qualified teachers to meet the need in priority areas (subjects, phases and identified geographical areas of need) so as to address educator scarcity.

A comprehensive literature review has shown that the FLBP is both appropriate (in the South African policy context) and relevant (in terms of the Programme environment). For example:

- The quality of teachers is a matter of concern in South Africa. Teachers "are central to education, and teaching should be a highly valued profession" (NPC, 2011: 265)[1]. The FLBP recruits high-achieving bursars but the adequacy of the ITE programmes they study is beyond its control.

- The increase in uptake of teacher education, to which the FLBP is making a substantial contribution, is encouraging, and it is predicted that by 2020 ITE enrolment will be sufficient DHET (2014c[2]). However, it is likely that there will still be relative and localised shortages.

- There is currently no robust system for estimating teacher supply and demand (DBE, 2012a)[3]; this gap in the planning system is an important challenge for the FLBP, the success of which hinges on bursars' choices of subject and phase (Foundation, Intermediate or Senior or the Further Education and Training band to meet demand.

- Vacancy rates in schools are high and rising; the dramatic ageing of the teacher population is another critical factor that the FLBP is helping to address.

- The literature review also examined the issue of scarce skills among teachers (DHET, 2014b[4]), showing that the priority areas identified by the FLBP are attuned to national needs.

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[1] *National Planning Commission. 2011. Our future -make it work: National Development Plan 2030. Pretoria: NPC.*
[2] *Department of Basic Education. 2014c. Report on Funza Lushaka bursary programme in 2013. Pretoria: DBE.*
[3] *Department of Basic Education. 2012a. Teacher supply and demand. PowerPoint presentation for meeting of the Portfolio Committee on Basic Education. 21 August 2012.*
[4] *Department of Higher Education and Training. 2014b. Top 100 occupations in high demand list: Draft discussion document for advisory group. Pretoria: DHET.*

The evaluation methodology

A variety of methods, quantitative and qualitative, were used to conduct the evaluation, including in-depth interviews and focus groups with 120 FLBP stakeholders and a telephonic survey with a representative sample of 3,200 bursary recipients. Extensive quantitative analysis of various datasets was undertaken. Selected criteria of the Development Assistance Committee of the Organisation for Economic Development (OECD) provided the framework for the evaluation.

Conceptual framework applied to the evaluation areas and questions

DAC Criteria	Evaluation Questions
Relevance & Appropriateness	Is the **design** of the FLBP appropriate? To what extent is the intervention design consistent with education sector priorities, policies and partnerships with key stakeholders?
Effectiveness	What are the measurable results of the FLBP? To what extent has the FLBP been **effective** in achieving its major goals, objectives and intended outcomes?
Efficiency	To what extent has the FLBP been **efficient** in its implementation, with specific reference to administration and management arrangements?
Sustainability	How **sustainable** is the FLBP? What key insights, lessons and recommendations are offered, with a view on the possible scaling up of the FLBP?

The evaluation was supported by a project management committee and an evaluation steering committee that included representatives of all stakeholders involved in the FLBP.

Key evaluation findings

The evaluation report presents findings on Programme design (covering relevance and appropriateness), effectiveness and results, efficiency and sustainability:

1. The FLBP **design** is relevant in terms of its political, economic and social context. It is also largely appropriate in terms of the complex environment in which it is implemented, characterised by multiple role players and stakeholders. Despite complex challenges, the FLBP responds to the supply and demand requirements of the basic education system. The FLBP has implemented continuous improvements in its strategy, including (in 2012) the introduction of a district-based recruitment system.

2. The evaluation has found ample evidence of Programme **effectiveness**. The Programme has made an important contribution to the very substantial increase in enrolment in ITE over the period under evaluation (FLBP students were on average 15% of the total ITE student intake over the period). It has been successful in attracting quality students to become teachers (however, we note that in the period under review, 'quality' was measured exclusively in terms of academic performance rather than, for example, criteria such as a "passion for teaching"). The majority of students are paying back their bursary obligations by teaching in public schools in government-paid positions, a key legal obligation attached to the bursary (however, large

numbers of FLBP graduates are not teaching in the subject of their specialisation). We have noted, however, that in the absence of a tracking mechanism the proportion of FLBP graduates who have fulfilled their service obligation is not known.

Programme **efficiency** has been examined in the four key business processes of the FLBP: recruitment and application; selection; disbursement; and placement. Programme monitoring and data management have been discussed as a separate set of cross-cutting support mechanisms to all the business processes; the cost effectiveness of the FLBP has also been assessed.

- **Recruitment** is working efficiently, as the Programme is able to select adequate numbers of students who meet the selection criteria. Universities are playing an important and cost-efficient role in marketing the Programme. Means testing of students does not take place but would be one mechanism to determine relative need of students; marketing to rural and poor students could improve significantly, though this may already be happening through the district-based recruitment strategy. There are important inefficiencies in recruitment: for example, the Funza Lushaka website lists national rather than provincial or district-level priorities; the new district-based recruitment strategy is more labour-intensive and needs to be adequately resourced; and marketing of the FLBP needs more human and financial resources at all levels.

- The **selection** process is generally efficient and thorough. Importantly, it appears that most selected students are motivated to teach and to pay back their service obligations. However, the lack of human resource capacity in the ITE Directorate of the DBE, which is involved in each university selection process and is responsible for final decisions about awards, is a major factor affecting efficiency in the selection process. No financial support is allocated for administrative work on the Programme, so the FLBP is dependent on PEDs, universities and other institutions for allocating adequate staff and resources to the Programme.

- The **disbursement** of funds is efficiently governed by the FLBP steering committee. Funding is sufficient to meet student needs; the amount of the FLBP bursary represents an important Programme efficiency. However, the timing of disbursement is problematic because the government fiscal year differs from the academic year; consequent delays in payments to students impact on their basic needs and also on the cash flow of universities that provide support to students to bridge the gap.

- **Placement** of FLBP graduates has serious inefficiencies that are largely not within the control of the Programme: although 83.5% of FLBP graduates are potentially fulfilling their service obligation in public schools, only 50.6% of graduates surveyed reported that they are in schools in the three poorest quintiles; there do not seem to be mechanisms to detect when students have changed their specialisation in the course of their studies, so it is difficult to check whether their subjects match priority needs; students sometimes choose priority areas in which there is an oversupply of teachers (resulting from weak demand and supply projection); monitoring of placement is difficult as information is held in the Personnel Salary System (PERSAL) rather than the ITE system; there is currently no system in place to track defaulting graduates; almost a quarter of all FLBP graduates surveyed were placed in their teaching position directly by schools, although this option is not in line with FLBP policy; and, finally, approximately 30% of

FLBP graduates were not placed within the required 60-day period and are therefore not required to fulfil their service obligation.

3. Programme **monitoring, tracking and data management** is weak and under-resourced; for example, the ITE Directorate has only one key staff member responsible for managing the FLBP database and also data on the entire teacher education system. The system is primarily manual and there are multiple points at which data are manipulated, which opens the system up to possible errors at each point and raises confidentiality and security issues. Very importantly, the information system does not allow the monitoring or tracking of students across the various business processes of the FLBP.

4. Although it was not possible to do a full cost benefit analysis (CBA) of the Programme, it has been possible to do a limited assessment of the **cost effectiveness** of the FLBP during the period 2007 to 2012. Overall, the Programme is relatively cost effective. For example, the proportion of FLBP graduates working as teachers in public schools is high and there appears to be a significant saving with students who complete their studies in the minimum time, as most FLBP bursars do.

5. The FLBP will continue to be dependent on other functions of the DBE, DHET and other stakeholders, such as the universities and NSFAS, for its **sustainability**. This is particularly the case in two areas: the ongoing discussions about the quality of ITE, and the various systems for the placement of new teachers in public school teaching posts. The FLBP does not have direct control of either of these areas of work, but both are critical for its success and perceptions of its success. The extent to which broader changes in these areas can be influenced by the FLBP is a necessary ongoing discussion. Wherever possible, partnerships and collaboration should be strengthened to improve in these critical areas. Implementation of the recommendations of this evaluation is also critical for Programme sustainability: in particular, adequate resourcing and major improvements in the management of information.

Recommendations for implementation, policy and further research

Key recommendations related to Programme design are presented below.

1. Practical ways of using the refined definition of merit in the recruitment and selection processes (as per the programme theory documented in Annexure B) are needed.

2. The Programme needs a planning and contracting system that helps to attract increased numbers of FLBP graduates to poor and rural schools in "geographical areas of need".

Recommendations related to Programme effectiveness are presented below.

3. The DBE, in collaboration with universities, should develop an effective academic monitoring and tracking system (this will also assist with efficiency in selection).

4. The DBE, in collaboration with PEDs, should examine different approaches to placement, such as allowing students to apply directly to schools and extending the current 60-day period in which graduates must be placed or they are released from their service obligation (this will also assist with efficiency in placement).

5. The DBE, in collaboration with PEDs and universities, should conduct rigorous research to improve the match between FLBP graduates' specialisations and schools' needs.

6. The DBE should plan to respond effectively to the Incremental Introduction of African Languages (IIAL) policy.

7. The DBE should ensure that selection and disbursement processes are streamlined to support the academic cycles.

Recommendations related to efficiency in recruitment are presented below:

8. The DBE should ensure that effective recruitment strategies are shared among key role players.

9. The DBE should consider whether administration of the FLBP can be enhanced by issuing a single contract for the duration of the qualification.

10. The DBE should consider requesting universities to waive their application fees for needy FLBP applicants.

Recommendations related to efficiency in selection are presented below:

11. The DBE should draw up guidelines that set out possible mitigating factors in students' applications, such as illness.

12. The DBE, in conjunction with other Programme stakeholders, should consider ways to improve efficiency in responses to applications.

13. Since universities are national not provincial institutions, studying in another province should not affect a candidate's chance of selection; however, the DBE and PEDs should collaborate to attune the priority areas to local circumstances and consider district-level priority areas. Working in a particular district should be part of a district-based FLBP student's service obligation.

14. The DBE, in collaboration with universities, should develop an effective system to monitor the priority areas that students have enrolled for; priority subject areas should be fixed in the period between application and selection; (this will also assist with efficiency in placement).

Recommendations related to efficiency in disbursement are presented below:

15. The DBE should consider introducing a mechanism for determining relative financial need of FLBP applicants to better target needy students (this also relates to Programme design and assists with sustainability).

16. The DBE should develop guidelines for universities to ensure that all students receive similar levels and types of support to fill the gap between the beginning of the academic year and receipt of the bursary.

17. The DBE should review the FLBP refund policy, noting that students should not receive the benefit of downward adjustments of university course fees.

18. The DBE should ensure that important discussions lead to policy decisions and action; for example, the discussion among stakeholders about how payments to institutions might be made earlier should lead to decisive action.

19. Given the scale of the Programme and the large amounts of funds available, the DBE and other role players should allocate adequate resources to reduce disbursement delays.

20. To avoid possibly costly legal challenges the DBE should examine the feasibility of mechanisms such as admission of debt when students convert their bursaries into loans.

Recommendations related to efficiency in placement are presented below:

21. The DBE should ensure that placement data are captured and stored in an effective management information system.

22. The DBE should develop a strategy and tools for projecting supply and demand to inform the determination of priority areas; this initiative should link to broader education sector planning.

23. The DBE, in collaboration with PEDs, should develop an effective tracking system to provide feedback to universities on placement to help shape their strategy on teacher supply and ensure that FLBP graduates meet their full service obligations beyond their placement and (this will also assist with efficiency in disbursement).

24. The DBE should encourage strengthened data management and province-level research into teacher supply and demand.

25. Given that in practice many FLBP graduates apply directly to schools, the DBE should accept this but introduce safeguards to ensure that graduates take up posts in areas of need.

26. The DBE, in collaboration with PEDs, should ensure that PED responsibilities in terms of placement are clear and develop protocols to ensure that universities receive feedback from provinces on placement.

27. The DBE, in collaboration with PEDs, needs to identify methods of effective placement, considering all possibilities, such as national placement for FLBP graduates who agree to be placed in any province when they accept the bursary.

Recommendations related to efficiency in monitoring, tracking and data management are presented below:

28. The DBE should allocate adequate staff and resources to manage Programme data for effective planning and monitoring.

29. The DBE and the State Information Technology Agency (SITA) should develop a new application service specification setting out the software and hardware requirements for a

management information system that can support all FLBP business processes for effective planning and decision making.

A recommendation related to the cost effectiveness of the FLBP is presented below:

30. The DBE should ensure that appropriate data on net benefits and net costs are available in the future to support a cost benefit analysis.

Recommendations related to the sustainability of the FLBP are presented below:

31. The Programme is effective and should be sustained by government, with the improvements recommended in this report.

32. The DBE, with the support of other Programme stakeholders, should develop an effective FLBP planning system, which must be linked to and aligned with the overall planning of government in areas such as teacher supply and demand and teacher employment. Effective planning is also necessary to ensure alignment between government funding and planning cycles of relevant stakeholders, including universities and NSFAS; the DBE should ensure that measures already in place to bridge the gap between the academic year and the government financial year (such as universities' support for needy students) are encouraged.

33. The DBE should develop measures to ensure that marketing is effective and that responses to applications are as speedy as possible.

34. Given the scale of the Programme and the large amounts of funds available, the DBE should allocate adequate resources to administer the Programme. The DBE should consider the establishment of a dedicated unit within or outside of the ITE Directorate to manage the FLBP.

A recommendation for future evaluation work is presented below:

35. The FLBP should commence planning and lay the groundwork now to evaluate the FLBP again in future, including cost benefit analyses and impact evaluations of the Programme.

Background and Introduction

1.1 About the Programme

Before 1994, teacher training in public institutions was generally free, but from 1995 to 2005 teacher training bursaries were abandoned. In 2004/2005, Government conducted an analysis of the supply and demand for teachers and noted a major supply crisis. Insufficient numbers of teachers were being produced and the number of trainee graduates was smaller than the teacher attrition rate (the number of teachers leaving teaching employment).

In 2002, the 110 teacher colleges were merged into the 22 higher education institutions and tuition fees were increased. There were also fewer previously disadvantaged Africans among the trainee teachers and it was understood that a key reason for this was the unaffordability of teacher training for them. A further unintended consequence of the dissolution of teacher colleges was that rural areas were no longer receiving teachers.

In 2004/2005, government's analysis of demand and supply signalled a major supply crisis, marked by a high attrition rate and limited supply of teachers to close the gap left by attrition. Of the teachers who were in the system, a large proportion was in the 45 – 55 age group and heading for retirement, which would pose further challenges of attrition. In response to this crisis, government initiated several efforts, including launching the Funza Lushaka Bursary Programme (FLBP) in 2007. The Programme is intended to: ensure increased numbers of well qualified teachers entering the system, to encourage young people to consider teaching as a career, and to target particular scarce skills in teaching (DBE, 2014c[5]). The funding provided through the bursary was intended to attract high quality young people to take up teaching.

The FLBP falls within the mandate of the Department of Basic Education (DBE, 2011a[6]), as a key deliverable as indicated in the Strategic Plan 2011-2014 and the Action Plan to 2014. The Programme articulates with Goal 14 of the Action Plan 2014, and is designed to achieve the following goals (DBE, 2013d[7]):

- Attract quality students and ensure that students are trained in identified priority areas.
- Contribute substantially to the supply of adequately trained teachers with a focus on rural and poor schools.

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[5] Department of Basic Education. 2014c. Report on Funza Lushaka Bursary Programme in 2013. Pretoria: DBE.
[6] Department of Basic Education. 2011a. Action plan to 2014: Towards the realisation of schooling 2025. Pretoria: DBE.
[7] Department of Basic Education. 2013d, Funza Lushaka: Brochure. Pretoria: DBE.

The FLBP is seen as one of the mechanisms to be used to enhance access for high achieving students to qualify as teachers, addressing both supply and quality issues in the education system (DBE, 2011c[8]).

Several objectives were identified for the Programme (DBE, 2011c):

- employ efficient and effective recruitment mechanisms to attract quality students (aged 30 and below) to become teachers in identified priority areas;
- increase the number of first-time enrolments in teacher education programmes by 10% each year;
- provide financial assistance to South African youth with academic potential to enter and complete tertiary studies in teacher education programmes;
- ensure a satisfactory completion rate of funded students; and
- ensure that FLBP graduates are placed appropriately in schools.

The FBLP has focused on offering bursaries to 25% of the national HEI student intake while increasing the overall intake in ITE by 10% every year.

A full review of FLBP documents was conducted as part of the original literature review which was submitted as an evaluation deliverable. This informed the process of clarifying the programme theory and developing the evaluation design and can be found in Annexure A (a separate document which accompanies the full report). In addition, a programme theory and logframe document was presented as a key deliverable for the evaluation in September 2014. This is discussed in Chapter 2 and the full document is attached as Annexure B.

1.2 Terms of reference and purpose of the evaluation

According to the terms of reference the main purpose of the evaluation was to assess the effectiveness of the Programme, measure the Programme against its key objectives and main intended outcomes, identify strengths and weaknesses of the Programme and make recommendations to improve the functioning of the Programme. This included examining the appropriateness of the current design; assessing Programme results; conducting a detailed assessment of FLBP management and administrative systems, processes and procedures; and assessing sustainability of the Programme. The terms of reference also requested the service provider to look at recommendations for Programme improvement, including advising on the future measurable impact assessment of the FLBP.

According to the terms of reference, the results of the Programme are to be assessed against its main intended outcomes:

- an increased number of students recruited and funded in ITE programmes;
- a satisfactory completion rate of FLBP bursars;
- the placement of qualified bursars in rural and poor schools; and

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[8] *Department of Basic Education, 2011c. Funza Lushaka Bursary Scheme Policies and Processes 2012. Pretoria: DBE*

- an increased supply of qualified teachers in the identified priority areas and phase specialisations.

The **key evaluation questions** to be answered in this evaluation are:

1. What are the **measurable results** of the FLBP, specifically with regard to the supply and placement of FLBP-sponsored teachers? To what extent has the FLBP been effective in achieving its major goals, objectives and intended outcomes? Have recruitment strategies been effective?

2. Is the **design** of the FLBP appropriate, and to what extent is the intervention design consistent with education sector priorities and policies, and partnerships with all key stakeholders?

3. To what extent has the FLBP been **efficient** in its implementation, with specific reference to administration and management arrangements?

4. How **sustainable** is the FLBP? What key insights, lessons, and recommendations can be offered by the evaluation team, with a view to the possible scaling up of the FLBP?

The full set of evaluation questions are outlined in the methodology section below, with the methods used for investigation.

There is an inherent tension between past and present in this implementation evaluation: the scope of the evaluation was the period 2007 to 2012, and this gives the evaluation a retrospective nature, but this is complemented with the reflections of stakeholders who are involved in the Programme currently. The report therefore sometimes reflects new components of the Programme introduced after 2012, and many of the students interviewed in the survey are still studying. However, initiatives introduced after 2012 are not specifically probed through the evaluation.

Development of the programme theory and logframe

2.1 Background and introduction

This Chapter presents an overview of the programme theory[9] and logframe[10] which were developed for the FLBP and which provided a guiding framework for this evaluation. The approach, methods and process used to clarify the programme theory and logframe are discussed in Section 4.6.

2.2 Overview of FLBP programme theory and logframe

The full programme theory and logframe document can be found in Annexure B. A summary is presented below.

The theory of change which was proposed for the FLBP and agreed to by the evaluation steering committee is outlined in the box, presented visually and then elaborated further.

> *If* you provide a sufficient full-cost bursary as an incentive to recruit students for initial teacher education, *and* you select teacher students based on merit (academic performance) and suitability (passion for teaching, teaching ability and desire to teach in priority subjects, phases and identified areas), *and then* you develop induction and academic support programmes and tracking systems to ensure satisfactory completion of funded students, *and* you link bursaries to service contracts and place FLBP graduates in posts where they will be teaching priority subjects and phases in identified geographical areas of need, *then* you should be able to increase the supply of qualified teachers to meet the need in priority areas (subjects, phases and identified geographical areas of need) so as to address teacher scarcity.

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[9] *"Programme theory" refers to a plausible, sensible model of how a programme is believed to work and how it brings about positive change (Bickman, 1987, p.5). "Programme theory" is often used interchangeably with the term "theory of change". However, a distinction can be made between process theory (how a programme operates) and impact theory (how change occurs) (Rossi, Lipsey and Freeman 2004); both process and impact theory were developed for the FLBP and are thus referred to by us as "programme theory".*

[10] *Also referred to as a "logical framework" a logframe is a management tool which provides a summary of a programme. It usually includes inputs, activities, outputs, outcomes and impact, assumptions or risks which underpin or may affect a programme, the relationship between programme components and indicators (which can be identified at various levels) to measure progress (DAC, 2002).*

Figure 1: FLBP programme theory
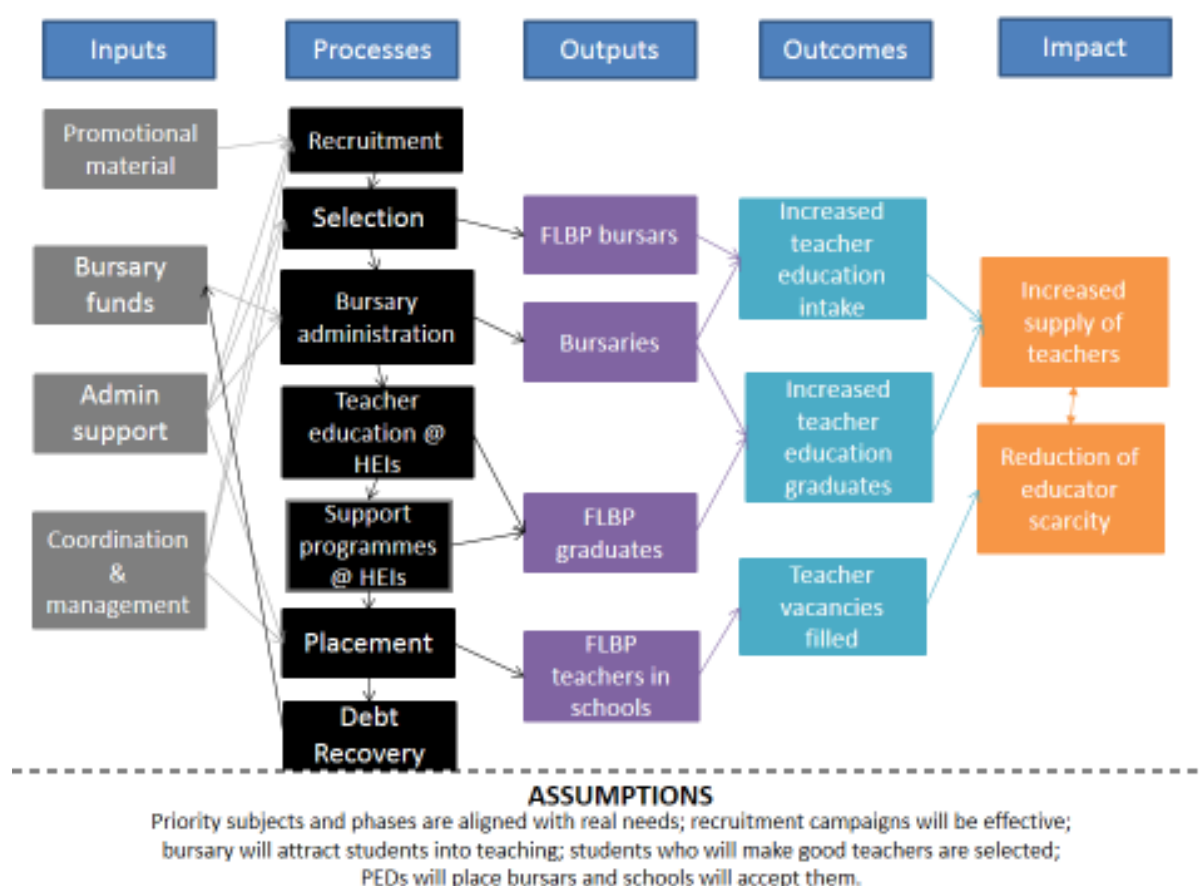
In order to attract academically deserving and suitable South African students into teacher education, the DBE, Provincial Education Departments (PEDs) and education districts undertake national and district-based recruitment campaigns. Promotional material is developed by the DBE. The DBE promotes the FLBP at national level. The DBE utilises district-based recruitment campaigns which target schools in districts where there are teacher shortages, making the assumption that students recruited from there will be willing to go back there to teach. The success of the district-based recruitment campaign relies upon PEDs, districts and school principals co-operating in the promotion and marketing of the FLBP. The campaigns target young people with good academic results, who demonstrate a passion for teaching, and who are willing to study identified priority subjects and be placed in areas of need. An assumption is that the bursary – which covers all academic-related costs – will be attractive to students, who will want to apply to train as teachers.

Potential students either apply online, or, in the case of district-based recruitment, submit paper-based application forms. These are returned to district offices and captured by districts, with support from PEDs. This process removes a barrier as no computer or internet access is required for an application to be made. Selection committees are then convened to select FLBP bursars. District-based applicants are selected at provincial level by a selection committee comprising representatives from PEDs, HEIs, districts and the DBE. Other applicants who apply online are selected by a selection committee at the HEI to which they have applied, after the district-based recruitment and re-awards have been made and the HEI knows how many bursaries are available.

The number of new national/general awards depends on the funding available, the number of district-based awards and re-awards and the estimated cost of academic-related costs at the HEI. The HEIs establish selection committees comprising PEDs, the DBE and HEI stakeholders.

The FLBP selection criteria are applied to identify the most suitable candidates. Assumptions are that the FLBP criteria are adequate to guide selection[11], and sufficient funds are available to make new awards (taking into consideration the estimated cost of tuition fees and education-related expenses).

$$\text{Number of new awards} \quad = \quad \frac{(\text{funding available})}{(\text{estimated cost of academic-related costs})} \quad - \quad (\text{re-awards + district-based awards})$$

For district-based selection, the best candidates are selected out of the applicants attending quintile 1, 2 and 3 schools in the target districts. Approved candidates receive a promissory letter from the DBE which indicates that they have been pre-approved for a Funza Lushaka bursary. Students who received the bursary in the previous year and have a further year or more of study usually receive a re-award. They apply online and their HEI recommends them for re-award based on their performance during the previous academic year. For HEI-based selection, the best candidates are selected out of the applicants to a particular HEI. Approved candidates will be notified only once the academic year is under way. An assumption is that approved candidates will be able to survive financially (with or without support from the HEI) until the bursary is paid out (after 1 April in the new financial year).

Once FLBP bursars commence with teacher education programmes, responsibility falls upon the HEI to monitor and support students to complete their studies. HEIs establish tracking systems to monitor students'[12] academic performance and identify students in need of additional academic support to pass and complete their programmes. Underlying assumptions are that HEIs have the capacity to monitor students' academic performance and provide academic and other forms of support where necessary, and that students are willing to attend support sessions. Support programmes are not specific to FLBP bursars but are for all teacher education students. HEIs' monitoring and tracking systems should also ideally be able to identify when students change their subjects and, importantly for the FLBP, when bursars switch to majors outside of priority subjects and phases (which is a criterion for receiving the bursary). Ideally the DBE should be informed if FLBP bursars decide to switch to subjects and phases which are not FLBP priorities so that these students can be informed that if they switch to (unapproved) courses then they will no longer be eligible to receive the bursary and that it will be converted to a loan.

Provided that FLBP bursars receive good quality teacher education, sufficient academic support where required (from the HEI), and financial support (in the form of a full-cost bursary), they will complete their studies and qualify as a teacher specialising in a subject and phase aligned with the

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[11] *Some stakeholders attending the workshop expressed a concern that the current FLBP selection criteria are not adequate as they do not include a means or measure for assessing candidates' passion and suitability for teaching. A psychometric test or screening process in which candidates are asked to explain their motivation was suggested.*

[12] *This applies to __all students__ not just FLBP bursars.*

FLBP priorities. Underlying assumptions are that the bursary allocation is adequate to meet bursars' education-related needs whilst they are studying and that the FLBP priority subjects and phases are aligned with actual identified needs[13].

In their final year of study, students who have received the Funza Lushaka bursary for at least one year complete "placement forms" which detail the subjects and phases in which they have specialised and the area (province and district) in which they would prefer to be placed. The DBE compiles a consolidated list and communicates with PEDs regarding the FLBP bursars who will be available for placement. PEDs undertake an audit of teacher vacancies and teacher needs and match their needs with the list of bursars available for placement. PEDs then communicate with the DBE regarding bursars who would like to be placed in their province, but who they cannot place, and the DBE compiles a consolidated list of 'unplaced bursars' which it circulates to the PEDs, who in turn have the option to offer a teaching placement to suitable candidates. In order for the Programme to function effectively the DBE and PEDs need to communicate effectively regarding the placement of bursars.

FLBP bursars should be placed within 60 days. If neither the DBE nor the PEDs can place students within 60 days then the obligation to provide one year's teaching service for every year that they received a bursary falls away. If students decline a placement then the bursary should be converted into a loan which must be repaid with interest. Assumptions which underpin this are that it is possible to place students within 60 days (that PEDs are willing to place FLBP graduates and that schools will accept them), that the DBE has the capacity to monitor placement and non-placement, that a mechanism exists to convert bursaries into loans[14] if bursars break the service conditions, and that NSFAS has the capacity to recover bursaries which are converted into loans.

The intermediate outcome which results from the FLBP theory of change is that the bursary provides an incentive that increases the intake of quality ITE students. Assumptions are that students who would not study to be a teacher without the bursary are attracted into teacher education programmes, that these students have the potential to be good quality teachers and that the Programme is able to select good quality students for funding. Similarly, the placement of FLBP bursars specialising in priority subjects and phases in identified geographical areas of need will lead to a reduction in teacher vacancies (specifically in priority subjects and phases). Assumptions underpinning this are that there is a shortage of teachers, that there is alignment between the FLBP priority subjects and phases and teacher needs, and that the number of new teachers entering the education system (FLBP graduates, other teacher education graduates and unemployed teachers) exceeds the number of teachers exiting the system.

Over the long term, the FLBP will lead to an increased supply of competent teachers specialising in priority subjects and phases and in identified geographical areas. However, this is dependent on the HEI's teacher education programmes producing competent teachers and on FLBP graduates

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[13] *A number of high-level stakeholders that were interviewed to inform the development of the FLBP theory of change expressed a concern that there is inadequate data available on teacher requirements (e.g. by phase, subject and geographic area) and this has constrained the ability of the FLBP to address real needs.*

[14] *There is no mechanism currently for Funza Lushaka bursaries to be converted into loans if students break the conditions of their service contract. This is a gap which the NSFAS said it was taking steps to address.*

remaining as teachers in the schools they are allocated to and teaching the subjects and phases they have specialised in, in identified geographical areas of need. Assuming these conditions are in place, the FLBP will contribute to addressing teacher scarcity, specifically in priority subjects and phases and provided that there is alignment between the country's teacher needs and the FLBP priorities and placement system.

2.3 Reflections on the process and how it informed the evaluation

The evaluation team believes that the process through which programme theory was developed for the FLBP has added value to the Programme, as it is a document which FLBP stakeholders have discussed, debated and contributed to, and represents, in the view of the majority[15] of workshop participants, an accurate description of the Programme.

The discussions which took place during the programme theory workshop were rich and gave insight into changes, challenges, nuances and differences in implementation which informed the evaluation team's contextual understanding and enabled the team to identify issues which would be probed further via other research methods (e.g. the student survey, qualitative interviews and focus groups). Discussions and debates which took place at the workshop identified certain tensions between Programme design and practice, highlighting Programme assumptions which may not hold true (e.g. that placement within the specified period of 60 days is possible). The workshop served to surface these tensions which will be taken forward by the FLBP management team for further consideration.

2.4 Proposed changes to the programme theory looking forward

Subsequent to the evaluation, the evaluation team recommend that the Programme objectives be rephrased as follows to guide the Programme in future[16]:

1. To provide bursaries which attract academically deserving and financially needy students, with a passion for teaching and the potential to become good teachers, into teacher education programmes, specialising in priority phases and subjects.
2. To provide financial support to FL bursars to complete their studies – where possible in the minimum time – and graduate specialising in priority phases and subjects.
3. To match FLBP graduates with vacancies aligned to their phase and subject specialisations in schools with shortages of qualified teachers.
4. *To track FLBP bursars, to ensure that they fulfil their service commitments and monitor the extent to which they remain in the public education system and their performance over time.*

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[15] *It is rare for there to be complete consensus and agreement on all aspects of programme theory. Programme stakeholders often have somewhat different understandings of how a Programme works, what it is trying to achieve and how change occurs. Developing or documenting programme theory means that a version is identified, selected and agreed to as the "official" version for the Programme.*

[16] *The rationale for including another objective is that tracking and monitor bursars is essential to ensure the cost effectiveness of the programme and for future evaluative work. Not having a system in place currently meant that the evaluation team were unable to assess the extent to which bursars were fulfilling the service agreement linked to their bursaries.*

The evaluation uncovered the following areas of weakness in the programme theory which should be addressed in terms of Programme design and implementation going forward:

- There are weaknesses in terms of marketing the Programme, a considerable proportion of bursars do not hear about the Programme until they commence studies. Thus the aim of attracting young people into the teaching profession – who may not otherwise have considered studying teacher education - may not be achieved.
- Monitoring of students' subject specialisations (after enrolment) and academic performance and the provision of support where relevant is undertaken by HEIs currently, but information regarding this is not fed back to the FLBP. This is a gap, such information could help to streamline selection of continuing students, ensure that bursars continue to study subjects which are "priority subjects" and assist in ensuring a satisfactory completion rate of Funza Lushaka bursars.
- The evaluation findings have demonstrated that there are weaknesses in terms of matching Funza Lushaka graduates with vacancies linked to their phase and subject specialisations. This could be the result of poor planning (priority subjects are not linked to real needs) or poor matching (graduates are not well matched with a vacancy which is aligned to their specialisations). This needs to be addressed.
- A considerable proportion of Funza Lushaka graduates are not placed within 60 days and are thus effectively released from their teaching service obligations. The 60 day placement period and the modalities of placement should be reconsidered.
- Monitoring of placement and non-placement and whether FLBP graduates fulfill their service obligations by teaching in public schools for the same number of years as they received a bursary for is not occurring. Linked to this, there is no mechanism in place to convert busaries into loans. These aspects of Programme design and implementation need to be addressed as a matter of urgency. We recommend that an additional business process be designed around this.

Proposed amendments to the Programme logframe can be found in Annexure B.

Initial Teacher Education in South Africa: A Literature Review

3.1 Introduction

The South African schooling system consists of private and public state-funded schools in the General Education and Training (GET) and Further Education and Training (FET) bands. The GET and FET bands (Grades R – 12), as included in the National Qualifications Framework (NQF), are hierarchically related - successful completion of GET leads to FET, and thereafter to higher education. The GET band comprises three phases: the Foundation Phase, (Grade R to 3); the Intermediate Phase (Grade 4 to 6); and the Senior Phase, (Grade 7 to 9). The FET band differentiates between FET for schools (Grades 10 to 12) and FET for colleges, covering NQF levels 2, 3, and 4 equivalent.

As of 2009, governance of education is shared between two ministries, the DBE, and the Department of Higher Education and Training (DHET). DBE is responsible for Grade R to Grade 12, and DHET has oversight of TVET colleges, universities, and other forms of post-school education and training. DHET also co-ordinates the implementation of the Human Resource Development Strategy for South Africa (HRDSSA). The DBE focuses on assessing teacher demand through looking at enrolments and vacancy rates, and DHET is responsible for ensuring that there is an adequate supply of teachers to the schooling system, based on supply and demand projections. Governance of schooling is a shared responsibility of the DBE and PEDs. The DBE is responsible for formulating and promulgating national policy, norms and standards, while PEDs are responsible for implementation, which includes the recruitment of teachers, and, to a lesser extent, the provision of provincial bursaries for teacher education. Training initiatives targeted at improving the skills of existing teachers are initiated by PEDs. At school level, school governing bodies (SGBs) have some responsibility for school governance, including school development plans and budgets. An SGB recommends the appointment of teachers to the school.

Teachers are central to any education system. Policies regulating teacher education and training and improving the performance of teachers are therefore critical to any understanding of the development of teacher education in the country. The effective functioning of schools hinges upon how teachers are recruited, trained, and placed in schools. Teacher placement is linked to post provisioning and how it is implemented at provincial level. Closely related to the provisioning of teacher posts is teacher supply and demand and planning processes which must take into account replacement demand due to attrition and other demand drivers, such as system growth and curriculum expansion. Teacher provisioning, in turn, is affected by the vocational and career choice patterns of young people and is dependent also on the availability of financial support specifically for ITE students.

This Chapter explores these issues through desktop research on the teacher education landscape, and specifically on the role of the FLBP, which is focused on increasing enrolment in teacher education in priority areas. The FLBP specifically targets the recruitment of candidates with good National Senior Certificate (NSC) results, to train them in priority curriculum areas or phases, and to

place them in schools where there is a greater need for quality teachers, particularly in rural areas. A comparative review of other bursary schemes in South Africa and comparable international teacher education bursaries can be found in Annexure H.

3.2 Size, shape and performance of the South African Education system

In 2014, there were 25 741 public and independent schools in South Africa, enrolling 12 655 436 learners distributed nationally as follows (DBE, 2014a[17]).

Table 1: Number schools and learners in South African public and independent schools in 2014

Province	No. of public schools	No. of learners in public schools	No. of independent schools	No. of learners in independent schools	Total No. of Schools	Total No. of Learners
Eastern Cape	5 554	1 889 307	178	57 578	5 732	1 946 885
Free State	1 306	656 408	70	15 882	1 376	672 290
Gauteng	2 070	1 944 486	651	246 989	2 721	2 191 475
KwaZulu Natal	5 915	2 831 311	239	70 386	6 151	2 901 697
Limpopo	3 929	1 665 516	147	55 069	4 076	1 720 585
Mpumalanga	1 762	1 034 151	105	23 697	1 867	1 057 788
Northern Cape	551	284 908	26	4 096	577	289 004
North West	1 515	784 184	55	16 132	1 570	800 316
Western Cape	1 458	1 026 744	213	48 652	1 671	1 075 396
South Africa	**24 060**	**12 117 015**	**1 681**	**538 421**	**25 741**	**12 655 436**

Source: DBE 2014a, School Realities 2014

As Table 1 shows, most South African children are enrolled in the public education system: 96% of learners in 2014 were attending public schools. KwaZulu Natal had the largest share of learners, followed by Gauteng and the Eastern Cape, while the Northern Cape had the lowest enrolment proportional to the national enrolment. This data also sheds some light on demand issues: more teachers are employed in KwaZulu Natal and the Eastern Cape than in the Northern Cape, as highlighted in Table 2.

Table 2: Number of teachers employed in South African schools

Province	2011	2012	2013	2014
Eastern Cape	68 499	67 936	66 007	64 258
Free State	24 057	24 828	24 475	24 552
Gauteng	71 532	73 960	74 823	77 265
KwaZulu Natal	93 266	94 932	96 057	95 560
Limpopo	58 016	57 670	57 108	57 256
Mpumalanga	34 623	34 664	34 936	35 000
Northern Cape	8 899	8 864	8 972	9 182
North West	25 897	25 924	26 194	26 086
Western Cape	35 819	36 389	36 451	35 931
South Africa	**420 608**	**425 167**	**425 023**	**425 090**

Source: DBE 2014a, School Realities 2014

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[17] *Department of Basic Education. 2014a. School Realities 2014. Pretoria: DBE.*

Of the 425 090 teachers employed in schools, 92% are employed in public schools. The current average national learner to teacher ratio in public schools is 31, based on information about school governing body and state paid teachers (DBE, 2014a). However, this average hides a wide range of differences across districts and geographical locations. The average ratio also differs between primary and secondary schools. The data in Table 2 also reveals that, while most provinces realised growth in the number of teachers employed from 2011 – 2014, the Eastern Cape and Limpopo witnessed a drop in the number of teachers, despite the number of learners increasing in these provinces.[18]

Since 1994, the South African Government has put in place a significant number of policies to address the historical inequities in the education system, particularly between privileged and under-privileged schools, but also to address a range of problems with the quality of the education system overall. Despite these attempts at redress and transformation, it is now acknowledged by government and other stakeholders that many inherited inequalities persist, as does the poor quality of schooling, particularly for learners from low income socio-economic backgrounds, those in rural areas, and those in formerly disadvantaged schools.

Unrelenting poor schooling outcomes have been highlighted in a range of studies and continue to be a source of concern (Hofmeyr & Hall, 1995[19]; Taylor & Vinjevold, 1999[20]; DoE, 2007[21]; DBE & DHET, 2011[22]). The performance of South African learners in international benchmarked, standardised, and systemic tests has raised concerns about the efficiency of the system, and multiple reasons have been advanced for this poor performance (DBE and SACMEQ, 2010; Spaull, 2012[23]; NEEDU, 2012[24]; Spaull, 2013)[25]. The inefficiencies in the schooling system are, in turn, contributing to poor graduation rates in higher education, because of the articulation gap between the schooling system and university (Council on Higher Education (CHE), 2013). The Department of Education systemic evaluations of 2001 and 2007 show that Grade 3 learners from a sample of 54 000 learners attained less than 40% in numeracy and literacy in both years. The 2003 Western Cape learner assessment study tests taken by 34 596 Grade 6 learners revealed that only 35% of the learners were performing at the appropriate Grade 6 level (Taylor, 2008)[26]. The National School Effectiveness Study, a panel study conducted from 2007 – 2009, tested learners in 266 schools in literacy and numeracy when

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[18] *The reasons for the increase in number of learners and drop in teacher numbers in Limpopo and the Eastern Cape could not be discerned from desk research.*

[19] *Hofmeyr, J. and Hall, G. 1995. The National Teacher Education Audit: Synthesis Report. Johannesburg: Edupol, National Business Initiative.*

[20] *Taylor, N. and Vinjevold, P. (Eds). 1999. Getting Learning Right: Report of the President's Education Initiative Research Project. Johannesburg: JET.*

[21] *Department of Education. 2007. The National Policy Framework for Teacher Education and Development. Pretoria: DoE.*

[22] *Departments of Basic Education & Higher Education and Training. 2011. Integrated Strategic Planning Framework for Teacher Education and Development in South Africa, 2011–2025: Technical Report. Pretoria: DBE & DHET.*

[23] *Spaull, N. 2012. Equity and efficiency in South African primary schools: A preliminary analysis of SACMEQ III South Africa. Thesis presented in fulfilment of Masters of Commerce degree, University of Stellenbosch.*

[24] *National Education Evaluation and Development Unit. 2012. National Report: Summary. Pretoria: NEEDU.*

[25] *Spaull, N. 2013. South Africa's Education Crisis: The quality of education in South Africa 1994 – 2011. Johannesburg: Centre for Enterprise Development. Research Report.*

[26] *Taylor, N. 2008. What's wrong with South African Schools? Presentation at the What's working in school development workshop held at JET, 28 – 29 February 2008.*

they were in Grade 3 in 2007, Grade 4 in 2008 and Grade 5 in 2009. The assessment made use of the same test, pitched at Grade 3 level. The mean scores for literacy in Grades 3 and 4 were 19% and 27% respectively, while numeracy scores were 28% and 35% respectively. The results also showed weaker performance by learners in historically black schools, highlighting perpetuating inequalities that lead to unequal opportunities in adulthood, where many black young adults remain unemployed, living in abject poverty (Spaull and Kotze, 2015[27]). The Annual National Assessments (ANAs) have also exposed a struggling education system, with learners performing poorly in mathematics and literacy. Apart from 2014, when the NSC pass rate dropped, in the recent period the pass rate has improved, but the quality of passes has been questioned. Further, there is criticism that calculation of the NSC pass rate does not account for learners who drop out of the system and do not complete their education (Spaull, 2015).

South African learners have also performed poorly in international benchmark tests such as the Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS) studies. South Africa participated in TIMSS in 1995, 1999, 2002 and 2011 and, in all instances, performed at the bottom of the group of middle income countries. Participation in the PIRLS was at Grade 4 level in 2006 and 2011, but Grade 5 learners were also tested for comparative analysis. In 2006, South Africa achieved the lowest score among the 45 participating countries, for Grade 5. In the Southern and East African Consortium for Monitoring Educational Quality (SACMEQ), for Grade 6 level, in 2000 South Africa was ranked ninth in mathematics and eighth in reading, out of 14 participating countries. In 2007, SA ranked tenth for reading and eighth for mathematics out of 15 participating countries (Spaull, 2013).

There is a strong association between learner performance and teacher quality in South Africa. The 2007 SACMEQ data shows that the subject knowledge base of the majority of South African Grade 6 mathematics teachers is inadequate for providing learners with a conceptual understanding of the subject and its principles. A similar finding has been made in relation to language teachers, whose performance in the SACMEQ tests dropped as soon as they were confronted with questions requiring higher cognitive processing skills (Taylor and Taylor, 2012)[28].

Improving teacher quality in South Africa is key to the improvement of learning outcomes, and over the years there has been an increasing focus on the state of teacher education in the country, including the extent to which new teachers, in particular, are provided with the subject and academic knowledge, as well as the skills, that they require in their daily teaching practices. The JET Education Services (JET) Initial Teacher Education Research Project has shown that there is significant variation in the content and structure of ITE programmes across universities (JET, 2014[29]).

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[27] *Spaull, N. and Kotze, J. 2015. Starting behind and staying behind in South Africa: The case of insurmountable learning deficits in mathematics. International Journal of Educational Development 41, 13–24.*
[28] *Taylor, N. and Taylor, S. 2012. Teacher Knowledge and Professional Habitus. In Taylor, N., van der Berg, S., & Mabogoane, T. (2013). Creating Effective Schools: Report of the National School Effectiveness Study. Cape Town: Pearson.*
[29] *JET Education Services, 2014. Initial Teacher Education Research Project, Progress Report August 2014. Johannesburg: JET.*

3.3 Legislative and policy context affecting teacher education

It is widely accepted that education plays a crucial role in the development of a country. This idea is captured in the South African National Development Plan (NDP) which stresses that

> *Education, training and innovation are central to South Africa's long-term development. They are core elements in eliminating poverty and reducing inequality, and the foundations of an equal society. Education empowers people to define their identity, take control of their lives, raise healthy families, take part confidently in developing a just society, and play an effective role in the politics and governance of their communities (NPC, 2011: 261).*

In the same vein, the facilitators of education, "are central to education, and teaching should be a highly valued profession" (NPC, 2011: 265) as teachers have

> *… the most direct, sustained contact with students, as well as considerable control over what is taught and the climate of learning. It is reasonably assumed that improving teachers' knowledge, skills and dispositions is one of the most critical steps to improving student achievement (King & Newman, 2001:86, quoted in Steyn, 2008: 16).*

Recognising the significance of education for national development, in 2010, the DBE launched Action Plan 2014 (DBE, 2011a) as part of the larger vision called Schooling 2025. At the heart of the Action Plan lie 27 goals, with 13 of them focusing on outputs that deal with better school results and better enrolment of learners in schools. The remaining 14 goals deal with context indicators that will enable the output goals to be realised.

The Action Plan provides details on:

- How goals will be achieved;
- How improvements will be monitored; and
- What the exact national and provincial targets are for each goal.

The Schooling 2025 Plan is a strategy of the DBE to improve the schooling system by 2025. Targets have been set to improve pre-school education, external pupil assessments and several other areas.

The following captures the holistic vision for the public education system in 2025:

- Learners attend school on time, every day, and take their schoolwork seriously. They have access to computers, a good meal, sporting and cultural activities. They have respectful relationships with their friends and they have dependable teachers.

- Teachers are confident, well trained, and continually improving their capabilities. They are committed to giving learners the best possible education, thereby contributing to the development of the nation. They have job satisfaction because their conditions of service are reasonable and their pay comparable to that of other professions.

- School principals ensure teaching takes place as it should, according to the national curriculum. Through responsible leadership, they promote harmony, creativity and a sound work ethic within the school community and beyond.

- Parents are well informed about what happens in the school, and receive regular reports about how well their children perform against clear standards that are shared by all schools. They know they are listened to, and any concerns will be dealt with by education authorities at all levels.

- Learning and teaching materials are in abundance and of a high quality. Learners and teachers know how to use computers in the school to access information they need.

- School buildings and facilities are spacious, functional, safe and well-maintained. Learners and teachers look after their buildings and facilities because they take pride in their school. (DBE, 2011a)

- Policy has also focused on the quality of teacher education programmes. Some of these programmes have been deemed of a low standard, based on the CHE (2010) report which observed variations in the quality of teacher education programmes. The revised Minimum Requirements of Teaching Qualifications (MRTEQ), aligned with the Higher Education Qualifications Sub-Framework (HEQSF) (SAQA, 2013[30],, set out the minimum competences required of a newly qualified teacher. This policy replaces the Norms and Standards for Educators and provides guidance towards revision of all teacher education qualifications.

The MRTEQ:

- Describes **articulation routes** into the new set of HEQSF-aligned teacher education qualifications, for teachers with historic qualifications. It also describes **articulation** between the new teacher education qualifications (DHET, 2015: 7);

- Describes clear, specific requirements for the development of learning programmes, as well as guidelines regarding practical and work-integrated learning structures (DHET, 2015: 8);

- Specifies that "All teachers who successfully complete an initial professional qualification should be proficient in the use of at least one official South African language as a language of learning and teaching (LoLT), and partially proficient (i.e. sufficient for purposes of basic conversation) in at least one other official African language, or in South African Sign Language, as language of conversational competence (LoCC). If the LoLT is English or Afrikaans, then the LoCC must be an African Language or South African Sign Language." (DHET, 2015: 13);

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[30] *South African Qualifications Authority, 2013. Higher Education Qualifications Sub-Framework. Pretoria: SAQA.*

- Allows for institutional flexibility and discretion in the allocation of credits within learning programmes, and encourages teacher teachers to become engaged in curriculum design, policy implementation and research (DHET, 2015: 8); and

- Insists that ITE programmes demonstrate greater awareness of the challenges facing education in South Africa, by deliberately incorporating situational and **contextual elements** to help teachers deal better with diversity and transformation (DHET, 2015: 8-9).

The MRTEQ also makes provision for "direct and specific regulations with regard to practical and work integrated learning structures, liaison, supervision and mentoring" (DHET, 2015: 6), including the amount of time students should spend in schools. For the one-year Postgraduate Certificate in Education, the MRTEQ stipulates that students spend between six and eight weeks on supervised school based practice, while for the Bachelor of Education (B.Ed.) degree, the requirement is between 16 and 24 weeks over the four year duration of the program. Teaching practice should also be characterised by "proper supervision, suitable school placement and formal assessment" (DHET, 2015: 19).

The Integrated Strategic Planning Framework for Teacher Education and Development in South Africa (ISPFTED) 2011–2025 outlines the vision for an integrated national plan for teacher development aimed at improving the quality of teacher education in order to improve the quality of teachers, teaching and learning (DBE and DHET, 2011). The ISPFTED emerged from the teacher development summit of 2009, and it considers the trajectory of teacher development from recruitment to preparation, induction and career-long (continuing) professional learning and development. The primary objective of the framework is to "improve the quality of teacher education and development in order to improve the quality of teachers and teaching" (DBE & DHET, 2011: 1, emphasis in original). Four outputs are outlined in the ISPFTED:

- Output 1: Individual and systemic teacher development needs are identified and addressed.
- Output 2: Increased numbers of high-achieving school-leavers are attracted into teaching.
- Output 3: Teacher support is enhanced at the local level.
- Output 4: An expanded and accessible formal teacher education system is established.

In the period since 2007, when the FLBP was established, there have therefore been significant policy developments impacting on teacher education, the focus being on attracting young people into the teaching profession, improving conditions of service and improving the quality of ITE.

3.4 Demand and supply of teachers

In order to understand whether the country is producing enough teachers for the education system, analysis of supply and demand of teachers is crucial. However, it is necessary to understand that planning for demand involves some risk, regardless of how accurate or up to date the statistics are.

According to Crouch and Perry (2003, cited in CHEC, 2009:32[31]), teacher demand is estimated by making assumptions about:

- the learner population, enrolment by grade, repetition and net flow rates,
- the desired class size at primary and secondary level,
- the period load of teachers,
- the rate of substitute-teacher usage,
- the number of orphans and the use of a special learner/teacher ratio for orphans,
- the attrition rate among teachers and the mortality rate, based on AIDS-related and other illnesses.

These assumptions frame the following discussion of teacher demand, which explores policy implementation, attrition, vacancies, and temporary appointments as determinants of teacher demand. The discussion on teacher demand is followed by a discussion on the determination of scarce skills, and teacher supply.

3.4.1 Policy implementation

Implementation of public policy affects enrolment in schools, and government's commitment to increase enrolment in Grade R, pre-school and secondary school has resulted in an increase in the demand for teachers. Although participation of 0 — 4 year olds and 5 year olds in educational institutions has significantly improved, there are still a significant number of children in these age groups who are not accessing formal educational opportunities. Data from the 2012 household survey from Statistics South Africa (Stats SA) and DBE's own calculations propose that in 2002 only 7.5% of 0 — 4 year olds attended educational institutions, compared to 36.5% in 2012. During the same period, only 39.2% of 5 year olds had access to educational institutions in 2002 compared with a substantial 84.6% in 2012. The greatest strides have been made in participation in Grade R, where participation rates rose by almost 60% between 1999 to 2012, as highlighted in Table 3 (DBE, 2013a[32]).

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[31] *Cape Higher Education Consortium. 2009. Educator supply and demand in the Western Cape. Cape Town: CHEC.*
[32] *Department of Basic Education. 2013a. Education for all (EFA) 2013 Country Progress Report: South Africa. Pretoria: DBE.*

Table 3: Grade R gross enrolment rates in South Africa

Year	Females	Males	Total	GER (Female)	GER (Male)	Total GER
1999	78 574	77 718	156 292	15.3	15.0	15.2
2000	113 607	113 024	226 631	22.1	21.8	21.9
2001	121 076	120 449	241 525	23.5	23.2	23.4
2002	139 708	139 018	278 726	27.2	26.9	27.0
2003	157 855	157 532	315 387	31.0	30.7	30.8
2004	178 643	177 844	356 487	35.4	34.9	35.2
2005	202 607	202 590	405 197	40.6	40.3	40.3
2006	219 969	221 652	441 621	44.3	44.1	44.2
2007	242 409	245 116	487 525	49.0	48.9	48.9
2008	271 113	272 686	543 799	49.9	50.1	51.9
2009	308 628	311 595	620 223	60.4	60.2	60.3
2010	351 351	355 852	707 203	66.8	66.5	66.7
2011	365 256	369 398	734 654	69.9	69.5	69.7
2012	386 804	381 061	767 865	75.2	74.9	74.7

Source: DBE, 2013a, Education for All Country Progress Report

The government's intention is to achieve universal access to Grade R. This expansion of Grade R will require qualified teachers to ensure efficiency and effectiveness of the system. In 2008, the then Department of Education was training 8 525 ECD teachers per year at NQF Levels 1 and 4 (Parliamentary Monitoring Group, 2008)[33]. According to Antonopoulos and Kim (2008)[34], in 2008, 60 000 sites would have been required if all children of appropriate age for ECD were to be catered for. Thus, approximately 300 000 practitioners would have been needed in that year with an average of five practitioners per site.

While participation of 7 — 15 year olds in schooling was almost universal at 98.8% in 2012, there are concerns about the 548 776 children aged 7 — 18 who were reported to be out of school in 2012, according to the Stats SA Household Survey for 2012. A significant proportion of out of school children in the 16 — 18 year age group were girls (15.4%), as highlighted in Table 4 (DBE, 2013a).

Table 4: Percentage of 16 – 18 year olds out of school, 2002 – 2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Male	14.3	14.6	14.1	14.8	15.7	13.4	15.5	15.9	15.2	14.3	12.8
Female	20.9	19.8	20.5	20.9	19.5	16.3	16.9	17.5	19.0	16.0	15.4
Total	**17.6**	**17.2**	**17.3**	**17.8**	**17.5**	**14.8**	**16.2**	**16.7**	**17.1**	**15.1**	**14.1**

Source: DBE, 2013a, Education for All Country Progress Report

It is also a matter of concern that a significant 11.3% of out of school youth believe education is useless and do not seem to have any other alternatives to schooling (DBE, 2013a). The DHET is tasked with providing alternative skills programmes for these out of school youth (DBE, 2013a). However, qualified teachers will be needed to provide these skills. In this regard, the demand for teachers will grow to fulfil government's commitment to bring out of school children into the formal schooling system.

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[33] *Parliamentary Monitoring Group. 2008. Early Childhood Development: Department of Education presentation to the Portfolio Committee on Education. June 2008.*
[34] *Antonopoulos R. & Kim K. 2008. Scaling up the expanded public works programme: A social sector intervention proposal. New York: Levy Economics Unit/ United Nations Development Programme*

3.4.2 Teacher attrition

One measure of assessing whether the supply of teachers will meet the demand is by comparing the number of teachers graduating annually from teacher education programmes with that of teachers leaving the system (i.e. teacher attrition). While there seems to be an increase in the number of students taking up teaching at university level and graduating, not all graduates are being absorbed into the system. DHET provided an analysis of employment of ITE graduates of 2009, 2010 and 2011 into the public schooling system, which revealed that the system seemed to be absorbing about 60% of graduates and it was not clear what was happening to the other 40% (DHET, 2014a)[35]. Possibilities are that some of them could be employed in governing body posts or that some of them could be employed in private schools. Teachers may also opt to teach abroad or seek employment outside of education, either in the formal or the informal sector. Some study further, choose intentionally not to teach straight away or choose never to teach. Others cannot find suitable teaching positions and are temporarily or permanently unemployed. The DHET has identified this as an area for further research. Indeed the DBE's own research has highlighted concerns about the relatively low numbers of newly-qualified teachers being absorbed into the teaching system. So, although the numbers of ITE graduates have grown significantly since 2007, worryingly low numbers of graduates are becoming teachers in the public system (Gustaffson, 2015)[36].

Some explanations have been provided by research on employment/occupational pathways of teacher graduates, including migration (Brown, 2008[37]; Macnamara, Lewis, and Howson, 2007; Manik, 2007[38]; de Villiers, 2007[39]; Bertram, Wedekind, and Muthukrishna, 2007[40]; Manik, 2009[41]). Macnamara, Lewis, and Howson (2007)[42] indicate that according to the United Kingdom Border Agency data, South Africa was consistently the top supplier of teachers to the UK from 2000 to 2006. SACE (2011)[43] highlights that in the 1990s, teacher migration from South Africa increased as a result of government's offering of voluntary severance packages, based on a misperception that there was an oversupply of teachers. Migration of teachers during this period and their acceptance by countries such as the UK exposed migration as an attractive alternative to other teachers, who then opted to leave. However, after 2000 when it became apparent that there was a shortage of teachers, particularly in mathematics and sciences, South Africa started recruiting from other countries. The major concern about migration of South African teachers is that, based on their

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[35] *Department of Higher Education and Training. 2014a. Teacher Graduate Employment 2014: Employment of Initial Teacher Education Graduates in 2012. Pretoria: DHET.*

[36] *Gustafsson, M. 2015. Inflow of new teachers into the public system. Unpublished report.*

[37] *Brown, B. 2008. Teacher migration impact: A review in the context of quality education provision and teacher training in higher education in Southern Africa. South African Journal of Higher Education, 22(2), 282 – 301.*

[38] *Manik, S. 2007. To greener pastures: Transnational teacher migration from South Africa. Perspectives in Education, 25(2), 55-65.*

[39] *De Villiers, R. 2007. Migration from developing countries: The case of South African teachers to the United Kingdom. Perspectives in Education, 25(2), 67 – 76.*

[40] *Bertram, C., Wedekind, V., & Muthukrishna, N. 2007. Newly qualified South African teachers: Staying or leaving? Perspectives in Education, 25(2), 77 – 89.*

[41] *Manik, S. 2009. Understanding the exit of teachers from South Africa: determinants of trans-national teacher migration. Perspectives in Education, 27(3), 267 – 277.*

[42] *Macnamara, O., Lewis, S. & Howson, H. 2007. 'Turning the tap on and off': The recruitment of overseas trained teachers to the United Kingdom. Perspectives in Education, 25(2), 39-54.*

[43] *South African Council for Educators. 2011. Teacher migration in South Africa: Advice to the ministries of basic and higher training. Johannesburg: SACE.*

permits from receiving countries such as the UK, Australia, the United States and Canada, many are able to teach mathematics and science, which are scarce skills in South Africa (SACE, 2011).

Additional to migration, attrition of teachers from the system can also be attributed to illness (leading to resignation), retirement or mortality. DBE data (2013b) suggests that the annual attrition rate over five years from 2008 to 2012 is below 4%, constituting an average loss of 13 300 teachers annually (DBE, 2014b[44]). Table 5 below highlights attrition figures from 2007 to 2012.

Table 5: Teacher attrition rate 2008 – 2012

Financial Year	2007/8	2008/9	2009/10	2010/11	2011/12
Total Terminations	13 417	11 903	13 041	12 309	14 988
Average teacher establishment over a year	366 000	371 000	383 359	384 838	389 148
Attrition rate	3.7%	3.2%	3.4%	3.2%	3.9%

Source: DBE, 2013b[45], Portfolio Committee Briefing on vacancies

Between 2008/2009 and 2012/2013, resignations accounted for 43.9% of teachers leaving the system. The Centre for Development Enterprise (CDE, 2015[46]) provides an analysis of attrition in 2012 and 2013, and cautions that analysis of attrition is compromised by inaccuracies and incompleteness of databases. Their analysis of attrition based on PERSAL and the Annual Schools Survey data generates significantly different conclusions about teacher attrition as highlighted in Table 6 below.

Table 6: Gross and net attrition rates of teachers 2012 and 2013

Data Source	Gross	Net
PERSAL	5.37%	2.73%
ASS	8.31%	3.37%

Source: CDE report, 2015

Based on this discrepancy, the CDE's model on the demand for teachers, supply of teachers to the system, and the match between the supply and demand over the next 10 years from 2015 to 2025, is based on the use of multiple data sets:

- The population statistics from the Spectrum database used by Statistics South Africa to project the growth in the learner population over the next 10 years;
- The General Household Survey (2013) to investigate Grade R enrolments.
- The supply of teachers to the system from audited figures in DHET internal reports, *Trends in Teacher Supply*, for five consecutive years, 2009 to 2012;
- The number of teachers in the system for five consecutive years, 2009 to 2012, obtained from the DBE's Education Statistics and School Realities; and

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[44] *Department of Basic Education. 2014b. Education human resource planning report 2012/2013. Pretoria: DBE.*
[45] *Department of Basic Education. 2013b. Briefing by the DBE on progress reports in respect to the teacher vacancies. PowerPoint Presentation to the Portfolio Committee. 28 May 2013*
[46] *Centre for Development and Enterprise. 2015. Teachers in South Africa: Supply and Demand 2013-2025. Johannesburg: CDE.*

- The movement of teachers in the system from two sources of teacher information: PERSAL (the government's personnel salary database) based on a secondary analysis of two internal DBE reports, and two consecutive years (2012 and 2013) of the DBE's Annual Schools Survey (ASS) data. The ASS data contain(s) information on teachers by characteristics relevant to the analysis, notably gender, age, citizenship, qualification level, years of experience and identity of employer (whether government or a school governing board) (CDE, 2015: 4).

Using population analysis, projected enrolment levels and teacher/learner ratios, and based on the 2013 number of teachers (which was 425 989), the CDE projects that 30 633 more teachers will be needed by 2025.

Table 7: Projected teacher requirements

Schooling level	2013[47]	2016	2019	2022	2025
Lower primary	132 872	137 610	135 112	131 514	129 081
Higher primary	118 621	131 069	139 026	136 263	134 426
Secondary	174 497	168 749	174 320	189 642	192 216
Total	**425 989**	**437 428**	**448 458**	**457 419**	**455 723**

Source: CDE report, 2015

CDE argues that there will be a shifting pattern of demand for new graduates, characterised by a higher demand for primary school teachers up to 2017 because of the expansion of the ECD sector, and a shift towards secondary school teachers thereafter, as the effects of an expanded ECD and primary school sector, as well as the bringing in of out-of-school youth, begin to impact on the secondary level.

The proportion of older teachers has increased over the past thirty years. This increase appears to be concentrated in the 45 — 55 year age group. In 2009, less than 5% of teachers were under the age of 30, 12.4% of teachers were under the age of 35, 42% were aged 45 and over, and 22.7% were aged 50 or over (DoE 2009: 37, cited in DBE & DHET, 2011). In comparison, in 1994, 54% of teachers were younger than 35 years of age (Hofmeyr & Hall 1995: 31, cited in DBE & DHET, 2011), and in 2004, 29% were aged 45 and older (ELRC 2005: xiv, cited in DBE & DHET, 2011). The South African age of retirement for teachers is 63 (South African Government News Agency, 2012). Thus, a substantial proportion of the current teaching workforce will be eligible to retire on age grounds, an important factor for consideration in teacher supply and demand projections. Gustafsson's analysis of the inflow of new teachers into the public system (2015) highlights that the number of young joiners under the age of 30 has remained at half to two-thirds of new joiners between 2007 and 2014. This is a matter of concern, as not enough young teachers seem to be joining the workforce. This is directly relevant to the FLBP, where substantial government funding is being invested into ITE. If ITE graduates are not being absorbed into the system, this is inefficient.

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[47] *2013 data is based on actual data, not estimates*

Table 8: Comparing young joiners under 30 to all joiners

	2007	2008	2009	2010	2011	2012	2013	2014
EC	706	818	960	1,146	213	281	189	237
FS	296	369	221	396	504	540	590	424
GP	947	872	876	1 099	1 154	1 345	1 607	1 580
KN	1 796	1 707	1 316	1 649	2 196	1 535	2 116	1 711
LP	165	226	234	310	486	395	597	593
MP	372	379	270	435	433	579	521	679
NC	132	143	129	109	148	154	162	197
NW	157	93	158	207	301	343	579	544
WC	459	528	407	592	742	734	912	835
SA	**5 030**	**5 135**	**4 571**	**5 943**	**6 177**	**5 906**	**7 273**	**6 800**
SA joiners: all age groups	**16 521**	**16 822**	**12 332**	**16 522**	**13 612**	**11 275**	**12 983**	**11 738**

Source: Gustafsson, 17 March 2015

Other reasons for teacher attrition are dissatisfaction with the workplace, morale, workload and HIV/AIDS (Hall, Altman, Nkomo, Peltzer and Zuma, 2005), which contribute to teachers seeking alternative opportunities. Hall et al's (2005) review of literature revealed that external factors might greatly affect teachers' perception of their work environments. Evaluation of their current situation and the likelihood of finding alternative employment typically precedes a teacher's decision to leave their job. If teachers believe that alternative, quality job opportunities exist, they will be less willing to address workplace frustrations.

The study by Hall et al (2005) drew on data from a sample of 20 626 teachers, representative of public schools in each of the nine provinces of South Africa. The opinions of teachers who indicated that they had considered leaving their profession were analysed and compared to those who indicated that they did not want to leave their profession. The analysis revealed that the majority of teachers who thought about leaving their current positions would be attracted by job opportunities not necessarily related to teaching, and more than half of them would favourably consider any job opportunity that came with a higher pay package. To determine the impact of job availability in South Africa on teacher attrition, potential job leavers were asked whether they felt they were deterred from leaving education due to limited job opportunities outside of education. The majority (85%) agreed that the lack of job opportunities elsewhere stopped them from leaving the classroom, as the cost of resigning would be too high. Educators who considered their remuneration to be inadequate (40%) and their workload to be too heavy (24%) were most likely to depart from education.

Furthermore, the lack of career development opportunities could drive more highly qualified teachers to leave their profession. Educators who had obtained a higher diploma or degree and who were unhappy about the lack of career development opportunities in education had a higher likelihood of considering leaving their profession (80%) than teachers who are less skilled (diploma, 70%; Grade 12 and lower, 65%) (Hall et al, 2005).

A study by Hall et al (2005) indicated that the increase in HIV/AIDS-related morbidity and mortality was also found to pull highly skilled teachers from their profession, especially given that their variety of skills are transferable to areas outside the sphere of education. The study also found that a

greater number of teachers who consider leaving the profession are affected by HIV/AIDS in some way, more so than those who do not consider leaving.

Stop gap measures to deal with attrition include the appointment of temporary teachers as well as the employment of under qualified teachers, usually because of vacancies created unexpectedly that need to be filled immediately so that learning can continue. Available data for a five year period from 2007 to 2011 shows that nationally, the appointment of temporary teachers increased steadily (DBE, 2013b). This appears to be a greater problem in some provinces than others. Some temporary teachers are under qualified, with a Relative Education Qualification Value (REQV) below 14, which is a four year degree, or three year degree plus PGCE.

Figure 2: Temporary teachers 2007 – 2011

	EC	FS	GP	KZN	LP	MP	NW	NC	WC	
2007	2884	2508	3825	9896	3941	3080	2631	870	3175	32810
2008	4864	3238	3725	11056	3343	3070	1981	1304	3865	36446
2009	5548	2957	5655	13386	3709	2954	1933	1345	3774	41261
2010	3397	2604	5205	13535	3282	3236	1933	1188	3625	38005
2011	5880	2436	5436	15981	4445	3580	1954	1036	2942	43690
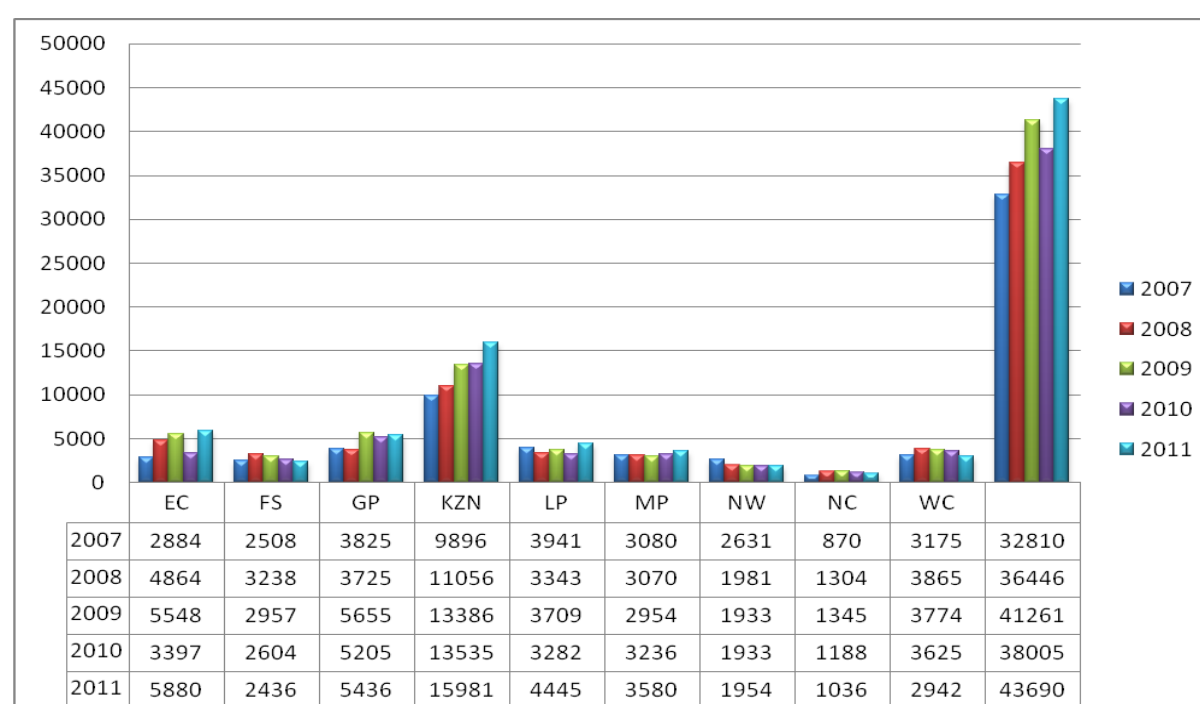
Source: DBE, 2013b, Portfolio Committee Briefing on vacancies

Employment of under qualified teachers can signal a demand for qualified teachers. For example, data over five years from 2007 to 2011 showed that there are still teachers employed in the system with an REQV level of 10-12 (under qualified), although the number of teachers with REQV 14 qualifications has steadily grown over the years, as highlighted in Figure 4 below (DBE, 2013b).

Figure 3: Teacher qualifications 2007 – 2011
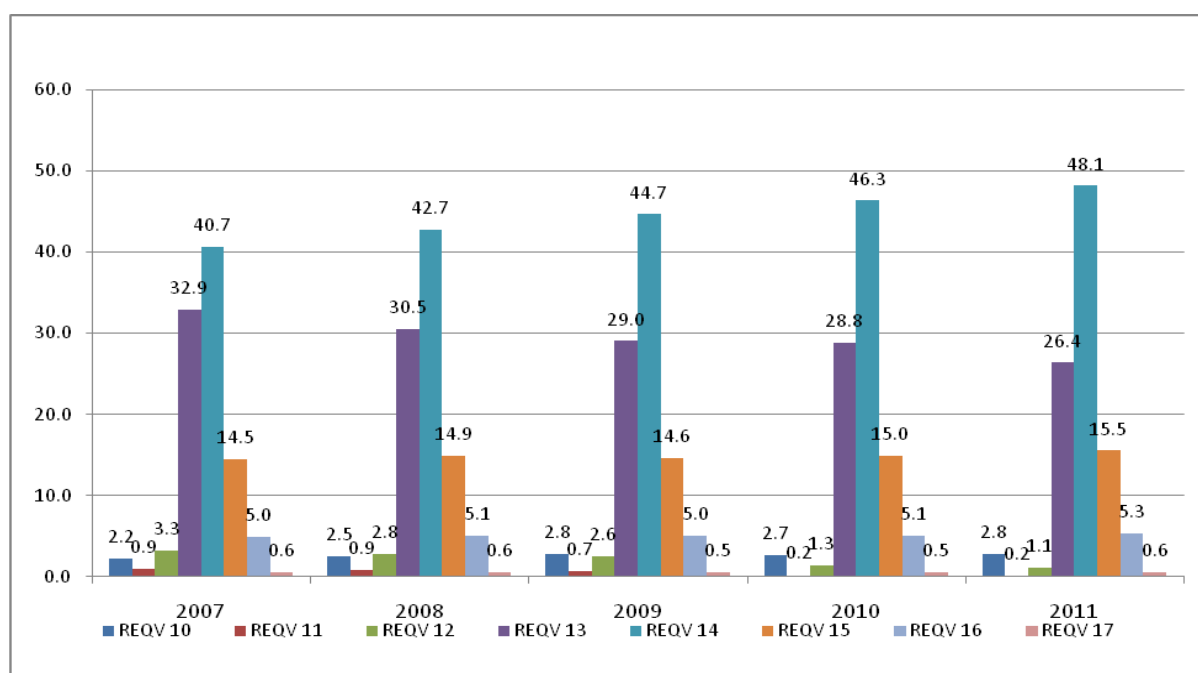
Source: DBE, 2013b, Portfolio Committee Briefing on vacancies

3.4.3 Vacancies within the system

Vacancy rates can demonstrate how PEDs are managing teacher demand. Although data is not available over longer periods to show trends, an example is that in 2012 vacancy rates rose in most of the provinces between January and March, with the national average rising by almost 5%, as highlighted in Table 9 (DBE, 2012a).

Table 9: Provincial teacher vacancy rates

Province	Date	Total Vacancies	PPN[48] 2012	Vacancy Rate
Eastern Cape	12-Jan	1 460	47 826	3.05%
	12-Mar	5 107	47 826	10.68%
Free State	12-Jan	344	16 389	2.10%
	12-Mar	736	16 389	4.49%
Gauteng	12-Jan	2 697	39 192	6.88%
	12-Mar	2 335	39 192	5.96%
KwaZulu Natal	12-Jan	1 415	64 672	2.19%
	12-Mar	2 936	64 672	4.54%
Limpopo	12-Jan	190	43 177	0.44%
	12-Mar	3 197	43 177	7.40%
Mpumalanga	12-Jan	857	25 812*	3.32%
	12-Mar	3 738	25 812*	14.48%
Northern Cape	12-Jan	654	19 458*	3.36%
	12-Mar	628	19 458*	3.23%
North West	12-Jan	1 161	16 371	7.09%
	12-Mar	1 076	16 371	6.57%
Western Cape	12-Jan	2 068	18 772	11.02%
	12-Mar	2 298	18 772	12.24%

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[48] *PPN stands for post provisioning norm*

Source: DBE, 2012a, Teacher Demand and Supply[49]

While some provinces managed the vacancy rates well through rapid filling of posts, including the North West, the Northern Cape and Gauteng, in some other provinces vacancy rates seem to have risen significantly within a short period of time. This could be as a result of teachers not coming back to school at the beginning of the year. This leads to an increase in the vacancy rates, in comparison to those that are determined at the end of the previous year. The DBE highlights that in a healthy education system the vacancy rate would be similar to the attrition rate, which averages 3.5%. The fact that the vacancy rate is higher than the attrition rate is a reflection of the fact that the appointment of permanent teachers is an issue that needs to be addressed (DBE, 2014b). Issues that need attention also include the number of teachers needed to meet the targeted learner teacher ratio; the availability of funds and posts to employ new teachers; and the challenge of excess teachers in certain schools, occupying posts and locking up salaries.

3.4.4 Policy on, and approaches to, identifying scarce skills

Rasool (DHET 2014b: 8) defines scarce skills as

> ... **occupations** in which there is a scarcity of qualified and experienced people, currently or anticipated in the future, either (a) because such skilled people are not available or (b) they are available but do not meet employment criteria [emphasis in original].

Rasool makes a distinction between absolute scarcity, which denotes unavailability of skilled people, and relative scarcity, when skilled people are available but do not meet specific employment criteria. Absolute scarcity manifests either because of a new or emerging occupation, which is not catered for in current education and training and would still need to be catered for through the development of new qualifications; or replacement demand, where there is no one, or there are an inadequate number of people, enrolled to acquire the required skills. With relative scarcity, the available skilled people may be unwilling to work in areas outside urban areas, resulting in shortages of skills in rural areas. Alternatively, the available skilled people may not meet criteria for equity. Industry research and research from Sector Education and Training Authorities (SETAs) has focused on identifying scarce and critical skills in various economic sectors. The DHET's draft list of top 100 occupations in high demand in the country is drawn from all the available research and identifies the following three schooling occupations (DHET, 2014b):

- Foundation Phase School Teacher
- Natural Science Teacher (Grade 10-12)
- Mathematics Teacher (at primary school level)

Data on teachers graduating from the 13 universities offering Foundation Phase teacher training in 2009 corroborates the shortage of Foundation Phase teachers, pointing towards absolute scarcity in Foundation Phase teachers who speak an African language.

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[49] *Note: Source document does not explain what asterisks are for*

Table 10: Foundation Phase graduates in 2009 by mother tongue

Higher Education Institution	African mother tongue speakers	Afrikaans mother tongue speakers	English mother tongue speakers	Total
Cape Peninsula University of Technology (CPUT)	7	91	83	181
Nelson Mandela Metropolitan University	2	15	16	33
North West University	0	143	34	177
Rhodes University	1	0	11	12
University of Fort Hare	1	0	11	12
University of Free State	0	63	9	72
University of KwaZulu Natal	34	3	89	126
University of Pretoria	2	92	41	135
University of Stellenbosch	0	35	18	53
University of Venda	19	0	0	19
University of Witwatersrand	2	9	33	44
University of Zululand	87	0	0	87
Total (excl UNISA)	**155**	**451**	**345**	**951**
University of South Africa[50]	13	107	204	324
Total (incl UNISA)	**168**	**558**	**549**	**1275**

Source: DHET, 2010a[51], The Supply and Development of Teachers by Public Higher Education Institutions in South Africa

As the table shows, of the 1 275 teachers graduating with a Foundation Phase qualification in 2009, only 168 (13%) were African mother tongue speakers. Critically, in the Eastern Cape there were only Foundation Phase graduates whose mother tongue is an African language, and the Free State there were none (DBE & DHET, 2011). Yet African mother tongue teachers are badly needed: to promote mother tongue instruction at Foundation Phase level; to teach an African language as a school subject; and to use an African language as a language of learning and teaching to teach other subjects, particularly since the introduction of the Incremental Introduction of African Languages policy (DBE, 2013c[52]).

By 2012, graduation of Foundation Phase teachers had significantly increased, with 3 258 graduates from the B.Ed., PGCE, and NPDE qualifications graduating as Foundation Phase teachers (DHET, 2013)[53]. However, what is of concern is that although there has been growth in the number of graduates in the Foundation Phase, in line with the growth of overall graduations in teacher education, the share of Foundation Phase graduates out of the total has declined from 21.5% in 2008 to 16.7% in 2012. The average percentage share of Foundation Phase teacher graduates from 2008 to 2012 was 17.6%, which is inadequate to sustain an enrolment share of 32.3% of Foundation

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[50]UNISA figures in the table are an estimate based on 2008 Foundation Phase graduates. Estimation was derived by applying linear regression analysis to the number of graduates in 2005 – 2008. Language profile is based on that for 2008 graduates

[51] Department of Higher Education and Training. 2010a. The Supply and Development of Teachers by Public Higher Education Institutions in South Africa. Pretoria: DHET.

[52] Department of Basic Education. 2013c. The Incremental Introduction of African languages in South African schools: draft policy. Pretoria: DBE.

[53] Department of Higher Education and Training. 2013. Trends in teacher education 2012: Teacher education enrolment and graduation patterns at public universities in South Africa. Pretoria: DHET.

Phase learners in the public schooling system in 2012 (for a more comprehensive discussion see Green, Adendorff and Mathebula, 2014[54]).

Although the general agreement is that there is a relative shortage of teachers qualified and competent enough to teach effectively in all subjects across the curriculum, specific subjects or learning areas have absolute scarcity: primarily mathematics, the sciences, technology, languages, arts, culture, and economic and management sciences. There is absolute scarcity in specific phases, especially in languages (African languages in particular, as well as sign language and Braille), in Special Needs schools, in Early Childhood Development (ECD), and in rural and remote schools. The national curriculum statement's rearranging of schooling into phases disrupted the distinction between primary and secondary school teacher training used by teacher education providers, and created problems of supply as there was no training organised according to the Senior Phase, which straddles primary (Grade 7) and secondary school (Grades 8 &9) (CHE, 2010[55]).

3.4.5 Supply of teachers through initial teacher training

Teacher attrition causes concern about the need to have an adequate supply of teachers, and the Centre for Enterprise Development's analysis of supply and demand (CDE, 2015) provides the most recent analysis of this. The report highlights key limitations that plague any efforts at projecting teacher supply in the country:

- There are no cohort studies of student progress to enable full projection of "*intake into, enrolments in and graduations from, initial teacher education*" (CDE, 2015: 11)*.
- There are no records of people who qualify but never practice as teachers. Records of people who qualify after they have commenced employment as teachers are only as good as the completeness of their professional records. If professional records are not updated to reflect that the teachers are now qualified then this information will not be available.
- There is no information on teacher utilisation (that is, what grade or learning area the current teachers are teaching), and this limits the ability to compare the number of teachers teaching subjects or in learning areas with the number of teachers required for each subject or learning area, based on enrolment patterns. In this regard it is not possible to determine shortages of teachers by subject or learning area. Data on teacher utilisation is available only in the DHET's 2009 *Trends in Teacher Education*. The availability of data for this year enabled CDE to compare teachers who qualified by phase and subject or learning area in that year with the pattern of demand.
- There are no meticulous, accurate and complete databases. CDE's analysis revealed that the Annual Schools Survey (ASS) teacher records are incomplete, and that at least 6% of the existing records contain inaccurate information. The Personnel Salary System (PERSAL) is also incomplete. The knowledge management limitations compromise the validity of any supply projections.

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[54] Green, W. & Adendorff, M. 2014b. *Teacher supply & demand in Gauteng up to 2020 using a multivariate model: preliminary finding*s. Presentation Slides.
[55] Council on Higher Education. 2010. *Report on the national review of academic and professional programmes in education.* Pretoria: CHE.

Teacher supply is influenced by many factors including the number of matriculants who take up teacher training as a post school study option, the number of teachers who qualify, in specific subject areas, annually, compared to number of teachers who exit the system annually, the number of teachers who are trained to meet the demand for teachers in specific subject areas annually, foreign teachers, and teachers who re-join the force after exiting for a while.

Supply of teachers, particularly through ITE, enables a determination of the degree to which the country is producing an adequate number of teachers, in the required areas, following enrolment trends. It is widely accepted that it is difficult to attract young people into the teaching profession because of perceptions of low salaries, reports of ill-discipline in schools, and the fact that there are other opportunities that are more attractive than teaching to high achieving young people (Paterson and Arends, 2009). The Education Human Resource Planning Report 2012/2013 (DBE, 2014b) stresses that relatively stable enrolment figures have led to steady demand for teachers. The report highlights that a positive trend in teacher demographics is that there has been an increase in the number of teachers who meet the minimum required qualifications for qualified teachers, and a reduction in the number of under qualified teachers who meet minimum entry level qualifications for teaching. The report proposes that replacement demand remains the key driver of teacher demand because of the estimated 13 300 who are lost to the system annually. The challenge is not merely to produce teachers to meet the replacement demand quantitatively, but also to match the gaps within the requisite learning areas and grades of the teachers who are leaving the system, and to match gaps across school types and school locations.

The increase in uptake of teacher education is encouraging. According to the DHET (2014c), there was a 167% increase in headcount enrolments for ITE between 2008 and 2012. This upward trend is expected to continue as highlighted in Figure 4.

Figure 4: Actual and estimated trends in headcount enrolments in ITE, 2008 - 2019

Year	h/c
2008	35275
2009	45474
2010	59434
2011	79435
2012	94237
2013	97000
2014	99097
2015	106286
2016	115034
2017	123442
2018	129598
2019	135771

167% increase in h/c enrolments between 2008 and 2012

ACTUAL
ESTIMATE
ENROLMENT PLAN PROJECTIONS
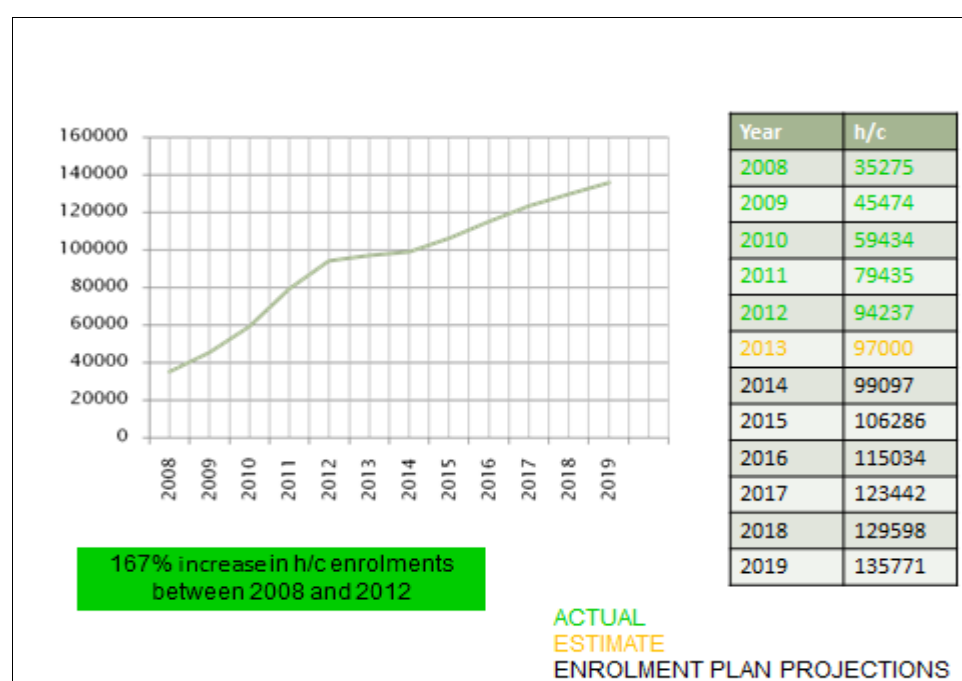
Source: DHET, 2014c[56], Briefing at joint sitting of the BE & HET PC

In the same period, there has been an increase in graduates which is also expected to continue as reflected in Figure 5.

Figure 5: Actual and estimated trends in graduations in ITE, 2008 - 2019
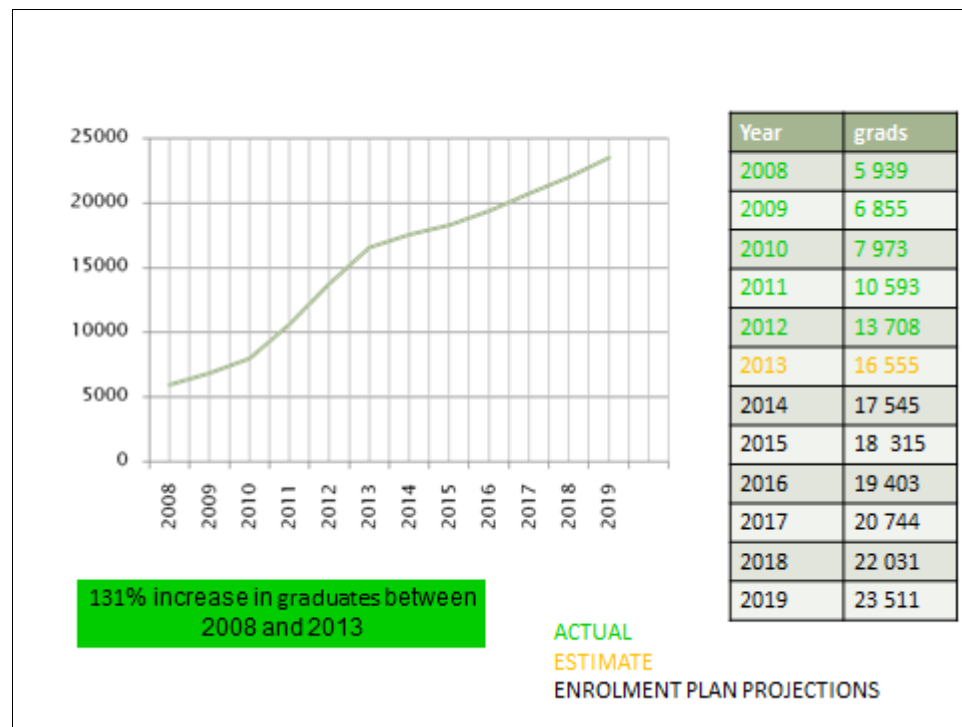
Source: DHET, 2014c, Briefing at joint sitting of the BE & HET PC

Based on these enrolment and graduation trends, the DHET predicts that by 2020, there will be an appropriate size for ITE, which will lead to the production of enough teachers, thereby reducing absolute shortage. However, it is likely that there will still be relative and localised shortages. Even with these projections of an adequate system, questions around quality still need to be raised. To reduce relative and localised shortages, the focus should be directed to the shape of ITE: proportioning phases adequately, addressing subject specialisation mismatch, and addressing the training of specialised teachers (DHET, 2014c).

3.5 Policy implementation relating to education human resource planning

3.5.1 Teacher recruitment

There seem to be two ways in which teacher recruitment takes place at national and provincial levels. School principals can source teachers using the DBE's Qualified Educators Recruitment Database, which has details of qualified unemployed teachers. This database can help in filling vacant posts quickly via the DBE website. Alternatively, posts can be advertised by provincial departments of education on their notice boards and websites.

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[56] *Department of Higher Education and Training. 2014c. Briefing on Initial Teacher Education Joint sitting of the BE & HET PC, 4 November 2014. Pretoria: DHET.*

Demand for teachers, especially in scarce skills, has been met by recruiting foreign teachers to teach mathematics, science and technology. From 2008 to 2011, 5 455 such teachers were employed nationally, as evidenced in Table 11 (DBE, 2013b).

Table 11: Foreign mathematics, science and technology teachers, 2008 – 2011

Province	Number of Foreign Educators				
	As at Dec 2008	As at Sept 2009	As at Feb 2010	As at Jun 2011	As at Sept 2012
Eastern Cape	802	1065	1138	975	495
Free State	28	37	39	32	47
Gauteng	638	1194	1183	1286	1293
KwaZulu-Natal	391	529	495	709	894
Limpopo	347	743	618	934	972
Mpumalanga	295	629	382	567	741
North West	279	311	321	458	507
Northern Cape	45	65	63	77	76
Western Cape	32	188	529	133	127
Total	**2857**	**4761**	**4768**	**5455**	**5152**

Source: DBE, 2013b, Portfolio Committee Briefing on vacancies; DBE, 2014b, Human Resources Planning Report

The Western Cape, Eastern Cape, KwaZulu Natal, Limpopo, Gauteng, the North West, and Mpumalanga had the highest demand for foreign teachers in 2012. Although they fill a most needed gap, it is important for supply and demand planning that foreign teachers be regarded as more transient than South African teachers in that, if they are here on the basis of conditions in their countries, they might go back if those conditions change. There needs to be succession planning to cater for the possibility of their exiting the country, as well as for expiration of permits and contracts for these teachers.

3.5.2 Teacher post provisioning

The guidelines for post provisioning are specified in the 1998 National Norms and Standards for School Funding (NNSSF) which specifies that there should be an 80:20 expenditure ratio for personnel to non-personnel costs. Further, the Norms specify a ratio of 85:15 in relation to teachers and support staff. Research commissioned by the DBE (Deloitte, 2013[57], quoted in NEEDU, 2013[58]) showed deviations to these norms in most provinces from 2011 to 2013. The highest deviation was 93:07.

The Employment of Educators Act 5(1) (b) specifies that the Member of the Executive Committee (MEC) of a PED must determine the provincial department's teacher post establishment, which must then be distributed by the provincial Head of Department to schools (Employment of Educators Act 5(2) (b)) by 30 September of the previous year (Government Notice 1451 of 2002). In order for this process to take place so that schools receive their post establishment for the following year by 30 September, planning at provincial level must start in January of the same year. Deloitte (2013) reports that most provinces are using the Annual School Survey as well as provincial surveys and data from the School Administration and Management System (SASAMS), specifically for post provisioning. The Western Cape also uses their own centralised Education Management Information

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[57] *Deloitte. 2013. National implementation of post provisioning: National report. Pretoria: DBE.*
[58] *National Education Evaluation and Development Unit. 2012. National Report: Summary. Pretoria: NEEDU.*

System (EMIS). While data is generally managed by the EMIS unit, in some provinces the Human Resource (HR) units collect the data. The process involves consultation with unions and recognised school governing bodies in meetings scheduled and co-ordinated by the provincial Labour Relations Directorate, and generally concluded during two consultation processes with the MEC and the Head of Department. Establishment of posts is based on an Affordable Post Establishment model (Deloitte, 2013).

DBE has developed a stand-alone Microsoft Access^{TM} database that is used by most provinces to determine the school establishments. Provinces import a set of data tables into the software and variables are adjusted in line with national policy and provincial specific needs. Some provinces use this same software to determine teachers required for learners with special educational needs, while others use software they have developed themselves. Inserting the number of agreed posts into the software establishes the number of posts per school. When school establishments have been determined and schools have been informed, a list of excess teachers is established. This list is loaded onto PERSAL to enable provinces to get a clear view of the scope of teachers in excess. Poor management of teachers in excess creates a huge financial burden on the province, so excess teachers have to be matched and placed, although there seems to be a stigma attached to being labelled "excess" felt both by the teachers and those receiving them. In planning for unforeseen eventualities, especially in the upsurge of learner numbers at the beginning of the year, provincial departments set aside additional posts, separate from post provisioning, which schools can apply for at the beginning of the year if there is a need. While provinces may have different nuances on how they manage post provisioning (see Section 10.8 for some provincial examples), the process described above is the general way in which post provisioning is managed (Deloitte, 2013).

The National Education Evaluation and Development Unit (NEEDU) stresses that although the balance between personnel and non-personnel expenditure is skewed unfavourably against non-personnel elements, which are also integral for effective teaching, establishing posts is a very complex process influenced by many factors:

- Urbanisation and the geographical spread of schools. For example, the Eastern Cape has a large spread of rural schools serving small numbers of learners, and so the learner to school ratio is very low, while Gauteng is highly urbanised and the population density causes it to have the highest learner school ratio. Post provisioning becomes a challenge within and between provinces when rural areas become depopulated through urban migration, and this migration does not necessarily occur at the end of the year or during planning periods. While the normal trend would be for teachers to be moved to schools gaining learners, what seems to be the case currently is that new teachers are appointed to temporary posts at the schools where learners are moving to, and the teachers in schools where learners are moving from are retained. This is mainly because provincial departments are under pressure from teachers who resist redeployment and from teacher unions. The resultant scenario is huge teacher excesses.

- Wage increases, set at a national level, place a cumulative stress on the expenditure of PEDs, making it difficult to maintain the 80:20 ratio. PEDs have to pay the agreed national wages from their budgets before allocating financial resources to non-personnel expenditure.

The Deloitte study on post-provisioning elaborated on these challenges and indicated that:

- Reliable post provisioning, as should be achieved by September of each year, would depend on availability of accurate information on the distribution of teachers and support staff within each province, the salary profiles of personnel, and learner movement. Such information could be captured on the SASAMS network aimed at connecting schools to districts, provinces and the national office. However, this management information system is not ready yet and until it is and is used efficiently, there will be delays in the availability of this crucial planning data.

- Data management capabilities in provinces vary. While in some provinces they have capable human resources and have their data ready by June of the previous year, in others, there is limited EMIS capability, where old data is used because of inability to stick to the recommended timeframes.

- There are at least four different versions of the post distribution policy, and this leads to confusion in terms of implementation. Further, the gazetted post provision norms policy is not clear on the differentiation on post provisioning for learners with special educational needs and ordinary schools (Deloitte, 2013).

3.5.3 Teacher retention

There are many factors that can contribute to the retention of teachers, especially new teachers. These include a supportive school leadership that motivates staff, professional development opportunities that can sustain a teachers' interest in the profession, mentoring of new teachers, a community of practice where teachers nurture each other and have a reservoir of resources they can tap into to improve their teaching, availability of adequate teaching and learning resources, and a reasonable teacher to learner ratio. However, at policy level, the DBE (2012) has focused on teacher retention in rural areas as it is difficult to retain teachers there.

The DBE highlights that recruiting teachers for rural schools is one of the biggest challenges facing the PEDs. Schools in rural areas are characterised by a critical shortage of qualified teachers, particularly in physical science and mathematics. Morale is low because of poor conditions of service and the dire teaching environment in many schools. The South African Council for Educators (SACE) report (2011) highlights that internal migration of teachers in South Africa, particularly from rural areas to urban cities, is temporary – migrants return to their rural homes eventually. It appears then that better living conditions are being sought through internal migration, and incentives could be a way to encourage teachers to take up and retain their positions there.

In 2008, the policy on incentives was signed by the minister after a lengthy negotiation process. The policy makes provision for incentivising posts in 'remote' schools and 'other' schools. Remoteness of schools is determined by the distance from the "nearest town that provides reasonable facilities, services, and amenities" and prioritisation for incentives is based on a particular order - of "remoteness of the school, poverty ranking, no-fee school, and combinations of other factors that

are impacting negatively on the recruitment of teachers" (DBE, 2014g[59]). Other schools are classified into three categories:

- posts in schools experiencing chronic shortages of teachers in certain subjects or learning areas identified by PEDs
- schools where it is hard to teach
- where a school principal or governing body has requested that some post (s) in the school be eligible for an incentive (DBE, 2014g).

The policy therefore prioritises geography for incentivisation: remoteness, and scarcity/priority areas. While the criterion of priority areas may be clear conceptually, it may be difficult to determine what 'remote' is, and what 'hard to teach' is, and according to whose perception the school may be considered remote or hard to teach. The request for incentivisation of posts by the principal or the governing body would also present conceptual difficulties. A review of the implementation of the policy highlights that, unlike the incentivisation in the Department of Health, for example, where the context (rurality) was incentivised, with the education incentives the post is incentivised, and the criteria used for incentivising are not very concrete. The review also stresses that at a practical level, the fairness of determining priority areas may be questioned in a system which does not have up to date and reliable planning data on supply and demand. Further, the incentivisation of some posts and not others could affect collegiality within a school (DBE, 2014g).

Although provinces were visited and workshopped on policy implementation by DBE in April and May 2008, implementation was delayed. However, by 2013, most PEDs, except Mpumalanga and Gauteng, were implementing the policy. The conceptual and practical challenges highlighted above were exposed in the evaluation of implementation of the policy, for example, where remoteness was interpreted differently by provinces, with distances from nearest town or amenities being interpreted as just over 20km at some schools and up to 112km at others, and one province using the criterion: schools on gravel roads in excess of 5km from the nearest town that offers amenities and basic services (DBE, 2014g).

3.5.4 Teacher demand and supply challenges

South Africa experiences several challenges with respect to managing teacher supply and demand. At a systemic level, the DBE has identified inherent challenges in planning for teacher supply (DBE, 2012a), including a lack of human resource planning processes and a lack of management of human resource information. Critical information for planning for teacher supply and demand is not is not timeously available to be used for planning at district, provincial and national level. This includes information about subject specialisation, levels of qualification of teachers within the system, teachers leaving the system, and learners exiting the system. Delays in the release of this data, and the lack of conversion of the data into meaningful reports that can be used for planning, also affects post provisioning processes.

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[59] Department of Basic Education. 2014. *Review of the implementation of the teacher incentives policy*. Discussion document produced by the DBE for internal comment.

Other factors leading to a bloated and ineffective system include: teacher resistance to moving to different schools when learner numbers decrease; urban migration; and the appointment of teachers to accommodate ballooning numbers of students due to migration. In addition, the data on PERSAL has some challenges (DBE, 2009)[60]. It often takes some years before the REQV of teachers is entered into the payroll system, so it becomes difficult to determine teacher qualifications when analysing teacher supply data. The delay in loading teacher qualifications came about as a consequence of delinking teacher salaries from higher qualifications (CHEC, 2009). Further, the DBE report shows that there is a link between delays in becoming permanent and early leaving. There are substantial delays before qualified teachers become permanent. For example, of those who joined in 2005, 30% were still not permanent in 2008. An analysis of the provincial figures in this regard suggests that the faster a province is at making teachers permanent, the lower the percentage of teachers who leave (DBE, 2009).

To improve planning on the supply and demand of teachers, the DBE has instituted a Human Resource Planning Framework to identify key challenges, strategic goals and objectives, and priority areas of intervention, on all aspects of teacher resources. This process will enable medium to long-term forecasting of demand and supply of teachers. When it is ready, and if it works as anticipated, the SASAMS will be able to provide data from schools timeously to improve evidence based decision making (DBE, 2012a).

To contribute more accurate projections or predictions of teacher supply and demand, DHET is exploring a multivariate model which has capabilities to:

- Analyse multiple independent variables on demand and supply, for example population expansion, curriculum expansion, quality enhancement, and hidden demand;
- Disaggregate supply and demand data by factors such as province, subject specialisation, language of learning; and
- Compute current and future supply, including all teachers who are seeking employment.

The model is presented in Figure 6.

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[60] *Department of Basic Education. 2009. Teacher supply patterns in the payroll data. Pretoria: DBE.*

Figure 6: Multivariate model for projecting/predicting teacher supply and demand
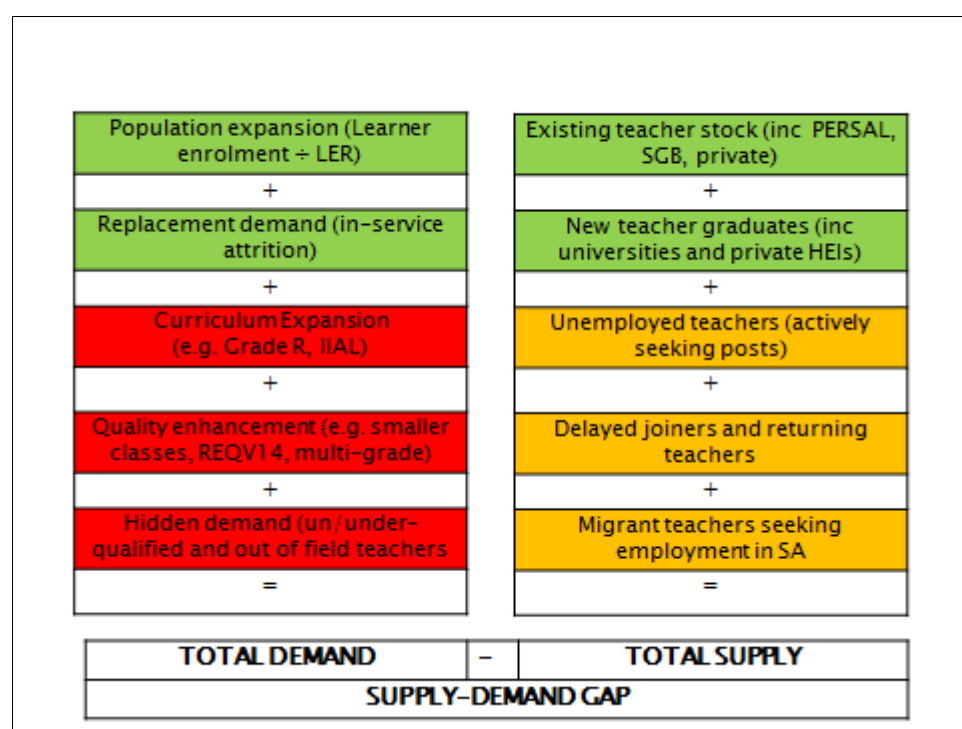
Source: DHET, 2014c, Briefing at joint sitting of the BE & HET PC

The model will be populated with data from EMIS, HEMIS, PERSAL, research studies, Stats SA, and labour force surveys, among others (Green & Adendorff, 2014). This model seems to be capable of generating more robust, rigorous and credible data on teacher supply and demand. This will provide adequate information for planning to ensure an adequate supply of teachers teaching in the appropriate areas of specialisation in the future.

3.5.5 Teacher quality issues

Teacher quality is an embedded aspect of supply and demand planning. In its review of teacher education programmes, the Higher Education Quality Committee (HEQC) of the CHE noted that a student's undergraduate academic majors in relevant subjects are no guarantee of sufficient disciplinary knowledge as a basis for building pedagogical content knowledge (CHE, 2010). Several studies have highlighted a lack of subject and pedagogical knowledge and skills amongst South African teachers (DOE, 2007; Morrow, 2007[61]; Taylor & Taylor, 2012[62]; Taylor, van der Berg and Mabogoane, 2013[63]). It has also been suggested that ITE programmes such as the Bachelor of Education (B.Ed) degree and the Postgraduate Certificate in Education (PGCE), as well as continuing professional development qualifications such as the National Professional Diploma in Education (NPDE) and the Advanced Certificate in Education (ACE), and professional development short

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[61] *Morrow, W. 2007. Learning to Teach in South Africa. Cape Town: HSRC Press.*
[62] *Taylor, N. and Taylor, S. 2012. Teacher Knowledge and Professional Habitus. In Taylor, N., van der Berg, S., & Mabogoane, T. (2013). Creating Effective Schools: Report of the National School Effectiveness Study. Cape Town: Pearson.*
[63] *Taylor, N, S van der Berg and T Mabogoane. 2013. (Eds.). Creating Effective Schools. Cape Town: Pearson.*

courses, do not provide either the disciplinary knowledge or the necessary pedagogical subject knowledge that teachers need and government standards expect (ELRC, 2009[64]).

Ensor (2001[65]) and Parker and Deacon (2004[66]) highlight the importance to student teachers of having a mentor to demonstrate best practices in teaching in school classrooms. Current practice at tertiary institutions is to describe and theorise good teaching practice, but seldom to model it. Ensor (2001) emphasises the importance of modelling best practice in the classroom, either by teacher educators or by co-operating teachers, to assist student teachers in acquiring "habits of mind". This evidence therefore points to the need for a greater emphasis on teaching subject content knowledge to student-teachers in the context of, and together with, actual teaching and learning practices in school classrooms. These methods expose student teachers to the realities of resource-poor large classes and to the importance of executing carefully planned and developed curricula that can contribute to boosting teacher confidence (Akyeampong et al., 2011[67]).

3.5.6 Financing teacher education study

The National Student Financial Aid Scheme (NSFAS), set up by an Act of Parliament in 1999 to provide funding to the poorest students in the system, is one of the far reaching vehicles instituted by government to increase access to higher education. In the first decade of operation, the NSFAS funded 659 000 students in South African universities, distributing more than R12bn in financial aid (DHET, 2010a). However, the share of NSFAS funding going to education students has remained very small, after taking a dip of about 8 percentage points, from 11% in 1996 to 3.3% in 2001. Although government had increased NSFAS funding allocations to over a billion rand in 2004, only 5.8% of students studying teacher education were funded through NSFAS. NSFAS allocations were strained because tuition fees were increasing at a higher rate than government allocations to NSFAS (HESA, 2008)[68]. Of the funded students, more students training towards secondary school were funded compared to those studying towards primary education. There are suggestions that student enrolment in teacher education during the said period declined, suggesting a strong association between limited funding and access to teacher education (Patterson and Arends, 2009[69]).

Other sources of funding for ITE have also been made available, the largest source being from PEDs. In 2012, PEDs invested R130 720 192.57 to fund 2 673 students towards their ITE qualification. Figure 7 presents bursary allocations per province, highlighting that Limpopo gave the largest number of bursaries.

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[64] *Education Labour Relations Council. 2009. Resource Documents: Teacher Development. Pretoria: ELRC.*
[65] *Ensor, P. 2001. From Pre-service Mathematics Teacher Education to Beginning Teaching: A Study in Recontextualizing, Journal for Research in Mathematics Education, 32, 3: 296-320.*
[66] *Parker, B. and Deacon, R. 2004. Theory and Practice: South African Teacher Educators on Teacher Education. Johannesburg: Centre for Education Policy Development.*
[67] *Akyeampong, K., Pryor, J., Westbrook, J. and Lussier, K. 2011. Teacher Preparation and Continuing Professional Development in Africa: Learning to Teach Early Reading and Mathematics. Brighton: University of Sussex Centre for International Education.*
[68] *Higher Education South Africa. 2008. Tuition fees: Higher Education Institutions in South Africa. Pretoria: HESA.*
[69] *Patterson, A., & Arends, F. 2009. Teacher graduate production in South Africa. Teacher Education in South Africa Series. Cape Town: HSRC Press.*

Figure 7: Provincial bursary allocation for ITE in 2012
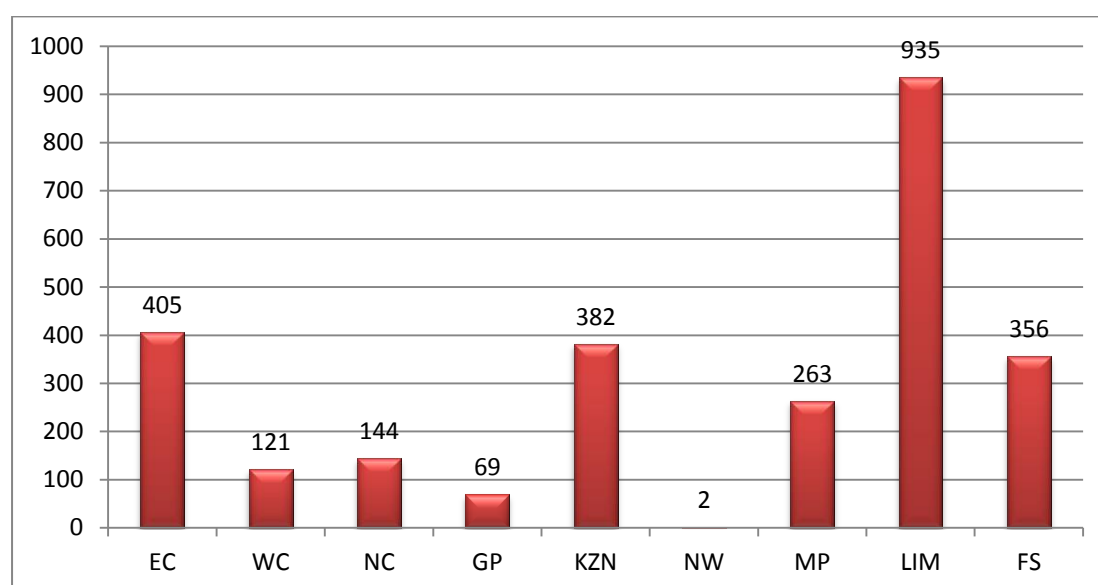
Source: DBE, 2012b[70], Funza Lushaka Report 2012

In addition to provincial bursaries, there is also funding from various sources outlined in Table 12. Most of the funding is directed at students studying for the B.Ed. qualification.

Table 12: Other sources of funding in 2012

Source of Funding	HEI	Allocation of bursaries for ITE	Number of B.Ed. students	Number of PGCE Students	Total allocation (R)	Students funded
Central University of Technology (CUT) - FS	UFS	93 000	3	0	93 000	**3**
ETDP -SETA	NWU	1 463 780	78	0	2 263 780	**114**
	UFH	220 000	11	0		
	UKZN	580 000	25	0		
Victor Daitz	UKZN	37 500	3	0	37 500	**3**
Private Trust	WITS	75 00	3	0	75 000	**3**
Cecil Renaud	UKZN	62 500	4	0	62 500	**4**
Emma Smith	UKZN	192 500	16	0	192 500	**16**
NG Kerk van die OVS	UFS	43 860	12	0	43 860	**12**
UFS Sport bursary	UFS	38 790	6	0	38 790	**6**
Rapport Education	UFS	59 290	5	0	389 290	**27**
	UP	330 000	22	0		
UFS Rector Bursary	UFS	65 000	4	0	65 000	**4**
NATSKILLS	UNIVEN	5 001 130	102	2	5 001 130	**104**
SA Reserve Bank	UP	141 250	10	0	141 250	**10**
ESCOM	UP	82 800	1	0	82 800	**1**
SOLIDARITEIT	UP	105 000	10	0	105 000	**10**

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[70] *Department of Basic Education. 2012b. Report on Funza Lushaka bursary programme in 2012. Pretoria: DBE.*

Source of Funding	HEI	Allocation of bursaries for ITE	Number of B.Ed. students	Number of PGCE Students	Total allocation (R)	Students funded
CETA Mpumalanga	UP	440 000	14	0	440 000	**14**
					9 031 400	**331**

Source: DBE, 2012b, Funza Lushaka Report 2012

The national student protests of 2015, diverse groups of activists united under the banner #feesmustfall, have put the financing of university education firmly on the national agenda. It is widely acknowledged that higher education has become unaffordable for many. A Judicial Commission is currently investigating the feasibility of "fee-free" higher education, and there are a number of related initiatives looking at how to make higher education more affordable for all.[71]

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[71] *At the time when the evaluation was conducted the feesmustfall movement was not active and it was therefore not included in the literature review or considered in carrying out the evaluation. At the time of finalising the report however, the context has changed and it is necessary to bring in some consideration of the changed political environment. #feesmustfall has had a significant effect on the national higher education environment and has received international exposure, as an internet search will show - see e.g. https://en.wikipedia.org/wiki/FeesMustFall .*

Evaluation Approach and Methodology

4.1 Evaluation approach and design

The foundation of JET's evaluation approach was a utilisation focused evaluation. Utilisation focused evaluation is thought to have been appropriate to this context. JET used this theory to guide methodology decisions, as this participatory, flexible approach incorporates stakeholders' values. This approach can contribute to improved and strengthened programme capacities leading to increased sustainability, and provide solid, empirical data on which to base conclusions and recommendations.

The following methods were used to conduct the evaluation:

- Desktop review of FLBP, DBE and related documents on the Programme design and implementation
- Programme theory and logframe consultation, workshop and development
- A literature review of the South African ITE context
- A desktop-based review and benchmarking of comparative bursary programmes
- Stakeholder interviews with key individuals as identified, covering all FLBP stakeholders
- A telephonic survey with a representative sample of students who received bursaries during the period 2007 to 2012
- Focus groups with selected bursary recipients
- Quantitative data analysis to find patterns in performance (HEMIS, NSFAS, FLBP, PERSAL and other data)

JET developed the final evaluation design and conceptual framework through the inception process and highlighted it in the inception report approved in June 2014. As the evaluation developed, the design was influenced by the programme theory and logframe development process (described below) and an evaluation matrix (described below) was developed to assist the instrument design process, and to inform the report-writing process.

The Steering Committee approved the final evaluation design, including the methods proposed for evaluating the individual focus areas of the evaluation.

4.2 Conceptual framework for the evaluation

The conceptual framework outlined here evolved during the inception phase of the evaluation. Four out of the five DAC evaluation criteria were believed to provide a strong overarching framework to guide the evaluation conceptually, and in particular to provide a structural framework for the multiple evaluation questions. The framework was then used to guide the development of the evaluation questions. The first step in the process of developing the survey and interview instruments for the FLBP began with the development of an 'evaluation matrix'. The terms of reference for the study specified 23 evaluation areas and 55 evaluation questions which needed to be answered. The matrix combined those areas and questions with a conceptual framework. The

conceptual framework is informed by the OECD and DAC guidelines and criteria for evaluating development programmes. The five DAC evaluation criteria are based on the notion that evaluation is an assessment "to determine the relevance and fulfilment (appropriateness) of objectives, developmental efficiency, effectiveness, impact and sustainability" of efforts supported by aid agencies (OECD, 1992, p. 132). The DAC criteria provide the framework within which the evaluation areas and questions (as seen in Table 13 below) could be analysed and understood.

Table 13: Conceptual framework applied to the evaluation areas and questions

DAC Criteria	Evaluation Questions
Relevance & Appropriateness	Is the **design** of the FLBP appropriate? To what extent is the intervention design consistent with education sector priorities, policies and partnerships with key stakeholders?
Effectiveness	What are the measurable results of the FLBP? To what extent has the FLBP been **effective** in achieving its major goals, objectives and intended outcomes?
Efficiency	To what extent has the FLBP been **efficient** in its implementation, with specific reference to administration and management arrangements?
Sustainability	How **sustainable** is the FLBP? What key insights, lessons and recommendations are offered, with a view on the possible scaling up of the FLBP?

4.3 Evaluation questions and principal methods

The four overarching key evaluation questions set out in the introduction were broken down into 55 evaluation questions in 23 broad areas of focus. The questions guided the development of a specific methodology for the evaluation. Many evaluation questions require triangulation of data from several different sources. The following table sets out the evaluation questions for the study, as agreed in the inception report, and details the evaluation methods that were used to address the questions.

Table 14: Evaluation questions and methods used

Evaluation Area	Evaluation Question	Evaluation Methods Used
To what extent is the design of the Programme relevant, appropriate, and technically sound?		
Programme Design	1. Is the Programme design relevant and appropriate in terms of national priorities, education sector context and policy, and institutional environment? 2. Is the design of the Programme conceptually clear, and coherent? 3. Does the Programme have a logframe, and does it comply with standards for technical good practice? 4. What is the underlying theory of change of the Programme?	• Document review of existing documentation on the FLBP. • A literature review of the ITE context in South Africa • A desktop benchmarking exercise to compare with similar national bursaries. • Clarification of programme theory / logframe development for the FLBP via interviews with key programme staff involved at the commencement of the programme and a participatory stakeholder workshop to test assumptions, contribute to development process and explore the extent of stakeholder consensus on the programme theory / logframe.
Selection criteria and procedures	5. Is there a clear relationship between the Programme objectives and the selection criteria (priority areas)? 6. Is there any conflict between any of the objectives or selection criteria?	• Interviews with key stakeholders • Results of the student survey • Analysis of other relevant data
Monitoring	7. Is there an appropriate framework for collection of data towards assessment of the impact of the Programme? (where appropriate, the particular contributions of stakeholders of FLBP). 8. What is the current framework? 9. How could the current framework for collection of data be more appropriate?	• Desktop research into available documentation and reports on the FLBP • Analysis of the Higher Education Management Information System (HEMIS), PERSAL and FLBP data. • Interviews with Programme staff at the DBE and the State Information Technology Agency (SITA)
What are the measurable results of the FLBP, specifically with regards to supply, and placement of FLBP-sponsored teachers? To what extent has the FLBP been effective in achieving its major goals, objectives and intended outcomes? Have recruitment strategies been effective?		
Goals and Objectives	10. To what extent have the goals and objectives of the FLBP been achieved during the period 2007-2012 (Number of students recruited in priority areas, number funded in ITE programmes in priority areas; number of students completed within a satisfactory time frame; number of graduates placed in public schools generally and specifically in rural and poor schools; contribution of FLBP to the supply of qualified teachers in identified priority areas and phase specialisation in public schools and rural and poor schools particularly, as compared to total supply)?	• Desktop review of available documentation and data. • Interviews with managers of the Programme: to confirm whether their understanding of the goals and objectives is the same as in the documentation received. • Descriptive analysis: comparing the data sets against the targets and objectives. • Calculate throughput rates, and compare placement information. Determine historical trends relating to the supply of teachers to determine whether the bursary

Evaluation Area	Evaluation Question	Evaluation Methods Used
		programme has increased the general supply (looking at broader PERSAL data). • Survey of bursary recipients
Effects of Non-funding	11. How did applicants that did not qualify for re-award fare in terms of completing their studies? (completed by self-funding, picked up the bursary again and completed, changed to other programmes or dropped out)	• Survey with bursary recipients • Data analysis from PERSAL, HEMIS and FLBP data
Effects of non-placement	12. How did unplaced graduates fare in terms of finding employment? (public schools, SGB posts in public schools, private schools, other places in the education sectors or outside)	• Interviews with FLBP staff (provincial officials) at PEDs, the DHET and the DBE • Data analysis of HEMIS and PERSAL • Student survey
Stakeholders Perceptions	13. What are stakeholders' views on the Programme? 14. Do views vary for various stakeholders or beneficiaries?	• Interviews with all stakeholders involved in the FLBP (DBE, DHET, NSFAS, HEIs, PEDs) • Survey with bursary recipients • Focus groups with current FLBP recipients still studying.
Management, Coordination and Collaboration	15. How do stakeholders perceive their roles and responsibilities in managing the Programme efficiently? - DBE (overall management, administration, co-ordination and collaboration). - HEIs (selection, bursary funds, student support, specialisation in subject combinations that match priority areas; tracking academic progress). - NSFAS (approval for awards, student contracts, disburse funds to HEIs and report). - PEDs (placements, monitor non-placement, track employment record, sharing good practices, report). - DHET (their role in management of the FLBP? Implementation Protocol; design of ITE programmes; overall teacher supply to meet the demands for scarce skills; - collaborative structures, including the DBE, DHET and NSFAS Committee; Dean's Forum and the Provincial Teacher Education and Development Committees (PTEDCs) - Students - Newly-placed teachers	• Desktop research from FLBP documents. • Interviews with stakeholders (DBE, HEIs, NSFAS, PEDs, DHET). • Stakeholder workshop on programme theory / logframe • Analysis to understand to what extent stakeholders understand their roles. • Student Survey

Evaluation Area	Evaluation Question	Evaluation Methods Used
In relation to all of the core "business" processes of the programme, to what extent has the programme been efficient? Have the management and administrative arrangements underpinning programme implementation been appropriate?		
Management and Administration	16. What have been the primary management and administrative structures, mechanisms, processes, and procedures? 17. Were these appropriate to deliver an effective Programme? 18. To what extent did they function efficiently?	• Desktop review – to gain an understanding of the process map(s) that show how management and administration works • Confirm structures and processes through Theory of Change process • Interviews with HEIs, DBE and NSFAS to clarify the process map
Recruitment and Selection	19. What recruitment strategies are in place and how effective are they in reaching the target population (youth from rural and poor areas)? 20. District-based recruitment – Registration process in HEIs and issue of promissory letters; mechanisms in place to ensure that recruited students go back to teach in their districts. 21. What were the main outcomes of the recruitment strategy? 22. Was there alignment between the recruitment and selection processes?	• Initial interviews with DBE and desktop review of recruitment and selection process. • Confirmation of processes through programme theory/ logframe process • Interviews with HEIs, DBE FLBP team and PEDs • Survey to bursary recipients
Funding	23. What systems are in place to ensure that bursary funds are efficiently managed and utilised? 24. Additional question: how is funding allocated?	• Interviews with DBE and NSFAS • Survey with bursary recipients.
Stakeholders Involvement	25. To what extent did the various stakeholders contribute to the administration of bursary funds and achievement of Programme outcomes? (DBE allocate funds to HEIs and approve bursary award lists and send them to NSFAS; NSFAS sign agreements with students, disburse funds to HEI per DBE approved lists and Report; HEIs allocate funds to students and Report to DBE/NSFAS). 26. Were these processes effective? 27. Were the processes efficient?	• Desktop research • Interviews with HEIs (Heads of Schools of Education and the Financial Aid Office of every institution) • Interviews with NSFAS, DBE and PEDs: Student Survey • Focus groups with bursary recipients.
Funding Arrangements	28. To what extent were the funding arrangements sufficiently flexible and able to identify and deal with emerging challenges (convenience for students, managing declines by students, HEI claims on time, etc.) during Programme implementation?	• Interviews with DBE and NSFAS • Survey with bursary recipients: question in survey to graduates on turnaround of funding.
Beneficiaries	29. To what extent did beneficiaries (funded students) utilise funds efficiently towards attainment of outcomes)?	• Survey • Focus groups with students

Evaluation Area	Evaluation Question	Evaluation Methods Used
	30. What is the attitude of FLBP bursars with regard to receiving money to support their studies and serving in schools (funding; academic activities; specialisation in priority areas; conditions of schools; qualification subjects versus priority needs of the school; support at schools; completion of the obligatory service period and remaining in the teaching profession)?	• Investigating the "attitudes" of bursary recipients in relation to the requirements of the bursary to teach in public schools, and related issues of motivation of FLBP students to enter the teaching profession.
Training/Student's Profiles	31. Bursars in terms of numbers, bursary funds spent? 32. Throughput rate? 33. Dropout rate? 34. Student profile in the Programme? 35. Maintaining subject specialisation within defined priority areas? 36. Student support (academic, accommodation, etc.) and communication with students in HEIs?	• Interviews with HEIs, NSFAS and DBE. • Survey with bursary recipients • Analysis of the HEMIS database and analysis of survey data
Graduation	37. How effective is the process of completion of placement forms, compilation of a placement database by DBE and making it available to PEDs on time?	• Interviews with PEDs and HEIs • Focus groups with students at HEIs • Survey with bursary recipients
Placement	38. What placement processes are in place and how effective are they? Co-ordination by DBE; placement mechanisms in PEDs (match to vacant posts, application for a post; placement within specified time frame). 39. Is the placement period for graduates realistic?	• Interviews with DBE, PEDs, HEIs • Survey with bursary recipients • Data analysis of FLBP Programme data and PERSAL data
Accountability and Monitoring	40. What processes are in place for monitoring and how effective are they (tracking students during their study period in HEIs and graduates once placed)?	• Interviews with DBE, PEDs, HEIs. Process map from TOC / logframe process
Departmental processes and resources	41. To what extent does the DBE manage and co-ordinate processes and ensure adequate resources (human and physical)?	• Interviews with DBE officials and other stakeholders.
Cost effectiveness	42. Has the strategy been cost effective in terms of the amount spent and the outputs achieved? 43. Was there value for money in terms of the proportion of funds dedicated towards teacher supply in priority areas?	JET's understanding from design discussions is that the question here is about "value for money" and the success of the Programme investment in relation to its achieved outcomes. • Basic cost analysis • Interviews with HEIs, DBE, PEDs, NSFAS, and Treasury to determine perceived value.
Key Results	44. What are key results for the Programme based on available data? 45. What are the key observable trends? 46. What gaps exist in the data?	• Analysis will provide answers to these questions

Evaluation Area	Evaluation Question	Evaluation Methods Used
	47. If so, what recommendations are offered for data-related processes – collection, capturing, storage, access, strategic use, etc.?	
Changes	48. Do any changes need to be made to the objectives to strengthen the Programme in future? 49. What implications would they have for Programme design and change management?	• Analysis of findings from previous questions will provide inputs to respond to this. This relates to business process, measurable results and the design of the Programme.
How sustainable is the FLBP? What key insights, lessons, and recommendations are offered, with a view on the possible scaling up of the FLBP?		
Sustainability	50. What is the assessment of the FLBP in terms of Programme sustainability and financial sustainability? 51. To what extent are effective partnerships with stakeholders included in the assessment? 52. What is the process to assess sustainability? How sustainable is the FLBP? 53. What budget is available for the FLBP going forward? 54. Is the Programme supplying teachers in the areas required in the correct areas? 55. Are there partnerships to make this sustainable?	• Interviews with DBE and NSFAS and Treasury • Analysis of key data to inform recommendations.

4.4 Evaluation team and key roles

JET assembled a strong project team of core JET research and evaluation staff, with support from a small number of external consultants for this implementation evaluation. The team included individuals with considerable experience in research project management, education research, teacher education, monitoring and evaluation, quantitative and qualitative research, higher education and bursary programmes. The project team was supported by a small group of technical advisors with extensive monitoring and evaluation and education sector experience.

The core team primarily comprised expertise from JET's M&E team: Thandi Lewin, Benita Reddi, Eleanor Hazell, Hazel Mugo and JET's Research and Planning data team: Jennifer Shindler and Double-Hugh Marera. Additional team members were brought on board for various aspects of the project, including the qualitative research, coding, data analysis and report writing. Ask Afrika was subcontracted to manage the telephonic survey component of the project.

4.5 Reporting, programme management and role of the steering committee

This evaluation was supported by a robust steering committee comprising all FLBP stakeholders that met twice during the research planning stage. The evaluation management team met regularly in the first few months of the evaluation while planning was underway, and feedback meetings were scheduled after each deliverable. Steering committee members were also consulted via email on a number of decisions relating to research design and planning. Research instruments were shared with and signed off by the steering committee.

4.6 Programme theory development

4.6.1 Approach and methods

Various approaches can be taken to developing programme theory. The evaluation team believe in the value of a participatory approach, which draws on the institutional knowledge held by Programme stakeholders and can be an empowering experience which creates value for the Programme. A wide range of stakeholders are involved in different aspects of the FLBP and the approach taken by the evaluation team provided them with an opportunity to contribute to the programme theory which was ultimately developed. As well as providing a tool to guide evaluation, clarifying programme theory in a participatory manner with Programme staff and stakeholders has benefits in terms of: focusing participants on the goal and underlying purpose of a Programme; articulating a shared understanding of what the Programme is working towards and why; and identifying challenges, inconsistencies and misconceptions held about the Programme and initiating discussion on how to improve Programme design.

The steps which the evaluation team took to clarify programme theory for the FLBP, using a participatory approach[72], were:

- **Document and literature review.** Documentation relating to the FLBP was provided by the DBE and reviewed by the evaluation team. This provided the team with an understanding of the goal and objectives of the Programme and how it works. A literature review was undertaken as a core component of the evaluation. The literature review assisted with the development of programme theory insofar as it helped the evaluation team understand the needs and context which gave rise to the Programme, as well as policy developments since then. Initial understanding of the FLBP and the current perspectives of the Programme are also contained in the documentation provided. A review of other comparative bursary programmes shed light on how other local and international programmes work, thereby suggesting plausible theories of implementation and change.

- **Stakeholder interviews** – interviews were conducted with DBE staff and other key informants who were identified based on their in-depth understanding of the Programme and the role that they had played in Programme conceptualisation and design and the subsequent evolution of the FLBP.

After the above steps had taken place the evaluation team prepared a draft programme theory and logframe for the FLBP, which were shared with key Programme stakeholders at a participatory workshop:

- **Participatory workshop** – a workshop was facilitated with FLBP stakeholders, at which various components of the programme theory (e.g. theory of change, key business processes and the logframe) were discussed and further refined. The workshop aimed to tap into the specialist FLBP knowledge of stakeholders that attended in order to produce a more accurate description of the Programme and its theory of implementation and change, around which a certain degree of consensus had been built amongst the Programme stakeholders.

- **Refinements** – following the workshop, the evaluation team refined the programme theory and logframe, to incorporate relevant inputs which were made at the workshop and ensure that the final document complied with good practices and international standards.

4.6.2 Initial programme theory interviews

As outlined above, interviews were conducted with selected key informants who were identified on the basis of their knowledge, understanding and involvement in the conceptualisation, design and subsequent redesign of the FLBP. Six interviews were conducted between 22 July and 8 August 2014. The interviews were conducted face-to-face – where possible – undertaken by a senior researcher using a semi-structured interview guide (attached as Annexure C). The interviews gathered information about key informants' views regarding the need for the FLBP and context in which the

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[72] *National College for Teaching and Leadership. 2015. Initial teacher training (ITT) training bursary guide. Academic Year 2014 to 2015 (Version 1.4). London: NCTL.*

Programme was initiated, the goal, objectives and assumptions underpinning the Programme, changes to the Programme, lessons learnt from implementing the Programme, and current and future considerations for the design and proposed changes to the Programme.

4.6.3 Theory of change/logframe development stakeholder workshop

A workshop was held with FLBP stakeholders on 19 and 20 August 2014 to obtain inputs into the programme theory which had been drafted by the evaluation team. The purpose, structure and outcomes of the workshop are briefly summarised below. The full workshop report can be found in Annexure D.

A total of 74 individuals (including facilitators) participated in the workshop over the two-day period, representing the full range of stakeholders involved in the FLBP, including representatives of the DBE, the NSFAS, the PEDs, the DHET and universities. The workshop was jointly planned and facilitated by JET and the Department of Planning, Monitoring and Evaluation (DPME). The workshop consisted of seven sessions over a two day period. A summary of each session is provided in Annexure D.

Delegates attending the workshop were pleased with what was achieved, and that they were able to contribute their knowledge and debate different aspects of the FLBP. Feedback from the workshop evaluation forms reflect that participants thought the workshop well planned, educational for participants and constructive in its results.

4.7 Instrument development

The process of instrument development for the student survey and the qualitative interviews and focus groups involved four key steps over three months (July-September 2014).

The completion of the conceptual framework discussed above was an important first step prior to developing the evaluation instruments because it provided the starting point from which to explain the concepts behind each of evaluation areas and questions.

Table 15: Conceptual framework mapped onto evaluation questions and areas

Evaluation Area	Meta questions	Questions and Evaluation Criterion
Programme Design	1	1. Is the programme design relevant and appropriate in terms of national priorities, education sector context and policy, and institutional environment?
		2. Is the design of the programme conceptually clear, and coherent?
		3. Does the programme have a logframe, and does it comply with standards for technical good practice?
		4. What is the underlying Theory of Change (TOC) of the programme?
Selection Criteria	2	5. Is there a clear relationship between the Programme objectives and the selection criteria (priority areas)?
		6. Is there any conflict between any of the objectives or selection criteria?
Monitoring	3	7. Is there an appropriate framework for collection of data towards assessment of the impact of the Programme? (where appropriate, the particular contributions of stakeholders of FLBP).
		8. What is the current framework? (way thing are organised, who does what)
		9. How could the current framework for collection of data be more appropriate?
Goals and Objectives	4	10. To what extent have the goals and objectives of the FLBP been achieved during the period 2007-2012 (Number of students recruited in priority areas, number funded in ITE programmes in priority areas; Number of students completed within a satisfactory time frame; Number of graduates placed in public schools generally and specifically in rural and poor schools; Contribution of FLBP to the supply of qualified teachers in identified priority areas and phase specialization in public schools and rural and poor schools particularly, as compared to total supply)?
Effects of non-funding	5	11. How did applicants fare that did not qualify for re-award in terms of completing their studies? (completed by self-funding, picked up the bursary again and completed, changed to other programmes or dropped out)
Effects of non-placement		12. How did unplaced graduates fare in terms of finding employment? (public schools, SGB posts in public schools, private schools, other places in the education sectors or outside)

The matrix also gave guidance on how to formulate various instruments, how questions could be answered by various stakeholders and thereby obtain relevant and reliable information from the participants in their different designations. In the matrix, questions could be separated into priority questions for a stakeholder or an additional optional question. The figure below shows a sample of the matrix and how various instruments aimed to answer different questions. It must be noted that the expectation was not that the stakeholders interviewed would answer the evaluation questions directly, but that the evaluation team would process information from various sources in order to answer the specific evaluation questions.

Table 16: Evaluation matrix for evaluation instruments

Questions and Evaluation Criterion	Student survey	Student FG	PED (Recruitment)	PED (Placement)	HEI (Deans)
1. Is the programme design relevant and appropriate in terms of national priorities, education sector context and policy, and institutional environment?			P	P	P
2. Is the design of the programme conceptually clear, and coherent?			P	P	P
3. Does the programme have a logframe, and does it comply with standards for technical good practice?			A	A	A
4. What is the underlying Theory of Change (TOC) of the programme?			A	A	A
5. Is there a clear relationship between the Programme objectives and the selection criteria (priority areas)?			P	P	P
6. Is there any conflict between any of the objectives or selection criteria?			P	P	P
7. Is there an appropriate framework for collection of data towards assessment of the impact of the Programme? (where appropriate, the particular contributions of stakeholders of FLBP).			P	P	
8. What is the current framework? (way thing are organised, who does what)			P	P	
9. How could the current framework for collection of data be more appropriate?			P	P	
10. To what extent have the goals and objectives of the FLBP been achieved during the period 2007-2012 (Number of students recruited in priority areas, number funded in ITE programmes in priority areas; Number of students completed within a satisfactory time frame; Number of graduates placed in public schools generally and specifically in rural and poor schools; Contribution of FLBP to the supply of qualified teachers in identified priority areas and phase specialization in public schools and rural and poor schools particularly, as compared to total supply)?	A	A	P	P	P

The matrix also guided the thinking around the data collection process. This process was not without its challenges, due to the number of, and distances between, interviews, but the matrix served as a good starting point for managing the data collection. A detailed indicator map for each of the indicators can be found in Annexure E. The matrix formed the basis from which the survey questions and interview question could be developed. In addition, the programme theory document informed the data collection instrument development process, as well as data collection and analysis.

4.7.1 Drafting of instruments

A total of nine instruments were drafted as listed below:

- FLBP Student Survey Instrument
- FLBP Management Interview
- FLBP NSFAS Interview
- FLBP Province Education Department Interview
- FLBP Data Management/SITA Interview
- FLBP Treasury Interview
- FLBP University Administrator and Finance Officers Interviews
- FLBP University Deans and Academic Co-ordinators Interviews
- FLBP Student Focus Group Interview

Given the nature of this mixed methods study, it was important that the instruments were developed to allow fieldworkers to collect information in a standardised manner and to minimise the variation between fieldworkers, to standardise the coding frame and coding procedure and reduce intra-coder and inter-coder variability, and to increase the ease of data capture and data processing. They were also developed taking into account the limitation of having to collect data on a large number of indicators in a very limited time by a select group of qualitative researchers.

Two types of instruments were developed:

- **Structured qualitative interview and focus group schedules:** This was used when the fieldworkers needed to facilitate a set of questions with identified respondents. Structured interview schedules allowed for each interviewee to be asked the same questions, in the same way and in the same order. Most of the questions were therefore closed, pre-coded and had fixed choice options. This type of instrument was also developed to minimise the variation between interviews.

- **Student Survey instrument:** A telephonic survey was necessary to obtain data on a representative group of Funza Lushaka bursary recipients between 2007 and 2012. The most efficient method agreed for this purpose was a CATI survey. Data collected in this way has the benefit of being shorter with very few open-ended questions. This makes it cheaper and quicker to administer to widely dispersed populations. The survey in this case had various purposes:

  - To examine the effect of the FLBP on its recipients
  - To find out their attitudes towards the bursary Programme
  - To ascertain their level of satisfaction with the bursary Programme
  - To examine FLBP completion and graduation rates of FLBP
  - To partly fill the gaps in the available data

The student survey design and implementation process is described in more detail later in this section.

The process of drafting these tools was undertaken in relation to the target respondent(s) from whom data would be obtained. This meant that, in all instances, questions for several indicators were located in a single instrument. All field researchers were trained on all the qualitative instruments and the data–related interviews were conducted by a senior researcher from the data team.

4.7.2 Consultation

Extensive consultation with FLBP management, the DBE and the DPME steering committee was undertaken between July and September 2014; all members were involved in two instrument development meetings and also gave detailed feedback and suggestions via email. This resulted in at least five iterations of the instruments prior to them being piloted, in order to include all the comments and suggestions made by steering committee members. Ultimately the evaluation team had to make decisions about the final content of the instruments, given the time available for each

interview, and in order to ensure that the final choices made reflected the information required to answer the evaluation questions as closely as possible.

4.7.3 Pilot

Given the magnitude and significance of this research project and in accordance with good practice, the piloting phase was essential. Usually pilot testing of instruments is conducted to ensure that they are fully comprehensible, free of possible misinterpretation and facilitate the entering of appropriate data.

All the research procedures and some of the research instruments were therefore field tested through a short pilot study. Three interview instruments were each tested on two individuals in similar roles. The survey was piloted with 15 individuals who were not part of the survey sample. The results of the pilot study were used to evaluate the quality of the responses, the length of time taken to administer these instruments, and all possible logistics involved in the administration of the instruments. Based on the results of the pilot testing, final adjustments to the instrument were made as necessary.

4.7.4 Finalisation of instruments

In the main, the pilot found that the instruments worked fairly well although a few modifications were needed. These adjustments involved making changes around formatting, fixing grammatical and spelling mistakes, clarifying instructions and addressing questions that were ambiguous, where necessary. Again, the steering committee was extensively consulted and the final set of instruments was signed off by the steering committee on 5 September 2014. The final set of instruments used for the main study can be found in Annexure F.

4.7.5 Qualitative research process and selection of participants

To complement the quantitative data analysis and the findings of the student survey, JET included an extensive qualitative research process for this evaluation, comprising qualitative interviews with the full range of FLBP stakeholders, and including a set of focus group discussions with senior FLBP students.

To identify the individuals to be interviewed, JET first engaged with the ITE Directorate of the DBE to obtain a full list of key individuals representing the FLBP stakeholders. This included a number of DBE officials, academic co-ordinators (and some deans) from all universities, a sample of financial administrators from universities, individuals involved in both recruitment and placement in all nine PEDs, and other key stakeholders, including NSFAS representatives, SITA and Treasury.

The list of DBE officials was agreed upon with the ITE Directorate. It was also agreed that academic co-ordinators from all 22 universities participating in the Programme would be interviewed. Where possible, Deans of Education / Heads of School were included in the interviews with academic co-ordinators. In total, three deans were involved in interviews. In addition, administration personnel supporting the academic co-ordinators in education faculties were included in several interviews. Officials from all nine PEDs were interviewed. Where possible, at least two officials were

interviewed, one with responsibility for recruitment, and the other with responsibility for placement. These interviews mostly took place jointly.

Given limitations of time and budget, it was not possible to interview all finance administrators at the universities. Instead, a sample of financial administration staff (working in university financial aid offices with responsibility for FLBP payments) were interviewed, ensuring that a geographically and type-diverse range of universities were included. The universities sampled for this set of interviews included both historically black and historically white institutions, and representatives of each university type (traditional universities, universities of technology and comprehensive universities).

In addition, student focus groups were set up, with the assistance of the academic co-ordinators and administrators at each of the nine institutions, corresponding to the same nine universities selected for the finance interviews. This was done to ensure an adequate spread of different types of institutions, but also to allow for a range of interviews to be conducted by a single researcher at each site, given budget constraints. All student participants were senior students, to ensure some overlap with the evaluation period.

The approach to the qualitative sampling was approved by the evaluation steering committee at its meeting of 5 September 2014.

In total, 73 full interviews were conducted, involving 112 individuals. The nine student focus groups had 47 senior student participants. In total, therefore, 159 individuals classified as FLBP stakeholders, managers and administrators were interviewed. The full list of interviews and focus groups conducted is attached as Annexure G. Wherever possible, face-to-face interviews were conducted. Where face-to-face interviews were not possible for logistical reasons, telephonic interviews were conducted. In total only seven of the 73 interviews were conducted telephonically.

Most interviews were longer than one hour. The main reason for this was the significant range of questions that needed to be covered. A number of interviews were also longer because they involved more than one person.

The interviews were conducted by nine qualitative researchers, using the approved instruments developed for each interview type. Each researcher recorded their interviews and focus groups, and provided detailed transcripts of each interview or focus group to the coding team. These transcripts were then used for the coding process that followed.

The ethical approach to the study meant that confidentiality was offered to all participants in the interviews and focus groups. JET has respected the anonymity of responses and quotations in the evaluation findings, so as to adhere to the ethical guidelines set up for the study. This has therefore influenced the way in which quotations are attributed to study participants in the section on evaluation findings. However, as required for the evaluation, all transcripts must be handed over to the DPME at the conclusion of the evaluation; the transcripts will indicate the respondent types but not the respondents' names.

4.8 Discussion of FLBP data sources and limitations

4.8.1 Background

The dataset used for sampling and background analysis was obtained by merging various FLBP data sources with PERSAL data, Higher Education Management Information System (HEMIS) data and the EMIS master lists for ordinary and special schools. The FLBP data sources were made available by the ITE directorate in the DBE and Professor Graham Hall, a consultant who had worked with the DBE on the FLBP (in this report the data provided by both sources are referred to as the data provided by the DBE).

4.8.2 Data sources

The main dataset provided by the DBE, called "Bursaries awarded 2007-2012 (definitive July 2013)", was a Microsoft Excel™ file and listed 23 309 individuals who had received funding from the FLBP from its inception in 2007 up to and including 2012. However, after 11 duplicate records were removed there were 23 298 recipients in this database. This dataset provided:

- the surnames, initial and identity numbers of FLBP recipients;
- the higher education institution where they studied;
- the amounts of money they received in each year;
- the total amount of money they received over the period;
- the last year the recipient received the bursary as at 2012; and
- the year when the recipient's contract was to expire as at 2012.

Any additional information about each recipient (e.g. contact details, gender, race, phase specialisation, qualifications) was obtained or imputed from the other data sources provided by the DBE or HEMIS and was merged with the main dataset. The South African identity number was the unique identifier for each individual and was used to link the data in the different files.

The other FLBP data sources provided by the DBE included:

- Application data, which comprised lists including every individual who put in an application or reapplication for the Funza Lushaka bursary for each year between 2008 and 2013 (no data was available for 2007). These were individual Microsoft Excel™ files for each year.
- Consolidated lists per year of qualifying (referred to as Qualifying data), which comprised lists for each year from 2007 to 2012 of FLBP recipients who were expected to qualify that year and be available for placement in schools in the following year. This was a Microsoft Excel™ file with six separate sheets, one for each year.
- Placement data from 2011 to 2014 which provided a list of those FLBP recipients who were known to be placed in government-paid positions in public schools between 2011 and 2014 (6 671 FLBP recipients were found to be placed) (referred to as Placed data) and those who were unplaced over the same period (referred to as Unplaced data). The Placement data was in a Microsoft Excel™ file with 10 separate worksheets: five for each year for those placed and five for each year for those who were unplaced.
- Academic tracking for 2012, which showed the academic results for 2012 FLBP recipients in an excel spreadsheet.

- Bursaries awarded 2013-Final, which provided a list of individuals who received the bursary in 2013 (which is outside the time period for this evaluation).

The HEMIS data was provided by the HEMIS directorate in the Department of Higher Education and Training. The HEMIS unit was provided with the identity numbers of the 2007 to 2012 FLBP recipients and, in turn, provided information on those individuals who could be found in the HEMIS data. The data was provided in Microsoft Access™ 2007. Information on the entrance category, attendance mode, race, gender, home language, institution attended, qualification type, qualification name, graduation status and CESM category was provided. In addition to providing previously unavailable data on the FLBP recipients, the HEMIS data was also used to verify some of the FLBP data such as years and university attended.

Information on whether or not NSC results were available for the FLBP recipients was provided by an official in the DBE. The official was provided with the identity numbers of the 2007 to 2012 FLBP recipients and, in turn, provided information in Microsoft Excel™ stating whether or not NSC results could be located in the 2008 to 2013 examination databases held by the DBE. Results for 7 358 recipients were successfully merged with the FLBP. The main reason for non-capture was most likely that many people matriculated before 2008. The actual NSC results for these recipients were not provided to JET, but will be used by the DBE to do additional analysis of the FLBP data.

Education PERSAL data for selected months in 2010 (January, July and October), 2011 (July and October), 2012 (March and September) and 2013 (March and September) were obtained from the Educator Human Resource Planning, Provisioning and Monitoring directorate of the DBE and used to identify additional teachers who had been placed in government-paid positions in public schools. Each PERSAL data source was provided in a separate Microsoft Excel™ spreadsheet. In total 11 097 FLBP recipients (either provided by the DBE in the placement data or identified in the additional PERSAL data) were known to be placed in public schools. PERSAL data prior to 2010 could not be obtained.

The PERSAL data was linked, where possible, with EMIS Master list data, in order to identify the quintile and geographical location (urban/rural) of the schools where Funza Lushaka recipients have been placed. Three data sources were used: the 2013 Master list of Ordinary Schools provided by a DBE official in the Educator Human Resource Planning, Provisioning and Monitoring directorate, the Quarter 4, 2013 Master list of special schools downloaded from the DBE's website[73] and a list of schools and quintiles provided by the EMIS directorate through the ITE directorate in the DBE. (See section 4.12 on data limitations concerning the problems with linking PERSAL Data to EMIS data).

In total 38 different data sources for the different years were used.

Specific variables obtained from these data sources were as follows:

- Telephonic contact details: All the contact details provided in any of the 38 available databases were extracted and matched, where possible, to the 23 298 recipients listed in the main database (see section 5.12 on data limitations).

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[73] Department of Basic Education. *School Masterlist Data.* Available at: http://www.education.gov.za/EMIS/EMISDownloads/tabid/466/Default.aspx accessed 16/6/2014

- A variable 'hastelephone' was derived from the telephone contact details to indicate whether or not the recipient had any contact details.
- Information on gender was imputed from recipients' identity numbers. The 7th, 8th, 9th and 10th number in the ID Number refer to the person's gender. Numbers below 5000 are female and those above 5000 are male.
- Information on the race of recipients was obtained, where available, from the Applications, Placed, Qualifying and HEMIS data sources. The data was derived by first extracting race information that was common across the data sources and then by extracting the race information first from the Applications, then the Placed, then the Qualifying and finally the HEMIS data sources.
- Information on age was imputed from the date of birth in recipients' ID numbers and was calculated as at September 2014.
- Information on phase specialisation was obtained, where available, from the Qualifying, Unplaced and Applications data sources. The data was derived by first extracting those phases that were common across the data sources and then by extracting the phases from the Qualifying data, then Unplaced data and then the Applications data.
- Employment status as a teacher in a government-paid position in a government school was obtained from information provided in the Placed data and the PERSAL data. A variable called "in-education-PERSAL" was created with 'Yes' if the recipient was known to be placed and 'No' if there was no information on this.
- Type of degree or qualification studied towards was obtained from the Unplaced, Qualifying and Applications data. The data was derived by first extracting degree information that was common across the data sources and then by extracting the degree or qualification studied first from the Unplaced, then the Qualifying and then the Applications data sources.

4.8.3 Cleaning and merging the data

Prior to merging all the data sources to create a consolidated database, data cleaning was undertaken. Processing and cleaning the data was a very important prior step before the data could be merged to create a consolidated database that could be used for analysis and for sampling. The main purpose of data cleaning is to check for credibility, consistency and completeness of the data. Cleaning involved the following:

- Examining the structure of the data sets and importing them into Stata^{TM}.
- Checking the overall quality of the datasets.
- Checking and regularising the raw data – for example, inconsistent variable names across different data sources, missing variable names, wrong data types (e.g. numbers stored as text), and unknown or incorrect coding or category labels. These inconsistencies need to be regularised so that the data could be read into Stata^{TM} and merged.
- Checking and investigating wild observations (e.g. outliers or influential points).
- Identifying and removing duplicate records.
- Checking and resolving errors, inconsistencies and missing data. Where possible these issues were resolved by deriving or imputing inconsistent and/or missing values and by triangulating different data sources.
- Modifying the data if necessary by transforming one or more variables.

- Credibility checks by performing the range test on each variable to make sure that the range of the variables is plausible.
- Assessing why there are missing data and whether they are missing at random.

All the data received were cleaned and processed in Stata[TM] version 12.1.

All the different data sources that were in separate files were then appended together in separate categories (e.g. all Applications files were appended together, all Qualifications files were appended together, all telephone contacts were appended together etc.). Once this was done certain variables were dropped and others retained. Duplicate records were dropped and in instances where the identity number was missing the records were dropped.

These data sources were then merged with the definitive list of bursary recipients to create a Consolidated database which was used to provide a descriptive analysis of those individuals who had received the Funza Lushaka bursary between 2007 and 2012 and also to create the sampling frame and to draw the sample for the survey.

4.8.4 Data limitations

Most of the limitations with the data arose because of missing and inconsistent data. These limitations meant that certain important indicators for the implementation of the FLBP could not be calculated or were difficult to calculate. These include recruitment in priority phase and subject specialisations, throughput, province of origin and qualification.

4.8.4.1 FLBP administrative data provided by DBE

The overall data concerns in the data sources provided by the DBE were as follows:

- The **main database** (the definitive list), which listed every individual who had received a Funza Lushaka bursary between 2007 and 2012, provided limited information on individual recipients[74]. The database did not provide any background information on the recipients and this information had to be obtained or derived, where possible, from the other data sources It also included 57 individuals for whom amounts received from the FLBP were recorded as zero and who were subsequently excluded from the sampling frame.

- The **Applications data** sources, which comprised lists of every individual who ever put in an application and reapplication for the bursary for each year from 2008 to 2013, had no information at all for applicants who applied for the bursary for 2007.

  Furthermore, applicants were required to indicate what priority course they intended to study and what year of study they intended to be in, but there was no information on whether or not recipients actually studied the priority area or were actually enrolled in the

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[74] The definitive list provided only the following information: surnames, initial and identity numbers of FLBP recipients; the higher education institution where they studied; the amounts of money they received in each year; the total amount of money they received over the period; the last year the recipient received the bursary as at 2012; and the year when the recipient's contract will expire based on the number of years they had received the bursary as at 2012.

year of study they said that they would be. There were also many instances of contradictory information in the Applications data from one year to the next for individuals reapplying for the bursary.

- While the **Qualifying data** sources comprised lists of FLBP recipients who were expected to qualify each year and be available for placement in schools in the following year, no information was available on whether these individuals actually graduated. An additional problem with the Qualifying data was that the information provided each year varied. For example the only data available for 2007 and 2008 was surname, initials and identity number. Information on race was provided only in the 2011 and 2012 data, while data on gender, phase specialisation and qualification type being studied was only provided for 2009, 2011 and 2012.

- The **Placed data** source provided information on just 6 671 individuals who were known to the DBE, through a search of Persal data for the period 2011 to January 2014, to have been be placed in government-paid positions in public schools during that period. When merged with the definitive list, 6 630 could be merged while 41 could not be merged. However, in the five different data sources on Placed recipients, varying school information was provided: the name of the school was provided for in only two of the data sources, while two provided Component Codes. None of the sources provided EMIS numbers for schools, which are the unique identifiers of the schools and enable one to link a school to EMIS information.

- In the **Unplaced data** sources, which provided information on those FLBP recipients who were known to be unplaced between 2011 and 2014, the information provided differed between the five different Unplaced data sources.

- Education **PERSAL datasets** for selected months between January 2010 and September 2013 were provided by the HR Planning, Provisioning and Monitoring directorate in the DBE. Through these data sources, JET was able to locate 11 097 recipients who during this period had been employed in government-paid positions in public schools.

With sampling, missing data is likely to introduce unknown biases when the sample is drawn. In addition to causing sampling problems, missing and inconsistent data also caused some problems for the descriptive data analysis of the FLBP recipients. For those variables where the data in individual data sources existed but were incomplete, the data were derived in various ways using the information from the various data sources. Where data could not be derived or imputed, the variables could not be analysed and could not be considered as a substratum for sampling purposes.

4.8.4.2 Education PERSAL data

Data limitations with regard to the Education PERSAL data were as follows:

- Education PERSAL data were only available for the period 2010 to 2013. Education PERSAL data prior to 2010 could not be obtained. Consequently, it was not possible to identify FLBP

recipients who had been placed in schools prior to 2010 but who may have left and so did not appear on subsequent PERSAL datasets.

- The Education PERSAL data deal only with teachers placed in government schools in government-paid positions. Information on teachers in SGB-paid positions or employed in private schools was not available.

- Education PERSAL downloads were provided for January 2010, July 2010, October 2010, July 2011, October 2011, March 2012, September 2012, March 2013 and September 2013. If any FLBP graduate taught in public schools between these dates, this information would not be known.

- In order to identify the poverty quintile, geographical location (urban/rural) and province of the schools in which FLBP recipients had been placed, the Education PERSAL data had to be linked to the data in the EMIS Master list which provides information on the poverty quintile and geographical location. However, the national EMIS number, a school's unique identifier in EMIS data, is not captured in the Education PERSAL data, and without the EMIS number it is not possible to link a school to the EMIS data. Education PERSAL data uses Component Code to identify schools. Although the National EMIS Master list for 2013 provided the Component Code for 25 833 of the 25 949 schools listed in the Master list, the Component Code was not necessarily a unique identifier. In the Education PERSAL data provided, there were 2 188 instances of schools sharing Component Codes and in the Master list there were 624 instances of schools sharing Component Codes. In addition, temporary teachers (which is often how first-time appointments are recorded) in the Education PERSAL data sources were captured in different subcomponents by some PEDs which could not be located in the EMIS data. By linking the Education PERSAL Data to the National Master list using Component Codes, we were able to automatically link 5 087 of the 11 097 FLBP recipients with Component Codes. The schools of the remaining 6 010 individuals had to be manually searched for and identified in the 2013 National Master list of ordinary and special schools using the available information on the schools provided in the Education PERSAL data (Component Code, school name and in some instances provincial EMIS numbers). If a school could be identified in the National Master list the National EMIS number of the school was manually inputted into the FLBP database. For schools that could not be clearly identified in the Master list, the national EMIS number was left blank. In total, national EMIS numbers for 6 049 schools could be linked in the Master list. Manually identifying and inputting the EMIS numbers of a school is a far from ideal way of assigning an EMIS number. Although the information was checked several times, the accuracy of the data cannot be fully guaranteed.

- The Education PERSAL data do not include the grade, phase or subject the teacher is teaching. Because the data were not available it was not possible to say whether or not FLBP-sponsored teachers have been placed in priority areas or subjects. Whether or not FLBP recipients were placed in priority areas and/or subjects could only be ascertained through the survey.

- The Education PERSAL data do not record previous schools worked at by teachers, or the year they first registered on PERSAL.

Data limitations with regard to the HEMIS data supplied by the DHET were as follows:

- The HEMIS database was able to provide HEMIS data for the period 2007 to 2012 for 23 095 of the 23 298 FLBP recipients. Eight of the remaining 203 FLBP recipients were found in the HEMIS data to have graduated prior to 2007 and the balance could not be located on the HEMIS database at all (correspondence with DHET official, 28 November 2014). The reason for this could either be that the identity number was incorrect or the university data was not aligned with the HEMIS.

- The HEMIS data provided information on every single qualification that a FLBP recipient had registered for between 2007 and 2012 whether relevant to the bursary or not. Records on students enrolled or registered for the following qualifications were excluded: occasional students, undergraduate diploma or certificate (1 or 2 years), undergraduate diploma or certificate (3 years), national higher certificate, national certificate, national diploma or diploma.

- The years of funding for each individual recipient, as indicated in the main database, did not always match with the B.Ed. and PGCE information in the HEMIS data. It was therefore difficult to know whether or not the relevant qualification was being funded between 2007 and 2012.

4.8.5 Data limitations in specific areas

Details of specific data limitations are as follows:

- **Subject specialisation:** From all the available data sources, subject specialisation was available for only 6 983 of the FLBP recipients in the sampling frame. Because of the large number of missing observations, the subject specialisation information could not be used for analysis or for sampling for the survey.

- **Province of origin:** In its proposal to conduct the monitoring and evaluation of the FLBP, JET proposed that "province" be used as a stratum for sampling. Province of origin was considered to be an important reporting domain in order to answer the key evaluation questions related to the supply of FLB-sponsored teachers and whether recruitment strategies have been effective. Unfortunately there was no data available at all on the province of origin of the FLBP recipients in any of the data sources. Attempts to identify province of origin by using postal codes (where available) were not successful. Consequently, because no information on province of origin was available, "province" could not be used as an explicit stratum for sampling.

- **Tracking FLBP recipients' academic performance**: It was not possible to track FLBP-sponsored students' academic achievement from year to year from the available data as

academic tracking data was only available for 2012. Without year-on-year tracking data it was not possible to evaluate efficiency in terms of performance, throughput and drop-out.

- **Province, quintile and geographical location of schools where FLBP recipients were working**: In order to identify the province, quintile and geographical location of the schools in which FLBP recipients were working, the PERSAL data had to be linked to the EMIS national Master list data. This information was considered to be important in terms of the Programme's objective relating to placement of FLBP graduates. As noted above, there were important challenges involved in linking the PERSAL data to the national EMIS data.

- **Identifying whether schools are urban or rural:** While the national EMIS Master list data for 2013 do contain a rural/urban variable (for 21 484 ordinary schools and 278 special schools), the data in this variable are not considered to be reliable by the DBE's EMIS unit. However, as this is the only available data on the geographical area where a school is located, and without such data it would not be possible to evaluate whether or not the FLBP is meeting the objective of placing teachers in rural schools, the steering committee agreed that the DBE's geographical data should be used for this evaluation.

- **Telephone contacts:** A consolidated list of telephone contacts for FLBP recipients was compiled by merging all available telephone contacts in the 38 different data sources for an individual in the main database. Of the 23 303 FLBP recipients, 3 323 individuals had no telephone numbers. Those individuals without contact details were excluded from the sampling frame (see section on Sampling Frame).

- **Phase specialisation**: In order to get information on the phase for which FLBP recipients were studying, the data had to be extracted, where available from the Qualifying, Unplaced and Applications data sources (see section on Data Sources). The phase data was not always available across the data sources for recipients and even where available, it was not always consistent across the data sources.   Information on phase specialisation could not be found for 3 341 FLB recipients and these individuals were excluded from the sampling frame (see section 5.8 below).

During the sampling, the phase together with the university were used as explicit sampling criteria. However, due either to incorrect phase information in the various data sources provided or to students changing their phase during their studies, during the survey 27% of survey respondents reported studying for a different phase than the one derived from the FLBP data sources. As a result, it was decided that 'phase' could not be taken into account in the weighting process as was originally intended (see the sections below on 'Sensitivity analysis' and 'Weightings for justification').

4.9 The sampling frame

The population for the survey included the 23 298 bursary recipients from 2007 to 2012 who were recorded in the Consolidated database (the original 23 309 individuals in the definitive bursary list minus 11 duplicated records).

As the survey was to be conducted telephonically, it was essential to have contact details for the FLBP recipients. As stated in the sections above dealing with data sources and data limitations, all the contact details provided in any of the available databases were extracted and matched, where possible, to the 23 298 recipients listed in the main database. There were no contact details available at all for the 2007 FLB recipients. Only if 2007 FLBP recipients were still in the system from 2008 onwards were contact details possibly available for them. This meant that those 2007 recipients with no contact details had to be excluded from the total population of FLBP recipients for sampling purposes. Similarly, all FLBP recipients in other years who had no contact details whatsoever also had to be excluded from the population for sampling purposes. It is important to note that the contact detail requirement could bias the sample in favour of those recipients who have contact details. Of the 23 298 FLBP recipients, 3 323 individuals had no telephone numbers.

As "Priority area (phase)" was to be used as one of the explicit strata for sampling, information on phase for each recipient was essential. As stated above, information on phase specialisation was obtained from Qualifying, Unplaced and Applications data sources. Despite mining all these sources for information, there was no phase specialisation information on 3 341 FLB recipients.

As a result of this missing information, of the 23 298 FLBP recipients, 3 346 recipients had to be dropped for sampling purposes because they had no telephone numbers and/or no phase specialisation information (see Table 17). In total 3 318 (or 99.2%) of the 3 346 had neither telephone nor phase information, while the remaining 28 individual were missing either telephone or phase information.

Table 17: Number of FLBP recipients with and without telephone contact information and with and without phase specialisation information

| | | Recipient has phase information | | |
		No	Yes	Total
Recipient has telecontact information	No	3318	5	3323
	Yes	23	19952	19975
	Total	3341	19957	23298

Table 18 provides information on the race and gender and year of last receiving the bursary of those who had both contact and phase specialisation information and those who had to be dropped because they were missing contact and/or phase specialisation information.

Table 18: Characteristics of FLBP recipients with and without telephone contacts

		Has telephone contacts and phase (n=19 952)		Does not have telecontacts and/or phase (n= 3 346)	
		No.	%	No.	%
Year last received bursary	2007	82	0.4	1255	37.5
	2008	299	1.5	1362	40.7
	2009	2127	10.7	502	15.0
	2010	2907	14.6	195	5.8
	2011	2927	14.7	22	0.7
	2012	11610	58.2	10	0.3
Race	African	12061	60.5	2156	64.4
	Coloured	2570	12.9	339	10.1
	Indian	547	2.7	80	2.4
	White	4766	23.9	656	19.6
	Unknown	8	0.0	115	3.4
Gender	Female	13553	67.9	2185	65.3
	Male	6399	32.1	1161	34.7

In addition, four deceased people, 12 people who were found to have received no FLBP money and 20 people who were part of the pilot were dropped. The sampling frame, therefore, consisted of those recipients of Funza Lushaka bursaries from 2007 to 2012 for whom contact details and details on the education phase studied was available. This left 19 952 individuals in the sampling frame.

Table 19: Sampling frame per phase and Higher Education Institution

HEI	Foundation (Grade R - 3)	Foundation/ Intermediate (Grade R - 6)	Intermediate (Grade 4 - 6)	Intermediate/ Senior (Grade 4 - 9)	Senior (Grade 7 - 9)	Senior/ FET (Grade 7 - 12)	FET (Grade 10 - 12)	Total
CPUT	433	9	7	362	11	109	466	1,397
CUT	0	0	0	2	3	46	450	501
DUT	0	0	0	0	0	7	196	203
NIHE (MP)	0	0	0	0	2	3	86	91
NIHE (NC)	115	2	2	12	153	134	37	455
NMMU	247	3	484	7	1	12	465	1,219
NWU	299	9	12	211	16	793	212	1,552
RU	38	0	33	4	1	31	14	121
TUT	33	4	6	300	10	13	534	900
UCT	2	3	16	40	0	81	37	179
UFH	185	9	220	24	20	333	159	950
UFS	314	6	228	63	4	135	519	1,269
UJ	145	1	0	7	226	60	495	934
UKZN	90	96	3	238	23	396	543	1,389
UL	4	0	1	1	8	575	253	842
UNISA	220	8	16	225	2	169	48	688
UNIVEN	221	49	0	0	1	7	341	619
UNIZUL	154	282	48	357	69	603	97	1,610
UP	259	6	87	16	101	80	579	1,128
US	288	7	26	348	26	189	131	1,015
UWC	7	16	32	286	213	124	108	786
WITS	175	3	26	150	6	272	359	991
WSU	1	0	0	1	2	18	1,055	1,077
Total	3,230	513	1,247	2,654	898	4,190	7,184	19,916

4.10 Sampling

4.10.1 Sampling methodology

A stratified random sample was designed to draw a representative sample of students who received funds from the Programme between 2007 and 2012. Higher Education Institute (HEI) and Phase were considered as explicit stratification variables (to form the so called strata) to obtain good coverage and precision per stratum. The variables gender, 'in-education-persal', race, 'has-matric' and 'Lastreceived' were used as implicit stratification variables to improve the representativeness in the sample.

4.10. 2 Sample size and allocation

Based on the given information of the population in the database, the overall sample sizes per phase was calculated first. These sample sizes were based on a 95% confidence, 4% precision and the population size per phase. The following sample sizes were obtained per phase:

Table 20: Sample size by phase specialisation

Phase	Sample size
FET (Grade 10 - 12)	569
Foundation (Grade R - 3)	519
Foundation/Intermediate (Grade R - 6)	284
Intermediate (Grade 4 - 6)	416
Intermediate/Senior (Grade 4 - 9)	503
Senior (Grade 7 - 9)	370
Senior/FET (Grade 7 - 12)	539
Grand Total	**3200**

Hereafter the sample size per phase was allocated to all the different HEIs. Since the population sizes of the different strata differed significantly, the power allocation rule, a disproportional allocation technique that is applied internationally (Lehtonen and Pahkinen, 2003), was used to determine the number of respondents to be drawn per stratum. The aim of using the power allocation rule is to decrease somewhat the allocation of the larger strata and increase somewhat the allocation to the smaller strata. Hence, with this technique one can ensure, as far as the overall sample size allows, that the sample sizes are large enough in all HEIs and for all phases and that the number of respondents selected from the smallest HEI/phase is not too small.

The following allocation was determined and used in the original sample:

Table 21: Required number of responses per phase and Higher Education Institution

HEI	FET (Gr 10 - 12)	Foundation (Gr R - 3)	Foundation/ Intermediate (Gr R - 6)	Intermediate (Gr 4 - 6)	Intermediate /Senior (Gr 4 - 9)	Senior (Gr 7 - 9)	Senior/ FET (Gr 7 - 12)	Grand Total
CPUT	32	48	9	7	52	11	20	**179**
CUT	31				2	3	12	**48**
DUT	22						7	**29**
NIHE (MP)	16					2	3	**21**
NIHE (NC)	11	25	2	2	10	52	23	**125**
NMMU	32	37	3	114	7	1	5	**199**
NWU	23	40	9	9	40	14	66	**201**
RU	8	14		17	4	1	9	**53**
TUT	34	13	4	6	48	10	6	**121**
UCT	11	2	3	10	17		17	**60**
UFH	21	32	9	66	14	15	39	**196**
UFS	33	41	6	67	22	4	23	**196**
UJ	33	28	1		7	66	14	**149**
UKZN	34	22	46	3	42	17	43	**207**
UL	25	4		1	1	8	54	**93**
UNISA	13	34	8	10	41	2	26	**134**
UNIVEN	28	35	24			1	7	**95**
UNIZUL	17	29	136	23	52	32	56	**345**
UP	35	37	6	34	11	41	17	**181**
US	19	39	7	15	51	18	28	**177**
UWC	18	7	8	17	47	64	22	**183**
WITS	29	31	3	15	34	6	35	**153**
WSU	44	1			1	2	7	**55**
Grand Total	**569**	**519**	**284**	**416**	**503**	**370**	**539**	**3200**

4.10.3 Selection of respondents

After the sample sizes per stratum were determined, the respondents were drawn from the received database. In each stratum, the respondents were ordered according to the implicit stratification variables (as specified above), before a systematic sample was drawn using the 'proc surveyselect' procedure in SAS. For detail information about how to draw a systematic sample, see Lohr (2010)[75].

Since refusals were expected, as well as difficulties getting hold of individuals with old telephone contacts, an oversample was also drawn for each stratum. The first oversample of size 1280 was proportionally allocated to the different strata by taking the available population sizes per stratum into account (see Table *22*). A systematic sample was drawn per stratum by using SAS. Thereafter a second oversample was drawn on a similar way (see Table *23*).

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[75] Lohr, Sharon, 2009, Sampling: design and analysis. Cengage Learning.

Table 22: Oversample/Replacement Sample 1

HEI	Foundation (Grade R - 3)	Foundation/ Intermediate (Grade R - 6)	Intermediate (Grade 4 - 6)	Intermediate/ Senior (Grade 4 - 9)	Senior (Grade 7 - 9)	Senior/FET (Grade 7 - 12)	FET (Grade 10 - 12)	Total
CPUT	21	0	0	22	0	8	13	64
CUT	0	0	0	0	0	5	12	17
DUT	0	0	0	0	0	0	9	9
NIHE (MP)	0	0	0	0	0	0	6	6
NIHE (NC)	10	0	0	2	27	10	4	53
NMMU	15	0	49	0	0	2	13	79
NWU	16	0	3	17	2	27	9	74
RU	6	0	7	0	0	4	3	20
TUT	5	0	0	20	0	2	14	41
UCT	0	0	4	7	0	7	4	22
UFH	13	0	28	6	5	16	8	76
UFS	17	0	28	9	0	10	13	77
UJ	12	0	0	0	34	6	13	65
UKZN	9	26	0	18	6	18	14	91
UL	0	0	0	0	0	22	10	32
UNISA	14	0	4	17	0	11	5	51
UNIVEN	14	13	0	0	0	0	11	38
UNIZUL	12	71	10	23	16	23	7	162
UP	15	0	14	5	20	7	14	75
US	16	0	6	21	8	12	8	71
UWC	0	4	7	20	30	9	7	77
WITS	13	0	6	14	0	14	12	59
WSU	0	0	0	0	0	3	18	21
Total	208	114	166	201	148	216	227	1,280

Table 23: Oversample/Replacement Sample 2

HEI	Foundation (Grade R - 3)	Foundation/ Intermediate (Grade R - 6)	Intermediate (Grade 4 - 6)	Intermediate / Senior (Grade 4 - 9)	Senior (Grade 7 - 9)	Senior/FET (Grade 7 - 12)	FET (Grade 10 - 12)	Total
CPUT	168	0	0	155	0	71	121	515
CUT	0	0	0	0	0	29	89	118
DUT	0	0	0	0	0	0	62	62
NIHE (Mp)	0	0	0	0	0	0	64	64
NIHE (NC)	80	0	0	0	74	101	22	277
NMMU	118	0	321	0	0	5	71	515
NWU	93	0	0	154	0	167	72	486
RU	18	0	9	0	0	18	3	48
TUT	15	0	0	99	0	5	93	212
UCT	0	0	2	16	0	57	22	97
UFH	140	0	126	4	0	164	104	538
UFS	120	0	133	32	0	92	108	485
UJ	105	0	0	0	126	40	120	391
UKZN	59	24	0	140	0	158	139	520
UL	0	0	0	0	0	148	64	212
UNISA	93	0	2	112	0	80	30	317
UNIVEN	131	12	0	0	0	0	123	266
UNIZUL	113	75	15	254	21	289	73	840
UP	185	0	39	0	40	56	165	485
US	138	0	5	188	0	139	94	564
UWC	0	4	8	157	119	93	83	464
WITS	96	0	5	102	0	107	80	390
WSU	0	0	0	0	0	8	126	134
Total	1,672	115	665	1,413	380	1,827	1,928	8,000

4.10.4 Response rates

Based on previous tracer survey experience at JET, a 40% non-response rate was expected. However, the response rate was much lower than anticipated. This is not unexpected in telephonic surveys. Even though the telephone and mobile penetration is quite high among students at higher education institutions in South Africa, the rate at which they change their phone numbers is speculated to be high also.

When it became evident that the response rate was very low (only 26% at the end of October), the replacement sample of 1 293 recipients was drawn. The response rate remained low (less than 30%) and a second replacement sample of 8 000 was provided. By 5 December 3 149 surveys were completed. The breakdown of the realised sample was as follows:

Table 24: Realised sample

HEI	FOUNDATION (GRADE R - 3)	FOUNDATION/INTERMEDIATE (GRADE R - 6)	INTERMEDIATE (GRADE 4 - 6)	INTERMEDIATE/SENIOR (GRADE 4 - 9)	SENIOR (GRADE 7 - 9)	SENIOR/FET (GRADE 7 - 12)	FET (GRADE 10 - 12)	Total
CPUT	50	5	0	53	7	20	34	169
CUT	0	0	0	1	1	12	32	46
DUT	0	0	0	0	0	5	22	27
NIHE (MP)	0	0	0	0	1	1	10	12
NIHE (NC)	30	1	0	3	38	35	11	118
NMMU	39	2	119	3	1	5	34	203
NWU	43	3	3	40	6	78	23	196
RU	6	0	7	0	0	6	3	22
TUT	17	1	3	52	7	4	34	118
UCT	1	1	3	11	0	16	9	41
UFH	42	4	73	8	2	61	23	213
UFS	49	3	74	23	1	31	33	214
UJ	37	1	0	2	67	18	42	167
UKZN	26	45	0	54	11	44	34	214
UL	3	0	1	1	4	54	30	93
UNISA	34	5	5	48	2	27	13	134
UNIVEN	35	16	0	0	0	3	28	82
UNIZUL	33	80	23	74	28	58	13	309
UP	49	2	33	4	39	25	42	194
US	39	1	7	54	6	28	29	164
UWC	4	7	7	64	66	31	18	197
WITS	31	2	15	39	4	40	31	162
WSU	1	0	0	1	0	8	44	54
Total	569	179	373	535	291	610	592	3,149

In light of the low response rate, it was necessary to check that the FLBP survey sample has remained unbiased and is indeed a probability sample. It is important to establish that no differences exist among participants and non-participants. The next section seeks to address bias related questions. Results from the sensitivity analysis are presented.

4.10.5 Sensitivity analysis

This section presents the findings of the tests conducted to check for possible bias to the FLBP survey sample. Table 25 shows frequencies by type of sample.

Table 25: Distribution of Sample

Sample	Frequency	Percent	Cumumlative
Main Sample	3,200	25.64	25.64
Over Sample1	1,280	10.26	35.9
Over Sample2	8,000	64.1	100
Total	12,480	100	

It was important to examine whether or not there were systematic differences between respondents and non-respondents (that is, detect possible selection bias), which may lead to biased results. We ran a number of binary logistic regressions using the key variables as predictors. In the modelling, the response variable was "sample status". Sample status is a binary variable (0-Non respondent, 1-Respondent). The results are shown in Table 26.

Model 1 shows the relationship between sample status as the response variable and degree programme as the predictor variable. Degree programme was a binary variable representing whether or not participants had been funded for PGCE or B.Ed. studies. The odd ratio of 1.505 suggests that B.Ed. students were 51% more likely to participate in the survey compared to PGCE. This is plausible because B.Ed. students form the vast majority of bursary recipients. The relationship was statistically significant at 1%.

Model 2 examines the relationship between sample status against degree programme and gender. The effect of degree remains significant at 1%, with an odds ratio of 1.499. There does not appear to be much difference between genders in their participation in the study. The relationship shows an odds ratio of 1.08 significant at 10%.

Model 3 follows on Model 2 by controlling for race. The black African group is the reference category. The effect of degree programme and gender remain relatively unchanged. The odds of participation are even between black Africans and Coloured recipients, though it is not significant. Indian bursaries recipients were 1.58 times more likely to participate in the survey compared to black African recipients. White recipients were 11% less likely to participate in the study compared to black Africans.

Model 4 assesses the relationship between sample status and degree programme, gender, race, and which sample the respondents come from. Degree programme, and being Indian had the highest odds ratios. The two subsamples or replacement samples were less likely to be part of the study compared to the main sample. This is a design feature because the subsamples were only used after

it was clear that there main sample respondents could not be contacted. Thus, they had less exposure to being in the sample than the main sample.

Table 26: Logistic Regression Models A

	Model 1	Model 2	Model 3	Model 4
degree==B.Ed.	1.505	1.499	1.470	1.569
	(0.133)***	(0.133)***	(0.131)***	(0.144)***
gender==Female		1.082	1.085	1.074
		(0.050)*	(0.051)*	(0.053)
race==Coloured			1.032	1.039
			(0.061)	(0.064)
race==Indian			1.578	1.627
			(0.170)***	(0.182)***
race==White			0.893	0.907
			(0.045)**	(0.047)*
datasource==Oversample1				0.267
				(0.022)***
datasource==Oversample2				0.309
				(0.014)***
N	12,480	12,480	12,480	12,480

* p<0.1; ** p<0.05; *** p<0.01

Table 26: Logistic Regression Models show the relationship between sample status and other key variables. Model 5 shows the relationship between sample status and phase. The reference category is Foundation Phase. Only those specialising in the FET phase, had significant odds ratios. The results suggest that FET specialising students were 20% less likely to participate in the survey compared to Foundation Phase students. The odds ratios for Intermediate Phase and SP are even but not significant.

Model 6 looks at the effect phase specialisation, gender and race on participation in the survey. As in the previous model, those specialising in the FET phase were 80% less likely to participate in the survey compared to those specialising in Foundation Phase. The results are significant at the 99% level. The odds for gender suggest an even spread between males and females. They are, however, not significant. Being Indian and being White, had significant odds ratios. On the one hand, Indian participants were 52% more likely to participate in the survey than black Africans. On the other, White participants were 11% less likely to participate in the survey than their black African counterparts.

Model 7 includes all the variables in Model 6 plus whether or not the respondent came from the original sample, replacement sample 1 or replacement sample 2. The effect of the previous variables remained largely unchanged. Respondents from the replacement sample 1 were 73% less likely to participate in the survey compared to respondents from the original sample. Similarly, respondents from the replacement sample 2 were 69% less likely to participate in the survey than respondents from original sample. As alluded to earlier, the reason for this is that the exposure to the calls was more for the original sample as we intended to use it only.

Table 27: Logistic Regression Models B

	Model 5	Model 6	Model 7	Model 8
phase==IP	1.069	1.065	1.077	1.046
	(0.062)	(0.062)	(0.065)	(0.064)
phase==SP	1.010	1.004	1.033	1.097
	(0.058)	(0.061)	(0.064)	(0.070)
phase==FET	0.798	0.798	0.849	0.819
	(0.050)***	(0.054)***	(0.059)**	(0.058)***
gender==Female		1.050	1.055	1.063
		(0.052)	(0.054)	(0.055)
race==Coloured		0.996	1.013	0.889
		(0.060)	(0.063)	(0.056)*
race==Indian		1.516	1.588	1.370
		(0.165)***	(0.179)***	(0.158)***
race==White		0.858	0.880	0.751
		(0.044)***	(0.047)**	(0.041)***
datasource==Oversample1			0.269	0.257
			(0.022)***	(0.021)***
datasource==Oversample2			0.314	0.294
			(0.014)***	(0.014)***
degree==B.Ed.				1.136
				(0.108)
hasmatric==Yes				1.840
				(0.094)***
ineducationpersal==Yes				0.759
				(0.039)***
N	12,480	12,480	12,480	12,480

* p<0.1; ** p<0.05; *** p<0.01

Models 1 to 7 have looked at marginal effects of individual variables or selected variables. Model 8 shows the net effect of each of the variables in relation to whether someone eventually participated in the survey. A number of variables were found to be significant in the model. They include phase "FET", race "Coloured", "Indian" and "White", "Oversamples 1 and 2", "has matric information[76]" and "in education PERSAL". In particular, the variable "has matric results" is a proxy for the respondents who matriculated in recent years (from 2008 onwards). It has the most significant effect with all the variables included. Those who matriculated recently were 84% more likely to participate in the survey than those who matriculated in the old system. Indian respondents were 37% more likely to participate in the study with all the other factors included. All the other significant predictor variables had odds less than one suggesting a negatively related to participating in the study. Overall, there appears to be slight bias in the probability of participating in the

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[76] *Exam results were for the period 2008 to 2013 and matric result information was found for 7 358 FLBP recipients. Those individuals for whom no matric information was found had most likely matriculated prior to 2008.*

telephonic survey. However, it does not threaten the validity of the sample or study as some of the bias is adjusted downwards by the survey weights.

4.11 Weighting

After the survey was done, the design weights for the realised sample data were calculated. These weights are based on the inclusion probability of a specific person to be selected for the sample.

Due to a large number of refusals, and other practical problems such as wrong/changed phase information[77], 'phase' was not taken into account in the weighting process. Prof David Stoker (one of authoritative names in sampling in South Africa) advises that in such situations you cannot bring practice and the theoretically designed sample to the same point and apply the theory while ignoring the practical problems and errors. In this situation one has to compensate, as far as possible, for the practical deviation from the original theoretically based design in the most suitable way. Prof Stoker, as well as Prof Sharon Lohr (2009), is of the opinion that one should be conservative in one's decisions in sampling. Hence, when finding the most suitable way of calculating the weights for this survey, it was felt that this should be done conservatively. As far as the Funza Lushaka Evaluation survey is concerned, if weights are calculated using the inverse of the inclusion probability according to the design strata university-by-phase, the results will be biased, because of the incorrect information in the population. Statistically, the best method would be to use the design Phase information in the calculation of the design weight, whereafter it could be adjusted by using a benchmark technique to new updated population figures for Phase. However, this would require the correct population figures which were, unfortunately, not available.

Once the data analysis was undertaken, the DBE questioned whether the original (incorrect) Phase data should not have been included in the weighting. As requested by the DBE, tables per strata of the sampling frame, the intended sample and the realised sample were provided; design weights (referred to as the revised design weights) were calculated based on the inverse of the inclusion probability per Higher Education Institution-by-original phase; and a sensitivity analysis of key tables with these revised design weights was undertaken. The sensitivity analysis found that while there were differences in the counts and proportions between the original weights and the revised weights, the overall trends remained unchanged. The revised weights, on average, had larger standard errors. This was not unexpected as the revised weights used two sources of variability (phase, university) while the original weights used one source of variability (university). Depending on the weights one uses, the chances of making Type 1 errors may be different.

In consultation with the DBE, it was agreed that the original weights would be used for the Funza Lushaka Evaluation Report[78].

Probability theory has to be used to calculate the inclusion probability of a person in a specific stratum and that the person will respond. The formula used to calculate the weights (adjusting for non-response and the use of the random selected oversamples), is as follows:

Define: S_1 = Select for sample

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[77] *More than 25% of respondents in the survey reported studying for a different phase than the one obtained from the FLBP data sources.*
[78] *Both the original and revised weights are included in the survey data base and an explanation has been included in the metadata.*

$\bar{S}_1$ = Not select for sample

R_1 = Respond for sample

S_2 = Select for oversample

R_2 = Respond for oversample

∩ = intersection ('and')

| = conditional probability ('given')

P(Included and Respond) = P(S_1 ∩ R_1) + P($\bar{S}_1$ ∩ S_2 ∩ R_2) =

= P(S_1)P(R_1|S_1) + P($\bar{S}_1$)P(S_2|$\bar{S}_1$)P(R_2|S_2)

It could easily be proven that this probability simplifies to:

P(Included and Respond) = n/N,

where n is the realised sample size and N the population size in a specific stratum. (This formula can be extended to more overall samples, which will again result in a probability of n/N). The formula, in other words is:

$$Weight_{respondent} = \frac{Population\ size}{Realised\ sample\ size}$$

The following weights were obtained:

Table 28: Sample weights

HEI	Population size	Realised sample size	Weight - respondent
CPUT	1397	172	8.122
CUT	501	47	10.660
DUT	203	26	7.808
NIHE (MP)	91	5	18.200
NIHE (NC)	455	48	9.479
NMMU	1219	198	6.157
NWU	1552	242	6.413
RU	121	22	5.500
TUT	900	118	7.627
UCT	179	39	4.590
UFH	950	214	4.439
UFS	1269	214	5.930
UJ	934	166	5.627
UKZN	1389	214	6.491
UL	842	93	9.054
UNISA	688	144	4.778
UNIVEN	619	84	7.369
UNIZUL	1610	309	5.210
UP	1128	203	5.557
US	1015	162	6.265
UWC	786	219	3.589
WITS	991	160	6.194
WSU	1077	50	21.540

Each respondent has to obtain the weight next to his/her HEI in the table above in further analyses.

4.12   The Survey

Ask Afrika was commissioned by JET to conduct a CATI (Computer Assisted Telephonic Interview) study of Funza Lushaka recipients. The aim of the survey was to provide information to assist with answering the evaluation questions and also to try and provide information which could not be obtained through the FLBP administrative data.

The project commenced on the 1st of October 2014 and ended on the 5th of December 2014. Based on the sampling methodology the intention was for 3 200 CATI surveys to be carried out as per the explicit stratification variables of higher education institution and phase studied. The questionnaire length was based on 20 minutes per qualifying survey

Supervision and quality control procedures were put in place in order to ensure the accuracy and reliability of the data

The final deliverables were in the form of an SPSS data file, which included all of the captured survey data, a sample breakdown report as well as all the associated syntax's and data map files used.

An initial sample draw of 3200 individuals was then provided to Ask Afrika. Subsequently a further 8 000 oversample was provided to try and meet the required survey target of 3 200 interviews.

There was a slow response rate. This was due partly to the initial confusion about the sampling frame, which negatively impacted the response rate due to the high rate of incorrect calls, and partly because the target audience was difficult to reach since many of the respondents were teachers or students and could not be reached during the day time. The calling times were therefore adjusted and the agents scheduled appointments with the respondents to phone them after hours up until 19:00 at night and on Saturdays in order to improve the response rate. A recommendation for future evaluations is that the data collection phase might have to be scheduled to extend into a holiday season, when teachers might be available to take phone calls during the day.

By 5 December 2014, a total of 3149 surveys were completed that adhered to the required quota structure as provided by Jet. In order to reach the sample size, 80 515 calls were made. This included redialling numbers to maximise the completion rate. In addition 2 706 respondents could not be contacted and 651 respondents refused to complete the survey. The average call length was 19 minutes and 49 seconds.

4.12.1 Call centre process

Before the data collection phase commenced, the Ask Afrika call centre field supervisor was briefed by the Ask Afrika project manager on the project background, objectives and the questionnaire. This was done telephonically since the Ask Afrika call centre is situated in Stellenbosch and the project manager is based at the head office in Brooklyn, Pretoria. During the briefing the field supervisor received a copy of the questionnaire and a field briefing document, specifying exactly how each question should be approached, asked, answered and completed. Once the field supervisor was

briefed the field supervisor briefed all of the call centre agents working on the project on the data collection procedure.

In total 30 call centre agents, 3 QA members and 2 field supervisors worked on the project.

Ronin is a programme used by Ask Afrika in the call centre to conduct telephonic interviews. The programming of a questionnaire took place at the Ask Afrika head office in Pretoria. After the questionnaire had been programmed, it was tested and the sample was imported into the system. It was then sent to the call centre in Stellenbosch for piloting before the data collection phase commenced. The call centre agents open the Ronin programme on their computers which then automatically prompts the agent to call a number from the sample list. The call centre agents can then ask questions and record the responses into the programme. The data is then saved as a particular study on the Ronin system which the statistical and Quality Assurance (QA) departments at Ask Afrika can extract into Excel or SPSS for checking and analysis purposes.

4.12.2 Data storage

During the survey process the data was stored on the Jet project file on the Ask Afrika server after being extracted from the Ronin study (as sent by the call centre) and saved on an Excel or SPSS file format.

Only the statistician responsible for the Jet study was able to access, extract and manipulate the data file. The QA department was unable to extract the data file and could only make changes to the data in Ronin as identified by the client or team members at Ask Afrika.

The call centre saves all of the recordings on the Amytyst system which is linked to the Ask Afrika server. From there, the recordings can be extracted and sent as requested.

4.12.3 Piloting the survey

The pilot phase consisted of 20 completed interviews with respondents from the provided sample list. In order to obtain the 20 completes, 160 calls had to be made meaning that only 12.5% of calls were successful. Where necessary, changes were recommended in order to optimise the flow of the questionnaire and to enhance the understanding for respondents. All of the recommended changes were sent to JET for review and approval.

4.12.4 Quality assurance process

On a daily basis, 20% of each agent's interviews were checked by the QA members in order to assert that all the questions were answered and that the correct answers were captured by the agents. In order to do this the QA members would extract and listen to the recordings to ensure that no errors were made. If errors did occur, the QA members corrected the mistakes on the Ronin system so that it could be extracted by the statistical department for routine checks and updates.

4.12.5 Problems experienced during the carrying out of the survey

One of the overwhelming issues with the survey appears to be problems with respondents recalling information from a number of year before or confusing the Funza Lushaka bursary with other

bursaries they may have received. This was evident in questions such as Q17 where some respondents recalled starting and finishing the study programme in the period before the funding started. The other question that seemed to be affected by the recall issues is Q21 which asked the students which year the funding was and what level of study they were in.

The Call Centre found that many of the students had very different experiences and outcomes with the bursary, which made answering some of the questions challenging. For example some respondents indicated that they received the bursary by default via an organisation, whilst others completed the application processes. Also some of the respondents received an overall lump sum pay out (after the fees were settled), whilst others received it monthly.

Due to differences such as the ones mentioned above, "Not applicable" options where added to the script. In future, qualifying questions should be added to the beginning of the questionnaire.

4.12.6 General issues

There was a discrepancy between the list of the universities and phases that Ask Afrika received from JET and the respondents' answers. A pivot table was created to see where the discrepancy was and the relevant changes were communicated to Jet. More than a thousand respondents mentioned a university that did not correspond exactly to the Jet sample list. Ask Afrika conducted another QA process in which the call centre QA's listened to the recordings and made all the corrections to the data. In most cases, these incorrect captures related to respondents using shortened or slang versions of university names, and were easily rectified.

4.12.7 Coding issues

There were coding issues on all of the questions that contained yes or no responses, and therefore SPSS automatically coded yes as 1 and a no as 2. This caused inconsistencies since a no should have been coded as a 1 and a yes as a 2 as per the questionnaire layout.

4.12.8 Syntax issues

Because interim datasets were sent on a regular basis to JET for checking, the syntax was run on the data more than once. This resulted in some of the earlier data sets sent to JET being skewed as a result of the coding issues. In order to correct this, the data was re-extracted from the various studies, and then the syntax was run only once. This resulted in the correct output.

4.12.9 Test data issues

Initially the test data was included in the interim data set since the data was extracted as part of the initial data and counted towards the completed interviews. JET identified the issue and scheduled a meeting with Ask Afrika. During the meeting, the QC process was run and the issue was identified and corrected. As such all test data was removed from the data file.

4.12.10 Data cleaning and statistical quality control process by Ask Afrika

The first step in the data cleaning process entailed running data tables to check whether the respondents answered all of the questions, the triggering patterns and whether there were any

triggering issues. The second step of the data cleaning process consisted of conducting a logic check on the data and comparing the results against the programming to see if all the logic checks were answered. In the case of errors, the call centre QAs listened to the recordings to confirm the answers or to conduct call backs were required. The third and final step included making changes to the data set based on changes from the call centre QAs, followed by a reiteration of step 2 – logic checks.

In addition, the open ended questions were sent for coding and were included into the dataset and cleaned. The school names were coded and 1077 EMIS numbers were also added. This equates to 68% of the total data set.

Where inconsistencies were found in the respondent's answers due to syntax problems, the issue was resolved by re-extracting the data set and running the syntax again.

With other uncertain answers, such as the amounts that the respondents spent on families, the data was sent back to the call centre's QAs. The call centre's QAs then listened to the recordings and corrected the issues in the data.

JET requested that Ask Afrika send interim data at certain points in order to check and quality assure the data and to pick up any issues that may arise early.

Based on the queries from JET, Ask Afrika's QC and data cleaning processes as described above were followed to identify issues and to resolve problems where they occurred. Various QC meetings were held telephonically, and in person, between JET and Ask Afrika in order to ensure 100% accuracy. Daily and weekly conversations and updates were sent to keep Jet up to date on Ask Afrika's progress and issues that were encountered.

4.12.11 Data cleaning and statistical quality control processes by JET

While the survey was being carried out, JET received interim survey data on a number of occasions. This data was received in SPSS and imported into Stata. Queries on the interim survey data were run to check whether there were any triggering (skip logic) issues in the data, to ensure that all questions that should be answered by different groups were answered and that there were no errors or inconsistencies in the data. All areas of concern raised by JET were addressed by Ask Afrika. Regular progress meetings, both telephonically and in person, were held between JET and Ask Africa on data collection.

When the final data was received by JET from Ask Afrika, JET carried out its own data cleaning processes. This involved checking for missing, irregular and inconsistent data. Open ended questions were analysed and where possible further coding was done on the open ended answers. Also the national school EMIS number provided by Ask Afrika were checked and missing EMIS numbers for both the school the respondents matriculated from and the school where the respondents may have been placed after their studies were manually searched for in the 2013 National Master lists of ordinary and special schools using the available information on the schools provided in the Survey and if identified, manually inputted into the survey database. The general data cleaning process followed the one on administrative data in the terms of the activities.

One observation was that most of the questions that had "Other specify" as on option had unusually many responses. Investigation of the "Other" responses revealed that most of them were supposed to be answers on the options provided. All the other responses were imputed back into the correct options, where possible. It is likely that some of the respondents struggled to hear on the phone so chose to select other as an option. One unintended consequence of this is that time allocated for the analysis was then used for this additional recoding/cleaning.

4.13   Qualitative data coding and quality assurance

The qualitative data was collected by field researchers; the interview instrument templates were completed for each interview and recordings for each of the interviews accompanied completed instruments.

The completed instruments then needed to be coded using the qualitative analysis software, ATLAS.ti. Four coders were trained in the purpose of the study, the codebook developed for the evaluation as well as on the use of the software, in a day long training workshop. Training facilitated by JET made use of official ATLAS.ti training tutorials and as well as practical exercises. Practical exercises were designed by JET to facilitate coders understanding of the type of instruments used in the fieldwork as well as the type of information that was gathered. The entire codebook and all the codes were discussed and explained to coders during the training in order ensure standardisation of coding.

In order to further ensure standardisation in coding and to comply with qualitative research quality assurance measures, the following quality assurance process was employed:

- During the coding process all four coders worked together over a two-week period. Coders discussed and decided upon where different responses should be coded during the entire coding process.

- During the coding there were detailed discussions about what new themes should be made and whether or not these should be included.

- On the 5th of December 2014 when coding was completed, the coders all exchanged code books to cross check and quality assure a sample of each other's coding. This process again ensured standard coding as coders were able to establish if there were any discrepancies in the application of codes.

- Coders then had a final discussion of all the new themes that were added into the code book and ensured that all the codes and their explanations were included in the updated codebook. Resolution of any issues that may have come up in the cross checking process was also included in the final discussion.

- The four quality assured datasets were then exported from ATLAS.ti into word. In merging, all the quotations that fall under the same codes were all merged from the four separate datasets into a comprehensive readable format. For instance, all the codes relation to Programme design from the four different datasets have been put under one heading outlining the different interview sources from where they emerged. This ensured that all the

information relating to Programme design for instance would be found in one easily accessible place during the analysis.

- Following the merging process, the data was cleaned and prepared for analysis. The cleaning process involved the checking of punctuation, grammar, repetitions and format.

- The final layer of quality assurance happened during the preliminary data analysis phase where each analyst was assigned specific themes to check and then summarise the information. This gave coders another opportunity to ensure that they were in agreement with the coding for that specific theme and its related quotations. Where there were any discrepancies, coders accessed the original four datasets in which they were be able to cross check that the specific quotation has been adequately coded under the various themes to which it may relate. If then, there were still any discrepancies the analysis manager was consulted.

Following these processes the data was be ready for in-depth analysis and was handed over to the senior researchers for incorporation into the report.

4.14   Presentation of draft final report to stakeholder validation workshop

As is standard for evaluations of this nature, the evaluation team was requested to present preliminary findings to a meeting of FLBP stakeholders. An annual Funza Lushaka stakeholder meeting is held in early December where Programme matters are discussed for implementation in the following year. It was decided that this would be an ideal opportunity for stakeholders involved in the FLBP to engage with preliminary evaluation findings given the logistics involved in bringing together such a large and diverse group of stakeholders. This meeting was held on 3 December 2014 in Pretoria. Members of the evaluation team presented preliminary analysis of the survey data (which was not yet available for all survey participants) and tentative findings from the qualitative data. Participants were given an opportunity to engage with and discuss the preliminary findings.

Evaluation Findings and Analysis

5.1 Introduction

This Chapter of the report outlines the major evaluation findings, based on an integrated analysis of the multiple bodies of data discussed in the previous chapter.

The findings are presented in relation to the conceptual framework, guided by the four overarching questions set out in the evaluation terms of reference. These questions allow findings to be presented on Programme relevance and appropriateness, effectiveness (Programme performance and results) and efficiency, and Programme sustainability. There is an apparent overlap between the questions because the various thematic dimensions typically deal with common aspects of the FLBP. For example, placement is examined through the lens of Programme effectiveness as well as Programme efficiency. Even though this may appear to be two overlapping enquiries, in reality starkly different questions will have been posed in the course of the fieldwork in order to answer the evaluation questions. A matrix linking evaluation questions and research findings is provided in Annexure E to allow the reader to cross-reference specific evaluation questions with the relevant findings section.

This chapter addresses the thematic evaluation areas below, related to Programme relevance and appropriateness, effectiveness, efficiency and Programme sustainability.

1. **Programme relevance and appropriateness**: Is the Programme design relevant and appropriate? This section will discuss the extent to which Programme design articulates with national priorities, education sector context and policy, and the institutional environment. A discussion will also ensue on the conceptual clarity and coherence of the design of the Programme, as well as its theory of implementation and change.
2. **Programme effectiveness**: The measurable results of the Programme: Is the FLBP effective and what contribution is it making to the education sector? What are the effects of the Programme on bursary recipients? This section addresses the degree to which the goals of the FLBP have been met, and whether the objectives were achieved in the period being evaluated. It explores the key results of the Programme in relation to its goals and objectives.
3. **Programme efficiency**: Is the Programme being delivered in the most efficient manner, and are the institutional arrangements, human resources, processes and procedures adequate for Programme delivery? This section addresses issues of value for money relative to Programme spend and whether the operational structure, processes and delivery of the Programme are appropriately set up and executed. This section includes a focus on four key overarching business processes of the FLBP (as identified through the programme theory / logframe process): recruitment, selection, disbursement and placement. This is a substantive section as it addresses the core concerns of an implementation evaluation – how well is the Programme operating? What are the roles and responsibilities of the different stakeholders and are they understood? What are stakeholder perceptions of the various aspects of the

Programme? This section includes a focus on cost effectiveness (financial efficiency) of the Programme.

4. **Programme sustainability**: With its current institutional arrangements, human resources, processes and procedures, is the FLBP sustainable? Does it have the management, administrative and data handling capacity to ensure successful implementation in the future? Is the Programme financially sustainable?

5.2 Relevance and appropriateness of the Programme design

5.2.1 Introduction

The discussion in this section of the relevance and appropriateness of Programme design is based on the detailed literature and document review conducted for the evaluation, which has outlined in detail the policy context within which the FLBP was established and designed (see Chapter 3 above and Annexure A). The discussion also draws on the qualitative interviews conducted for the programme theory process undertaken for this evaluation, which took place with senior individuals who had been involved in the initial implementation period of the FLBP. This section also draws links to the process of clarifying the programme theory and developing a logframe for the FLBP, which addressed programme theory and design through a participatory stakeholder process. This process and the resulting documentation are presented in detail in Annexure B of this report.

5.2.2 The policy context

In order to understand the relevance of the Programme design, it was important to locate it within the national policy context of teacher education and the schooling sector, including the shape and size of the schooling system. This is discussed in detail in the literature review (Chapter 3 above). Broadly, the literature review highlights the importance of good teachers to the strength of the schooling system and learning outcomes. Well qualified and competent teachers have been recognised as key to the improvement of schooling outcomes in South Africa. The quality of teaching and teacher education has become a policy priority, including setting minimum standards for teacher education qualifications, and introducing strategies for an integrated continuing teacher professional development system.

Policy reforms have also focused on teacher supply and demand, which is about the availability of well trained, qualified teachers in priority teaching areas and teaching in schools where there are specialised needs. It is assumed that quality and supply challenges can be turned around in part by attracting young, academically talented teachers to replace an ageing teacher population. As one DHET respondent observed, this is one of the key original objectives of the FLBP:

> We did analysis of supply and demand of teaching posts, it showed us the number of trainee [graduates] coming out were less than the attrition rate... that young people who used to apply were mostly not choosing education. We suggested to attract people to study teaching they should get an attractive bursary that covers full tuition, additional learning material, a means of covering their expenses such [as] accommodation and pocket money. It was a shot in the dark hoping it will encourage an uptake.

Providing access to students in need through supporting financing of poor students in particular is a major priority of government which has rather recently come to the fore.

5.2.3 The Programme design

Several interviewees at DHET and DBE reflected on the Programme design and could describe the relevance and purpose of the Programme clearly and coherently. Those stakeholders involved in the inception of the FLBP shared the view that at that stage the Programme was motivated by the need to supply teachers to the profession, to provide financial support to potentially good teachers who could not afford to study and to raise the profile of teaching as an attractive profession. Given the need for a government-wide initiative to encourage new teachers into the system who would address the need for new teachers, as well as address the need for high-performing students to study teaching, the FLBP was at inception, and remains to date, a relevant Programme. This is summarised in the comment below by a former DBE official:

> All bursaries were abandoned in 1995. In 2004/2005, Government stated that South Africa was in a major supply crisis, noting that 80% of black students could not afford to study teaching. This was due to the 110 colleges merging into the 22-23 universities in 2002, where fees were higher, with no bursaries and few blacks training to become teachers. The political economic imperative was there from 2005… Funza is an incentive to attract quality students into teaching… it is acknowledged that the country needs about 15,000 - 20,000 newly trained teachers per year.

So, the FLBP in its initial form responded to a number of identified policy challenges, including the requirement for larger numbers of new teachers, the need for younger teachers to replace the ageing teacher population, and the need to make teaching an attractive profession for young teachers. It also addressed the high costs of teacher education, and the limited funding available for higher education. The FLBP was also able to target scarce teaching skills from the establishment of the Programme by targeting funding in particular areas of study.

In order for this bursary scheme to work, a mechanism had to be put in place to ensure that the teachers who graduated from this scheme would be absorbed into the public education system. A DBE official described this mechanism as follows:

> A key feature of the Programme was it would provide a full-cost bursary linked to a service obligation for the number of years that you received the bursary… the requirements of Treasury shaped the design… the modality to offer the funding would be the NSFAS. We then needed to be comfortable that students would honour the obligation, therefore a student agreement had to be put in place as well as an agreement between the different stakeholders that took the form of an implementation protocol that sets out the arrangements.

5.2.4 Shifts in the Programme design

As the Programme developed, and government investment in the Programme increased, a mechanism needed to be introduced to ensure that students would teach in public schools as a

repayment obligation for their bursary investment. The implementation protocol mentioned above guides the agreements between all parties involved in the FLBP, including, in the case of teacher employment, the PEDS.

Comments provided by stakeholders are in line with the updated programme theory and those interviewed referred to the Implementation Protocol (DBE, 2014f[79]) that was set up at the start of the Programme as useful in guiding stakeholders. As the Programme developed, it became a priority to target rural areas for placement. While the relevance of this criterion is not in question, the programme theory, developed with stakeholders, recognised the complexity of identifying school teaching needs solely in relation to rurality. In fact it is acknowledged that there is no clear definition of rural/urban schools in the DBE, and a government-wide definition is also lacking. The quintile system determines the relative socio-economic status of areas in which schools are located, with quintile 1-3 schools being those in the most socio-economically disadvantaged areas. It should be noted that the programme theory process undertaken for this evaluation changed the wording to talk to "geographical areas of need", as it was felt this would suggest more nuance in Programme design. This of course is heavily dependent on the forecasting systems in place, as discussed in section 6.4.6 below.

Evidently there has been an appropriate shift in the Programme design to ensure that it remained relevant and appropriate in terms of national priorities, education sector context and policy, and the institutional environment. Over time the Programme had to both respond to the demand-side requirements of the basic education system and evolve into a more complex Programme to ensure that the complexities of supply-side needs are addressed. The bursary has become pro-poor (through the introduction of a district-based recruitment scheme, targeting learners in schools in quintiles 1-3), although the relative poverty of bursary recipients cannot be measured.

The majority of stakeholders indicated that there have been continuous improvements in processes based on weaknesses or needs that have arisen. Key aspects referred to were: a shift in the way the selection processes take place to a greater involvement of PEDs and the DBE; a shift in focus to recruiting based on priority needs, which are identified annually in consultation with provinces; and requiring the PEDs and districts to become more involved in the recruitment and placement of teacher graduates (through the introduction, for example, of a district-based recruitment system in 2012). Two DBE officials referred to this shift in some detail:

> The original assumption was the selection process would be handled at universities. By about 2009, much stricter policy guidelines were issued. By 2010, we involved selection committees and by 2011 we had provinces included to take the provincial need into account.

> The shift to now is: this is a Programme for the basic education sector where PEDs, the district up to school level need to be involved to inform placement and selection and recruitment. We required provinces to become more involved from 2012. Since 2013

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[79] *Department of Basic Education, 2014f. Implementation Protocol on the Funza Lushaka Bursary Programme. Pretoria: DBE.*

the shift has been to district-based recruitment and the role of provinces has increased – they actively recruit by going into schools.

However, the programme theory process identified the need for further shifts in the design of the Programme. Stakeholders at the DBE raised concerns about aspects of the Programme that needed to be adjusted. Concerns raised by stakeholders included: ways of monitoring the contractual obligations of students; the limited timeframes available for placing students; revising policies that refer to roles and responsibilities of stakeholders, in relation to selection for example; and how to ensure regular reflection time for Programme participants, so as to fine-tune the Programme for it to remain appropriate over time. As DBE officials put it:

> I strongly believe the foundation is made and we are piling bigger blocks on this foundation [but] we are not fine-tuning the Programme adequately.

> At the present day we don't even have time for reflection. Just churning out what the Minister requires us to do. We need to sit as a team to determine what works and what doesn't. Having semi-annual reflection sessions would be critical.

These Programme design changes are discussed in more detail in the conclusions and recommendations of this report (Chapter 6).

Those stakeholders involved in the inception of the FLBP highlighted assumptions upon which the Programme was designed that posed some challenges during implementation. These include the assumption that placement of graduates would be straightforward and that selection of students based on NSC results would be an indicator of quality. Various stakeholders questioned the assumptions during interviews and the stakeholder workshop, providing recommendations for future refinement of the Programme. A DHET official provided the following comment:

> The assumption that you could just place people and the context is receptive has been flawed. Students have experienced going to a school to be told they are not needed there. Another assumption generally about teacher education is that matric results are an indicator of quality so if we get high quality entrants based on matric results, we will get high quality teachers. Maybe we need to better understand the notion of teacher quality. I think there are other good indicators of quality that are missed.

The detailed assumptions behind Programme objectives are discussed in detail in Annexure B, but it is clear that Programme design needs to be reviewed frequently to ensure that design is adequately responding to changes in Programme requirements. The programme theory developed for this evaluation was able to be more specific about what is understood by 'merit' as not only being related to high marks in the NSC but also about "passion for teaching, teaching ability and desire to teach in priority subjects, phases and identified areas". Programme design will need to respond to this definition, as the NSC and university academic results are currently the only mechanism for measuring merit. In addition, given the complexities of teacher demand, the broad goal of addressing teacher scarcity by attracting students to teach in rural and poor schools has been defined in relation to priority areas, which includes "subjects, phases and identified geographical areas of need". Stakeholders considered this to be a more accurate description of the Programme

objectives, but the Programme design will need to take into account the kind of forecasting/planning system necessary to put this into practice.

Overall, the Programme design of the FLBP can be said to be relevant to the broad context of the need for supply of strong teacher education graduates who take on teaching posts in priority skills areas in public schools needing teachers in these areas. However, as the logframe and programme theory developed through this evaluation show, the appropriateness of Programme design needs to be interrogated regularly. Design shifts need to be put in place to respond to Programme complexity. Recruiting students who are 'suitable' may require more than an assessment of academic results: placing newly-qualified teachers into schools in appropriate areas is a process largely out of the control of a bursary programme, and an acknowledgement of this complexity in Programme design is necessary to understand what must be in place for FLBP graduates to be placed. So as the Programme has developed in complexity, it is argued here that all the tools necessary to respond to the changes have not been put into place.

The institutional environment within which the FLBP was originally established has changed significantly since inception, with the split of the old Department of Education (DOE) into the DBE and the DHET. This affects Programme design in significant ways. For example, identifying scarce skills and areas of need requires a complex planning system between the DBE and PEDs, with which the FLBP must effectively engage. Equally the quality of ITE graduates is not within the control of the schools, PEDs or the DBE, and is the responsibility of universities, with oversight from the DHET. The assumptions built into the design of the FLBP must be adequately addressed in order for the design to be fully effective. The logframe which was updated at the end of the evaluation (see Annexure B) will allow the Programme to pay greater attention to this design detail going forward.

5.2.5 Conclusion: relevance and appropriateness of the Programme design

The FLBP is relevant and appropriate in terms of national priorities and policy in the context of South African education, as well qualified and competent teachers are key to the improvement of learning outcomes. The quality of teacher education is a government policy priority – young, well trained and academically talented teachers are needed in priority phases and subjects, particularly in under-resourced schools in the poorer quintiles. The FLBP was designed to attract candidates of this calibre to ITE programmes (targeting scarce skills in specific subjects, phases and geographical – or, perhaps more appropriately, geopolitical – areas of need) and raise the profile of teaching as an attractive profession. In a context of limited funding for higher education, the Programme has addressed a difficult phase in the post-apartheid transition, in which fees for ITE Programmes rose and the number of Black students dropped despite growing challenges in terms of the supply of teachers. More recently, the #feesmustfall movement has placed the affordability and financing of higher education, specifically for poor students, firmly on the national agenda.

In the next section we address the effectiveness of Programme implementation.

5.3 Programme effectiveness

5.3.1 Introduction

Programme effectiveness can be defined as "a measure of the extent to which [a programme] attains its objectives. In evaluating the effectiveness of a programme or a project, it is useful to consider the following questions: To what extent were the objectives achieved or are likely to be achieved? What were the major factors influencing the achievement or non-achievement of the objectives?" (Adapted from OECD, 1991:9)

In order to ascertain the effectiveness of the FLBP, the Programme was assessed in relation to the goals, objectives and main intended outcomes which were set for the Programme and outlined in the evaluation Terms of Reference, *as well as* the goal, objectives and expected outcomes identified in the programme theory and logframe which were developed for the Programme in 2014 (see Chapter 2 and Annexure B). Changes to the design of the FLBP and to the original goals and objectives of the Programme from 2007 to 2014 are discussed in relevant sections of the report (Chapter 2, Section 5.2 and Section 5.3).

The extent to which the goals and objectives of the Programme have been achieved over the period 2007-2012 can be measured using the following key indicators of Programme performance:

1. Overall contribution of the FLBP to growth in ITE enrolment
2. FLBP selection criteria – are the right students being selected? Are they completing within a satisfactory timeframe?
3. Outcomes of the placement of teachers in identified areas of need (rural and poor schools)
4. Number of students recruited and funded in priority areas
5. Number of graduates teaching in the subject they specialised in

In this section we also present student profiles by factors such as gender, race and age.

5.3.2 Contribution of the FLBP to ITE enrolment

There was a significant increase in the number of students enrolling for four-year bachelor degrees in education, and for postgraduate diplomas and certificates in education over the period covered by this evaluation. Between 2005 and 2012, the number of students in ITE increased by 225%. As can be seen in Table 46 below, the first of many substantial increases occurred in 2008 (14.3%), the second year of implementation of the FLBP. In total 23,298 students were funded to study in the field of education through the FLBP between 2007 and 2012, from an initial 3,669 in 2007 to 11,621 in 2012. Although the number of students funded by the FLBP has increased between 2007 and 2012 every single year, the increase varied per year ranging from 77% between 2008 and 2009, to a drop of -13.9% between 2010 and 2011.

Although the large increase in the overall number of students enrolled in ITE cannot be linked directly to the FLBP, it appears highly likely that the provision of bursaries through the FLBP has contributed to the increase in the number of students. The proportion of students funded by the

FLBP in ITE increased from 12.7% in 2007 to 13.5% in 2012, peaking at 22.5% in 2009. Over the period 2007 to 2012, the FLBP contributed to 15% of the total ITE student intake.

Table 29: Enrolment in selected education courses* and FLBP bursars in higher education institutions, 2005 to 2012[80]

Year	TOTAL Enrolled in ITE*	% change on previous year	FLBP-funded students	% change on previous year	FLBP-funded students as a % of total enrolled
2005	26 582	-	-	-	-
2006	28 118	5.8	-	-	-
2007	29 002	3.1	3 669	-	12.7
2008	33 139	14.3	5 189	41.4	15.7
2009	40 754	23.0	9 188	77.1	22.5
2010	51 299	25.9	10 073	9.6	19.6
2011	73 201	42.7	8 677	-13.9	11.9
2012	86 245	17.8	11 621	33.9	13.5

*Education courses included are UG BACH. DEG (1st B Deg 4yrs or more), PG/DIP/POST DIP DIP/CERT

The lower number of awards in 2011 does not signal that there were fewer applications, but was "due to the inflation related adjustment by Treasury (about 5%) on the 2010 allocation, while the fees at many of the universities increased by over 10%" (DBE, 2012b). The large increase in the number of awards in 2012 could, therefore, also have been as a result of budgetary increases after the inflationary adjustments of 2011.

5.3.3 FLBP selection criteria – are the right students being selected?

Selection criteria for the FLBP are clearly set out in the policies and processes document updated annually from 2009.

Students must meet the university entrance requirements and be accepted for study in an ITE programme, and the bursary is specifically intended for high achievers. Acceptable academic performance is necessary for acceptance and is defined in the document as being determined by NSC results (in the case of first-time applicants) and academic results (when students are already studying). For PGCE applicants, at least 55% achievement in prior academic courses is necessary for financial support. For returning students, a pass of 2/3 modules is necessary with a mark of at least 50% in these courses, as well as the permission to progress. The criteria are minimum criteria, and may differ from institution to institution, but across all institutions strong academic performance is the primary criterion.

The applicants must be accepted into approved degree programmes (or the PGCE) in at least two of the priority subject areas of the Programme. Students have to be South African and registered at one of the public universities offering ITE programmes.

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[80]Department of Higher Education and Training website, *http://www.dhet.gov.za/SitePages/Org_Universities.aspx?RootFolder=%2FHEMIS%2FEnrolment%2FEnrolment %20%2D%20Table%202%2E7&FolderCTID=0x012000B8085885C40BA64199A3A1AAD74A1D74&View=%7B559 1CDEB%2D164C%2D4A0C%2D9435%2D366E45ADDB19%7D downloaded 18 December 2014.*

In the 2014 operations manual the following additional criteria for selection were added (DBE, 2014f):

- "Commitment to a teaching career, which includes: interest in working with young people; enthusiasm for a professional career in teaching; readiness to face and surmount difficult challenges and personal integrity".
- "Commitment to teach in any school to which a student may be placed by a PED".
- "Everything else being equal, selection should favour candidates from rural areas, candidates who wish to teach in rural areas and candidates whose financial position would otherwise exclude them from enrolment for a teaching qualification."

While these areas are clearly linked to the FLBP programme theory developed for this evaluation (Annexure B), they did not form part of the selection process between 2007 and 2012. Their inclusion in the 2014 standard operation procedures (SOP) manual is not accompanied by an indication of how these criteria could or should be measured, and this evaluation did not identify any specific methods by institutions to try and measure commitment of possible bursary recipients. These issues will need to be considered as part of the implementation of Programme strategy from 2015 onwards.

From interviews with key respondents linked to the Programme, it is clear that issues of student motivation and attitudes are important, but measurement of these has not formed part of the formal selection process to date. Although it may well be important to determine whether the right students are being selected in terms of this criterion, a formal measurement mechanism for "commitment to teaching" has not been developed, and is likely to prove challenging when attempted.

Regarding commitment to teach, all bursary recipients do sign legal agreements with specified contractual obligations to pay back their bursary through an agreed period of teaching service in (a) public school(s). The signing of legal agreements represents a formal commitment to meet this requirement. However, as will be shown below, the absence of a formal tracking system as a Programme mechanism to facilitate recovery of funds if students renege on their agreements, makes it difficult to determine the financial obligation passed onto FLBP bursars in these scenarios.

In relation to the selection of candidates from rural areas, the introduction of the district-based recruitment system is a formal mechanism to address this area of selection. It is important to note that its introduction falls outside of the period of review of the evaluation, and combined with a lack of data prevents accurate assessment of the selection of candidates from rural areas. There is currently no data available on students' provinces and area of origin.

Other relevant objectives of the Programme were that: recruitment mechanisms would be used to attract quality students to become teachers in identified priority areas (increasing in numbers by 10% each year); and that the number of students with very good NSC Bachelor's passes would choose teaching as a career option and train in priority areas. It is evident that the FLBP has been able to achieve and has indeed surpassed these original goals.

With the introduction of district-based recruitment in 2012, another intended outcome (according to stakeholders interviewed) is to increase the number of students from rural areas taking up teaching. A key assumption inherent in these recruitment objectives is that a dedicated recruitment strategy focused on attracting high-performing students and offering them a full-cost bursary will attract strong students who become good teachers, and who, through the service agreement, will go on to teach in rural and under-resourced schools. Currently, the bursary does not take income, ability to pay, previously disadvantaged status etc. into account, which sets it apart from the Department of Social Development (DSD) and Department of Agriculture, Forestry and Fisheries (DAFF) bursaries. There is no means test, and merit and study in priority areas are in practice the key criteria for award of FLBP bursaries.

In terms of the FLBP award process there is little to distinguish those who are selected for the FLBP, as it was not possible for the evaluation team to examine the NSC results of applicants. Indeed, as the table below indicates, a range of NSC passes were obtained by FLBP bursary recipients (from NSC without exemption to NSC with Bachelor's pass), and the data does not provide an indication of relative performance at NSC level. This was discussed with the evaluation steering committee, as it would have been interesting to track the school-leaving results of FLBP bursary recipients. In this manner, it may have been possible to answer the question of whether top-performing students are being selected to the Programme, based on their relative educational performance in their selected university programme.

On the whole, measurement of Programme performance in terms of attracting quality students proved complex. School-leaving results alone do not answer the issue of appropriately qualified students receiving the bursary, as all entrants who qualify for the bursary have already obtained entrance to university and meet that basic standard. Measuring whether the best-performing students are receiving the bursary would require a proper academic monitoring and tracking system to provide completion and time-to-graduation information about each student cohort. Also, the criteria for quality have to be made specific, so that indicators against these criteria can be developed. As discussed earlier, this has not been possible to assess based on the available data.

Table 30 shows the type of NSC pass according to the students surveyed. Approximately 78% of respondents passed the NSC either with the bachelor pass (since 2008) or with an exemption pass (prior to 2008). These passes are considered the minimum requirement for entry into university. Almost 11% of respondents received a NSC pass that would not allow them entrance to a degree course at a university. This may be explained by numbers of students already in teaching positions and upgrading their qualifications, those who studied in teaching colleges before they merged with universities, or it could be that some students have entered teaching after studying in other fields and obtaining other types of qualifications.

Table 30: Type of NSC pass of survey respondents

NSC Pass	No.	%
National Senior Certificate Bachelor's pass	8 984	45.1%
National Senior Certificate with exemption	6 576	33.0%
National Senior Certificate Diploma pass	649	3.3%
National Senior Certificate Higher Certificate Pass	323	1.6%
National Senior Certificate without exemption	1 187	6.0%
National Certificate Vocational (Level 4)	30	0.1%
NSC equivalent from another country	44	0.2%
Other	293	1.5%
Don't know	1 830	9.2%
Total	19 916	100.0%

As all these students obtained entrance to university, there is little to differentiate them in terms of quality of performance.

In addition to the discussion about results, it should be noted that academic results on their own cannot necessarily be regarded as an indication of a good teacher. Other measures of excellence would have to be considered, and some government stakeholders expressed this as follows:

> … If criteria are academic they miss the quality (commitment to the profession, love for children) – we don't take those into account in FLBP. Universities don't like going down that route because if challenged legally it is difficult to say they rejected that one and accepted the other. It would be fair to say there are qualities required by a teacher that FLBP doesn't take into account. How to do this – when Transvaal Education Department awarded bursaries, they asked the headmasters from the school the student was coming from to give an opinion. (DBE interview)

> Another assumption generally about teacher education – matric results are an indicator of quality, so if we get high quality entrants based on matric results we will get high quality teachers. Maybe we need to better understand the notion of teacher quality. Some students may have other attributes to make them a better teacher and not just good matric results. I think there are other good indicators of quality that are missed. (DHET interview)

As has been noted above, the FLBP selection process is not currently set up to measure other aspects of attracting good teachers, and only uses overall academic performance as a measure of selection.

The strongest indication of whether or not high-performing individuals are being selected as FLBP recipients is the performance of students within the B.Ed. and PGCE degree programmes.

Table 31: Survey respondents' study status

Phase Specialisation	Currently Studying	% Studying	Graduated	% Graduated	Dropped out	% Dropped out	Total
PGCE	73	25%	215	74%	4	1%	292
BEd	1,202	42%	1,561	55%	94	3%	2,857
Total	1,275	40%	1,776	56%	98	3%	3,149

Table 32: Graduation time of survey recipients

Programme	Time Taken	Number	Percentage
PGCE	More than Minimum Time	109	51%
	Minimum Time	106	49%
B.Ed.	More than Minimum Time	296	19%
	Minimum Time	1265	81%

What is critical about the table above is that a very high proportion (81%) of the 1 561 surveyed FLBP students who had graduated with B.Ed. degree graduated in the minimum time. This is a critical finding, as recent historical data drawn from HEMIS cohort studies of the full student cohorts covering all areas of study and all institutions, from 2005 and 2006, shows that on average only about 27% of students in degrees and diplomas in the South African university system graduated in the minimum time required for a degree (CHE, 2013[81]). This is confirmed in a DHET study (DHET, 2016[82]), which shows that the national B.Ed. throughput rate in minimum time was 46.7% and 41.7% for the 2000 and 2005 cohorts respectively; the same study reports that 16.2% of the cohort commencing their B.Ed. studies in 2005 dropped out after their first year of study and 31.1% by year 10. This shows that the FLBP completion rates are significantly higher than the average. The high proportion of FLBP students graduating in the minimum time is an indication of Programme effectiveness and cost effectiveness.

In relation to questions about attitudes of FLBP recipients to teaching and their willingness to teach in rural and poor schools, survey and interview data were used to interrogate these assumptions.

The reasons why students would try to avoid being placed in rural schools were gleaned during focus groups with students, in which students highlighted that they were nervous about rural schools because of poor living conditions and the fact that there was multi-grade teaching in many rural schools. However, some bursary recipients understood their contractual obligation to teach in rural and under-resourced schools, and were keen to be deployed to these schools. In fact, bursary recipients pointed out that one of the most attractive aspects of the FLBP is that they would be

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[81] *Council on Higher Education. 2013. A Proposal for Undergraduate Curriculum Reform in South Africa: The Case for a Flexible Curriculum Structure. Report of the Task Team on Undergraduate Curriculum Structure. Pretoria: CHE.*

[82] Department of Higher Education and Training. 2016. 2000 TO 2008 First Time Entering Undergraduate Cohort Studies for Public Higher Education Institutions. Pretoria: DHET.

placed – they would get a job. Some universities were reported as having prepared students to teach in under-resourced areas:

> I'm happy to be placed in an under-resourced school because I am the product of those schools. Many teachers go to urban areas. I would like to be placed in a school where there are enough resources, but I wouldn't mind a rural school. I wouldn't mind teaching in an under resourced school because the university has equipped us to teach in such schools. I feel okay to work in an under-resourced school because here at [campus name] we are prepared to overcome any type of school. It is fair to pay back the bursary in this way because we've been helped and we are giving back. I would not be happy to be placed in an under-resourced school. I would not mind being in a rural school as long as all the resources I need will be available. (Student focus group)

> I think rural areas are good for your foundation. You get all types of learners at these levels. There are very poor versus students who have some money at home. All students are prepared to be put in under-resourced schools. The other thing I like is they say they put us in a deep rural area which is good to develop the community there. We need to go and bring life. (Student focus group)

The challenge of measuring commitment in relation to whether students are adequately paying back their bursary in teaching service is important to note. The absence of a tracking system meant that this could not be measured. Despite the lack of a tracking mechanism, however, it seems clear that relatively high numbers of FLBP students are in fact teaching in public schools: the placement data from the survey show that of the 1 776 students who had graduated from university, 92% were employed and 86% of these reported that they were paying back their service obligation by teaching in a public school. The gap could be those teaching in independent schools or in SGB-funded teaching posts in public schools. Although 6% of graduates had not been placed, which represents a possible financial loss to the state as well as a personal cost to the students not placed, the proportion of those working as teachers in public schools is high. From the focus group data it is also clear that students value the fact that they will be placed in a job following graduation and have positive attitudes to their teaching service obligation. The majority of students in focus groups felt that the service obligations were fair. This is a positive finding of the evaluation – an indication that the FLBP is selecting students with a positive attitude to their obligation to pay back the bursary through service.

5.3.3.1 Student attitudes towards teaching

While 78.9% of survey respondents indicated that they would have studied teaching even if they did not receive the FLBP bursary, 19.2% said they would not have studied teaching if it had not been for the bursary.

While 61.9% of survey respondents chose their major subject because they were interested in it, for a small proportion of respondents (3.5%) their major subject choice was influenced by the availability of the bursary.

Table 33: Survey respondents who were influenced in their major subject choice by interest in the subject and by the existence of the FLBP bursary

Influences	No.	%
Interest in the subject	12 330	61.9%
FLB availability for priority subjects	689	3.5%

A lack of interest in teaching does not appear to be a concern. With regard to the reason for choosing teaching as a career, 76.6% strongly agreed or agreed that they chose to study teaching because they received a teaching bursary. However:

- 81.5% strongly agreed or agreed that they had always wanted to be a teacher;
- 96.9% strongly agreed or agreed that they wanted to share their knowledge of a subject;
- 89.7% strongly agreed or agreed that they saw it as a step to further study;
- 92.5% strongly agreed or agreed that they chose teaching because they wanted to teach in a respected profession;
- 87.9% strongly agreed or agreed that they were inspired by a teacher who had taught them;
- 98.6% strongly agreed or agreed that they would like to improve the quality of education in South Africa;
- 90.1% strongly agreed or agreed that they chose teaching because they wanted job security to support their family;
- 96.5% strongly agreed or agreed that they liked working with children;
- 73.5% strongly agreed or agreed that they wanted a job that would give them an opportunity to work in another country; and
- 76.5% strongly agreed or agreed that they chose teaching because they liked the holidays and working hours.

On the other hand, only 26.7% strongly agreed or agreed that they chose to study teaching because they could not get into their first choice of study, 20.8% strongly agreed or agreed that they thought teaching was easier than most other jobs and only 13.1% strongly agreed or agreed that they studied teaching because they did not know what other job to do.

Figure 8: Reasons for choosing to study teaching

Figure 8: Reasons for choosing to study teaching
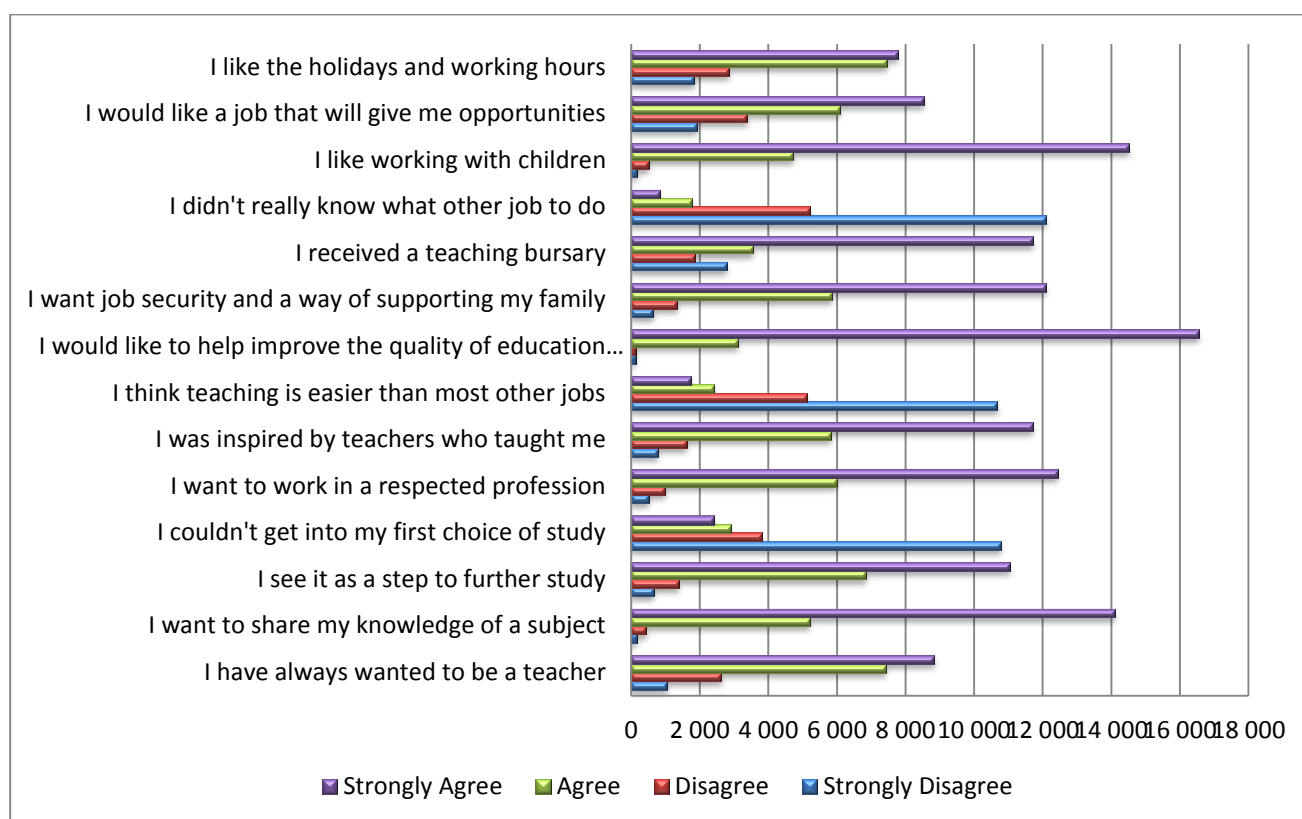
These data show that students who accepted the bursary do so for the most part for positive reasons, such as wanting to work with children and wanting to improve the quality of education. However, this is self-reported data and it is likely that there is some bias in the results. The survey participants are likely to err on the side of reporting positive intent as they will expect it is what the evaluators will want to hear. However, the survey findings in this area are largely positive and are supported by the data in the table below.

Table 34: How bursary recipients are repaying their bursary

Method of fulfilling obligation	No.	%
Paid/Paying back in service (i.e. you are working at a school to pay back the bursary)	9 673	86.2%
Paid/Paying back financially (i.e. the bursary has been converted to a loan, paying money in monthly instalments)	50	0.4%
I am not paying it back (i.e. I have been declared in breach of contract)	272	2.4%
I am still awaiting placement	851	7.6%
I have been released from my service obligation	226	2.0%
Other	153	1.4%
Total	11 225	100.0%

Only 2.4% of survey participants reported being in breach of contract, i.e. defaulting on their obligations, and another 2% have been released from their obligations to repay the bursary due to not being placed; 7.6% say they are still awaiting placement. By and large the bursary is being paid back in service with 86.2% stating they repaid or are repaying through service and an additional 0.4% repaid their obligation monetarily by converting the bursary to a loan. Of those who gave other reasons, most indicated that they were unsure about what was happening in terms of them paying back the FLBP as they had received no communication and had not been placed. Responses for the others included the following:

- "I am not intending to pay them back. The period of obligation is expired."
- "I don't know. Maybe they deducted money from my salary."
- "They haven't placed me as yet. They said if you haven't been placed within three months the contract falls away."
- "I don't know when to pay them back because they didn't place me. I got the job myself."
- "They were supposed to give me a job within three months. That was the agreement. So I don't have to pay them back."
- "Not at all. I'm living overseas."

The statements above are an indication of a number of different situations, but as the overall numbers show they were made by a small minority of students.

Universities raised concerns about what happens to defaulters, indicating that once students leave they are not aware of any tracking or monitoring, and raised concerns about students not getting placed and therefore not working back their bursary.

Some interview participants held the view that students default in fairly large numbers:

> The students know nothing happens to the defaulters – that is why we have them defaulting in large numbers. I had a dossier from [university name] from students who refused to submit their placement forms and walk away scott-free… (DBE interview)

However, this was in contrast with the views of others interviewed, who indicated that very few students asked to be released from their obligations. While there are students who choose to pay back the money and there is definitely a problem in monitoring students and therefore holding them responsible to the conditions of their contracts, there is no evidence of defaulting on a large scale.

Nonetheless, whether students enter the public schooling system and pay back their full teaching obligations to the state or not is seen as a major indicator of the success of the FLBP and is an important indication of its sustainability.

5.3.4 Outcomes of the placement of qualified teachers

The main intended outcome of appropriate placement of FLBP graduates is that they will be placed in priority subject areas and in identified geographical areas of need. Of the surveyed bursary recipients who had graduated, a significant 91% were employed as teachers.

By linking data on recipients found in the PERSAL data to the full list of recipients of the bursary between 2007 and 2012, it was found that 11 097 FLBP recipients were employed in public schools

in government-paid positions. This amounted to 47.6% of all FLBP bursars between 2007 and 2012. However, of those in the FLBP data who had graduated it was found that 83.5% had been placed in schools (according to the PERSAL data), which indicates that they are working in public schools in government-paid positions.

Table 35: Number and percentage of all Funza Lushaka bursars between 2007 and 2012 according to graduation and employment status

Found in Education Persal	Graduation status							
	Fulfilled		Not fulfilled		Withheld		Total	
	No	%	No	%	No	%	No	%
No	1 768	16.5%	10 337	83.7%	0	0.0%	12 105	52.4%
Yes	8 966	83.5%	2 006	16.3%	3	100.0%	10975	47.6%
Total	10 734	100.0%	12 343	100.0%	3	100.0%	23080	100.0%

It should be noted that the data in the table above (which links FLBP data to PERSAL data) relate to different periods. The definitive list of FLBP recipients is for the period 2007 to 2012, the information on graduation status is for the period 2007 to 2012 and the information on PERSAL is for the period 2008 to 2014.

According to the survey respondents, of those who graduated 91.8% were employed as teachers and a further 1.7% were employed but not as teachers. Some 6.4% were not employed. The 91.8% found in the survey to be employed as teachers is higher than the 83.5% who were found in PERSAL data to be employed. The difference could be attributed to the fact that the PERSAL data can only identify teachers employed in public schools in government-paid positions. It does not include individuals employed in independent schools or public schools in positions paid by school governing bodies.

Table 36: Employment status of graduates

Employment status	No.	%
Employed - not as a teacher	195	1,7%
Employed - as a teacher	10 308	91,8%
Not employed	722	6,4%
Total	11 225	100,00%

The table below shows that 82.8% of FLBP graduates surveyed who are teaching are currently teaching in public schools, while just 1.8% are teachers in independent schools. It should be noted that 15.5% of the schools where respondents are currently teaching could not be identified as public or private due to a lack of reliable information in terms of school EMIS numbers.

Table 37: Sector of employment for those employed as teachers (survey respondents)

Sector	No.	%
Independent	185	1,8%
Public	8 693	82,8%
Unidentified schools	1 625	15,5%
Total	10 503	100,0%

In the FLBP data all the teachers were in public schools. This was to be expected as PERSAL data which was used to identify FLBP recipients who had been placed only deals with government-paid teachers employed in public schools.

Table 38: Type of post of surveyed graduates' placement

Province	State paid		SGB		Refused		Total	
	No.	%	No.	%	No.	%	No.	%
Eastern Cape	921	79.8%	233	20.2%	0	0.0%	1154	100%
Free State	622	93.1%	47	7.0%	0	0.0%	668	100%
Gauteng	1662	92.6%	127	7.1%	6	0.3%	1795	100%
KwaZulu Natal	2303	94.9%	97	4.0%	27	1.1%	2428	100%
Limpopo	662	89.3%	55	7.4%	24	3.2%	741	100%
Mpumalanga	668	91.6%	60	8.2%	0	0.0%	729	100%
North West	429	97.1%	13	2.9%	0	0.0%	442	100%
Northern Cape	542	94.6%	30	5.2%	0	0.0%	573	100%
Western Cape	1335	88.1%	172	11.4%	8	0.5%	1515	100%
Total	9145	91.0%	834	8.3%	65	0.6%	10045	100%

Of those respondents currently teaching in public schools, 91% were employed in government-paid positions. This ranged from a low of 79.8% in the Eastern Cape to a high of 97.1% in the North West.

Overall, 73% of placed teachers are in permanent positions. KwaZulu Natal and Gauteng have the highest proportion of permanently placed FLBP graduates, but they also have the highest number of temporary placements. The Northern Cape's temporary placement proportion is very high relative to the proportion of permanent placements.

Table 39: Employment status of employed students

Current Province	Permanent		Temporary		Refused		Total	
	No.	%	No.	%	No.	%	No.	%
Eastern Cape	967	12,8%	226	8,3%	8	15,2%	1201	11,7%
Free State	578	7,7%	90	3,3%	0	0,0%	668	6,5%
Gauteng	1198	15,9%	678	25,0%	12	22,0%	1888	18,3%
KwaZulu Natal	1952	25,9%	508	18,7%	10	18,7%	2470	24,0%
Limpopo	735	9,7%	12	0,4%	0	0,0%	747	7,2%
Mpumalanga	556	7,4%	193	7,1%	0	0,0%	749	7,3%
North West	281	3,7%	150	5,5%	24	44,1%	454	4,4%
Northern Cape	98	1,3%	475	17,5%	0	0,0%	573	5,6%
Western Cape	1176	15,6%	382	14,1%	0	0,0%	1558	15,1%
Total	7541	100,0%	2714	100,0%	53	100,0%	10308	100,0%

Where the geographical location of schools was known it can be seen from the survey data that 41.4% of FLBP graduates were placed in urban schools and 29.4% were placed in rural schools. It should be noted that there was no information for just over 29% of schools. This information gap

means that we cannot assess whether graduates are more likely to be placed in rural or urban schools.

Table 40: Geographical location of school that those employed as teachers are teaching at (survey data)

Geographical location	No.	%
Rural	3 092	29,4%
Urban	4 353	41,4%
To be updated*	1 393	13,3%
Unidentified schools **	1 665	15,9%
Total	10 503	100,0%

 * 'To be updated' is a category in the EMIS data.
** 'Unidentified schools' were those for which an EMIS number could not be found.

The definitive data of FLBP recipients who had been placed (linked with national EMIS data) indicates that 39.1% of FLBP teachers are placed in rural schools while 47% are in urban schools. The numbers between the survey and definitive data differed, due to the difficulties with school EMIS numbers provided, but showed similar trends in terms of a greater proportion of teachers being placed in urban schools. The overall data from the 2013 DBE Master list of schools shows that 50.6% of schools overall are rural, 32.1% are urban and 17.4% have the label 'to be updated', so the placement of FLBP graduates is falling well below the target of a majority of graduates teaching in rural schools.

Table 41: Geographical location of school that those employed as teachers are teaching at (data from FLBP)

Geographical location	No	%
Rural	4,216	39.1%
Urban	5,084	47.0%
To be updated	1,492	14.0%
Total	10,792	100.0%

In terms of the objectives to place students in poor schools it can be seen that some 50.6% of respondents were teaching in schools which are ranked from quintile 1 to 3. Quintile is used as a proxy for SES and thus the FLBP has placed half its teachers in the poorest schools. This finding should be seen in the context of the objective to place teachers in poor schools only being adopted in 2012.

Table 42: Quintile allocation of schools where those employed as teachers are teaching (survey data)

Quintile derived	No.	%
1	1 838	17,5%
2	1 626	15,5%
3	1 849	17,6%
4	1 461	13,9%
5	1 756	16,7%
Not applicable	95	0,9%
To be updated	253	2,4%
Unidentified schools	1 625	15,5%
Total	10 503	100,0%

The definitive data of Funza Lushaka recipients who had been placed (linked with national EMIS data) indicate that 63.1% of FLBP graduates are teaching in schools ranked from quintiles 1 to 3.

Table 43: Quintile allocation of school where those employed as teachers are teaching (FLBP data)

Quintile	No.	%
1	2,323	21.5
2	2,234	20.7
3	2,262	20.9
4	1,772	16.4
5	1,980	18.3
NOT APPLICABLE	176	1.6
TO BE UPDATED	64	0.6
Total	10,811	100

According to the PERSAL data linked to the list of FLBP recipients the breakdown by province of all placed graduates ranged from 27.3% in KwaZulu-Natal to 3.5% in the North West and the Northern Cape. The data highlight difficulties with placement in most provinces.

Table 44: Province of schools where those employed as teachers are teaching (FLBP data)

Province	No.	%
Eastern Cape	1 001	9.0%
Free State	835	7.5%
Gauteng	1 987	17.9%
Kwazulu-Natal	3 032	27.3%
Limpopo	916	8.3%
Mpumalanga	770	6.9%
National Department	1	0.0%
North West	391	3.5%
Northern Cape	385	3.5%
Western Cape	1 779	16.0%
Total	11 097	100.0%

The data presented above suggest that the intention to place FLBP graduates predominantly in rural and poor schools has not been achieved. There are still large numbers of graduates teaching in both urban and quintile 4 and 5 schools. However, the data are limited by the large numbers of schools that cannot be identified in rural/urban or quintile terms. It must also be noted that measuring the Programme against these criteria is problematic for the period 2007 to 2012 as the objectives were not well established in the early years of the Programme's operation. Greater attention will need to be paid to these criteria going forward, but more accurate data will be required for future measurement.

5.3.5 Recruitment and selection of recipients in identified priority areas

An integral aspect of the recruitment and application process is attracting students to teach in priority areas. Priority areas for the FLBP are identified in the Implementation Protocol, which was developed in 2007 and updated in 2011. However, policies and processes were amended several times to review priorities as needed. According to a DBE respondent, the inclusion of subjects on the priority list is based on vacant posts that PEDs must fill, university graduate output and learner enrolment in schools in specific subjects where there are signs of increased demand. The priority list developed in 2007 was amended in 2011 for the 2012 implementation year by adding Geography, Economics and Accounting. Geography was added because it was proving to be a popular subject among learners at school, yet universities were not producing an adequate number of students specialising in that subject. Accounting and Economics were added because there was an under-supply of teachers, and learners were not able to take these as subjects at university because schools did not offer them, even though there was a high level of interest among learners (DBE, 2012b). The most recent overview of priority areas is presented in Table 62 below. These broadly represent the priorities that have been in place since the inception of the FLBP, with the changes noted above.

Table 45: FLBP current priority areas implemented in 2012

Foundation Phase	Languages	Sciences	Mathematics	Technology
African Languages	English (Intermediate, Senior and FET phases)	Physical Science (FET Phase)	Mathematics (All phases)	Civil, Electrical, and Mechanical (FET Phase)
English	African Languages	Life Science	Maths Literacy	Computer Applications Technology
	(Intermediate, Senior and FET phases)	(FET Phase)	(All phases)	(FET Phase)
Afrikaans		Agricultural Science		Engineering Graphics and Design
		(FET Phase)		(FET Phase)
		Natural Sciences		Information Technology
		(Intermediate and Senior)		(FET Phase)
		Geography (FET Phase)		Technology (Intermediate and Senior Phases)

Source: DBE, 2012b, Funza Lushaka Report 2012

For 2015 applications, English and Afrikaans as Foundation Phase options were removed as priority subjects from the website application, based on a decision, informed by national data, that there is an over-supply of English and Afrikaans Foundation Phase students in the system. Accounting and Economics were added to the website to be eligible for funding for 2015. These changes are, however, outside the scope of the evaluation, as they took place after 2012. Tables 30 to 32 below provide an indication of the major subject specialisation areas of FLBP recipients in the different phases obtained from the survey.

Of those who had studied or were still studying for the Foundation Phase 63.3% were specialising in English, 30.6% in Afrikaans and 12.6% in isiZulu. For the other languages the proportion ranged between 0.1% for isiNdebele to 3.6% for Tshivenda. Almost two-thirds (65.3%) of Foundation Phase students were specialising in mathematics.

Among those studying for the Intermediate Phase, 41.1% were specialising in English and 11.4% in Afrikaans. Mathematics was a subject of specialisation for 42.6% of respondents studying for this phase and 26.4% were specialising in Natural Science and Technology.

Of those studying for the Senior Phase 36.6% were specialising in English. For all the other languages the proportion specialising in these was below 10%, ranging from 5.4% for Afrikaans to 0.1% for Tshivenda. A third (33.4%) of Senior Phase students were specialising in Mathematics, 20.8% in Natural Sciences and 13.9% in Technology.

These data show that large numbers of students did study in the priority areas identified by the Programme over the period 2007-2012, but in the absence of specific targets for particular priority areas it is not possible to compare the achieved priority study areas with targets.

Table 46: Survey respondents studying Foundation, Intermediate and Senior Phase according to subject specialisation

	Foundation Phase		Intermediate Phase		Senior Phase	
	No.	% (n=4 540)	No.	% (n=5 859)	No.	% (n=6 651)
Afrikaans	1 392	30.6%	667	11.4%	357	5.4%
English	2 874	63.3%	2 406	41.1%	2 436	36.6%
isiNdebele	6	0.1%	0	0.0%	11	0.2%
isiXhosa	144	3.2%	242	4.1%	268	4.0%
isiZulu	572	12.6%	403	6.9%	525	7.9%
Sepedi	104	2.3%	20	0.3%	147	2.2%
Sesotho	36	0.8%	56	1.0%	20	0.3%
Setswana	96	2.1%	54	0.9%	104	1.6%
Siswati	40	0.9%	24	0.4%	31	0.5%
Tshivenda	162	3.6%	0	0.0%	9	0.1%
Xitsonga	55	1.2%	0	0.0%	62	0.9%
Mathematics	2 965	65.3%	2 494	42.6%	2 223	33.4%
Natural Science and Technology	N/A	N/A	1 545	26.4%	N/A	N/A
Natural Science	N/A	N/A	N/A	N/A	1 385	20.8%
Technology	N/A	N/A	N/A	N/A	923	13.9%

Among students who were studying or had studied for the FET band, 31.3% were specialising in Mathematics, 18.1% in Life Sciences and 15.1% in Physical Science. The most predominant language of specialisation was English with 29.1% of FET students specialising in this, with the other languages ranging between 3.9% for Afrikaans and 0.1% for isiNdebele.

Table 47: Survey respondents studying FET band according to subject specialisation

FET Subjects	No.	% (n=7 609)
Afrikaans	297	3.9%
English	2 210	29.1%
isiNdebele	6	0.1%
isiXhosa	382	5.0%
isiZulu	466	6.1%
Sepedi	196	2.6%
Sesotho	131	1.7%
Setswana	84	1.1%
Siswati	32	0.4%
Tshivenda	29	0.4%
Xitsonga	100	1.3%
Mathematics	2 381	31.3%
Mathematical literacy	393	5.2%
Accounting	644	8.5%
Economics	677	8.9%
Physical Science	1 150	15.1%
Life Science	1 375	18.1%
Geography	788	10.4%
Agricultural Science	116	1.5%
Agricultural Technology	0	0.0%
Civil Technology	87	1.1%
Mechanical Technology	85	1.1%
Electrical Technology	88	1.2%
Information Technology	96	1.3%
Computer Applied Technology	567	7.5%
Engineering Graphics Design	160	2.10%

In terms of priority subjects across all the phases, self-reported information from the survey indicates that 86.2% of all survey recipients who were teaching were doing so in a priority subject. However, 88% of B.Ed. graduates were teaching a priority subject compared to 72.4% of PGCE graduates.

Table 48: Survey respondents teaching in priority areas (subject)

Teach Priority Area	PGCE (POST GRADUATE CERTIFICATE IN EDUCATION)		B.ED. (BACHELOR OF EDUCATION)		Total	
	No.	%	No.	%	No.	%
No	356	27.6%	1 191	12.0%	1 547	13.8%
Yes	932	72.4%	8 745	88.0%	9 677	86.2%
Total	1 288	100.0%	9 936	100.0%	11 225	100.0%

5.3.6 Survey respondents teaching in the subject they specialised in

A large number of FLBP recipients are not teaching in the subjects that they specialised in during their studies (see Tables 49 and 50 below).

Among those survey respondents teaching Foundation Phase Mathematics, 58.5% specialised in the subject, meaning that 41.5% of those teaching Mathematics in this phase did not specialise in the subject during their studies. Among the different languages the proportion teaching a language they specialised in during their studies ranged from 79.3% of those teaching Tshivenda to none teaching Sesotho or isiNdebele.

Among those survey respondents teaching in Intermediate Phase Mathematics, only 43.4% specialised in this subject during their studies and only 30.3% of those teaching Natural Science and Technology specialised in this subject. Among the different languages the proportion teaching a language they specialised in during their studies ranged from 51% of those teaching isiXhosa to none teaching Sepedi or Xitsonga.

This is a matter of some concern as it seems to suggest a poor fit between FLBP priorities and schools' needs. Questions to ask and explore further are: Is there a poor fit between what HEIs are training students in and schools' needs? Is this reflective of general practice in the utilisation of teachers? This is a priority area for research in the system, but falls outside the scope of this evaluation.

Among survey respondents teaching in the Senior Phase, in only two of the priority subjects were more than 50% of the survey respondents teaching in the subject they had specialised in, namely Setswana (66.7%) and Sepedi (54.5%). Only 38.5% of those teaching Mathematics had specialised in the subject, while only 24% of those teaching Natural Science had specialised in it. None of those teaching Siswati or Sesotho had specialised in these languages.

Table 49: Survey respondents who are teaching the subject in the Foundation, Intermediate and Senior phase subject they specialised in.

	Foundation Phase			Intermediate phase			Senior phase		
	No. specialised/ specialising in the subject	No. teaching the subject	% with correct fit	No. specialised/ specialising in the subject	No. teaching the subject	% with correct fit	No. specialised/ specialising in the subject	No. teaching the subject	% with correct fit
Afrikaans	640	1048	61.1%	181	671	27.0%	49	247	19.8%
English	1 189	2056	57.8%	543	1 379	39.4%	413	1 091	37.9%
isiNdebele	0	6	0.0%	0	0	-	0	0	-
isiXhosa	50	129	38.8%	25	49	51.0%	10	93	10.8%
isiZulu	210	460	45.7%	65	263	24.7%	99	247	40.1%
Sepedi	22	66	33.3%	0	8	0.0%	18	33	54.5%
Sesotho	0	28	0.0%	6	33	18.2%	0	2	0.0%
Setswana	31	46	67.4%	23	77	29.9%	32	48	66.7%
Siswati	7	27	25.9%	0	32	0.0%	0	8	0.0%
Tshivenda	88	111	79.3%	0	15	0.0%	0	0	-
Xitsonga	22	44	50.0%	0	6	0.0%	9	33	27.3%
Mathematics	1 245	2130	58.5%	579	1 334	43.4%	513	1 338	38.3%
Natural Science and Technology	N/A	N/A	N/A	223	737	30,3%	N/A	N/A	N/A
Natural Science	N/A	N/A	N/A	N/A	N/A	N/A	211	852	24.8%
Technology	N/A	N/A	N/A	N/A	N/A	N/A	164	624	26.3%

In the FET band, with some exceptions, generally more than half the survey respondents teaching a subject had specialised in that subject (see Table 67). In Mathematics 72.6% of those teaching the subject had specialised in it, in Physical Science this applied to 77.3% of those teaching the subject and in Accountancy 94.5% had specialised in the subject. Among those teaching Afrikaans only 42.7% had specialised in the subject and only 17% of those teaching Mathematical Literacy had specialised in the subject. The FET phase has a higher proportion of teachers who trained in the subject they are teaching, but the numbers are worrying in the lower phases. Although this could well be a system-wide problem, data available in the DBE do not enable a system-wide comparison.

Table 50: Survey respondents who are teaching the subject in the FET band they specialised in

FET Subjects	No. specialised/specialising in the subject	No. teaching the subject	% with correct fit
Afrikaans	32	75	42.7%
English	500	667	75.0%
isiNdebele	0	0	-
isiXhosa	88	148	59.5%
isiZulu	118	148	79.7%
Sepedi	58	67	86.6%
Sesotho	18	18	100.0%
Setswana	19	23	82.6%
Siswati	0	18	0.0%
Tshivenda	7	7	100.0%
Xitsonga	16	16	100.0%
Mathematics	566	780	72.6%
Mathematical Literacy	59	348	17.0%
Accounting	171	181	94.5%
Economics	65	89	73.0%
Physical Science	367	475	77.3%
Life Science	259	363	71.3%
Geography	197	258	76.4%
Agricultural Science	40	70	57.1%
Agricultural Technology	0	0	-
Civil Technology	50	71	70.4%
Mechanical Technology	0	0	-
Electrical Technology	6	6	100.0%
Information Technology	6	6	100.0%

5.3.7 Student profiles

This section provides an overview of data on student profiles to address the evaluation questions about who is being selected to receive FLBP bursaries.

5.3.7.1 Gender

Of the 23 298 FLBP recipients between 2007 and 2012, 67.6% were female and 32.4% were male (see Table 51). Of all students in South Africa studying for a four-year undergraduate degree in education or a postgraduate diploma or certificate in education in 2012, 74.7% were female and 25.3% were male[83]. While gender is not a requirement for selection for the FLBP, it would appear that the FLBP could be attracting proportionally more male than female students to ITE programmes.

Table 51: Derived gender* from various FLBP and HEMIS data sources for all FLBP recipients between 2007 and 2012

Gender*	No.	%
Male	7 560	32.4%
Female	15 738	67.6%
Total	23 298	100.0%

*Gender data were imputed from identity numbers

Gender	2007		2012	
	No.	%	No.	%
Female	42,081	72.5	128,797	74.7
Male	15,924	27.5	43,694	25.3
Total	58,004	100	172,491	100

This gender dynamic was also reflected among the survey respondents, 72.1% of whom were female and 27.9% male.

Table 52: Number and percentage of survey respondents according to gender

Gender	No.	%
Male	5 565	27.9%
Female	14 351	72.1%

5.2.7.2 Race

According to data derived from various DBE and DHET sources[84], of the 23 298 FLBP-recipients 61% were African, 12.5% Coloured, 2.7% Indian and 23.3% White. This is not in line with the racial profile of ITE students who were enrolled for four-year bachelor degrees in education and postgraduate diplomas in 2012, when 67.9% of students in the relevant education courses were African, 5.9% were Coloured, 5.1% Indian and 21.1% White. The proportion of African students in these ITE programmes has increased substantially since 2007, however, when they constituted just 49.2% of education students, while the proportion of White students dropped from 38.9% in 2007. The number of students of all races studying the relevant programmes at all institutions increased between 2007 and 2012. African students increased by 310% between 2007 and 2012, Coloured students by 217%, Indian students by 140% and White students by 61%.

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[83] *Department of Higher Education and Training website. 2015.* www.dhet.gov.za, *downloaded 27 January 2015*

[84] *Data imputed from Applications, Placed and Qualifying data provided by DBE and HEMIS data provided by DHET.*

Table 53: The number and percentage of total students in South Africa by race enrolled in all HEIs studying four-year bachelor degrees in education and post-graduate diplomas and certificates in education according to online HEMIS data

Race	2007		2012	
	No.	%	No	%
African	14 268	49.2	58 519	67.9
Coloured	1 588	5.5	5 048	5.9
Indian	1 824	6.3	4 384	5.1
White	11 292	38.9	18 179	21.1
Not available	31	0.1	116	0.1
Total	29 002	100	86 245	100

Source: calculated from enrolment data downloaded from the Department of Higher Education and Training website.

The survey respondent demographics are slightly different. The differences can be explained by the fact that the survey recipients included recipients from the full six-year period 2007-2012, over which time the overall education cohort was changing, as Table 71 shows. Some demographic bias may be possible from the exclusion of recipients with no telephone numbers from the sampling frame, but there is no reason to assume why there would be racial differences in the accuracy or availability of telephone numbers.

Table 54: Number and percentage of survey respondents according to race

Race Group	No.	%
Asian	23	0.1%
Black/African	11 412	57.3%
Coloured	2 734	13.7%
Indian	798	4.0%
White	4 783	24.0%
Other	19	0.1%
Refused	147	0.7%
Total	19 916	100.0%

5.2.7.3 Home language

Just over one-quarter of the respondents (25.9%) had Afrikaans as their home language, while 21.3% were isiZulu home-language speakers. English home-language speakers made up 17.1% of the recipients and isiXhosa home-language speakers 13.3%. With less than 1% of respondents speaking IsiNdebele as their home language, they constituted the smallest proportion of respondents.

Table 55: Number and percentage of respondents by home language

Language	No.	%
Afrikaans	5 158	25.9%
English	3 401	17.1%
isiNdebele	156	0.8%
isiXhosa	2 655	13.3%
isiZulu	4 238	21.3%
Sepedi	913	4.6%
Sesotho	836	4.2%
Setswana	861	4.3%
Siswati	835	4.2%
Tshivenda	408	2.0%
Xitsonga	437	2.2%
Other	11	0.1%
Refused	6	0.0%
Total	19 916	100.0%

These data could not be compared with an overall profile of students within the higher education system, but it is clear that there is a dominance of students with English and Afrikaans as home languages and, apart from isiZulu and isiXhosa, very small numbers of students who have home language abilities in other official African languages.

5.2.7.4 Year matriculated

The majority of respondents (75%) matriculated from 2005 onwards. However, almost 11% matriculated prior to 1999.

Table 56: Number and percentage and percentage of respondents according to year matriculated

Year matriculated	No.	%
Before 1994	835	4.2%
1995-1999	1 325	6.7%
2000-2004	2 813	14.1%
2005-2009	11 060	55.5%
2010+	3 884	19.5%
Total	19 916	100.0%

5.2.7.5 Age

Almost three-quarters of the 23 298 Funza Lushaka bursary recipients (73.4%) were between 20 and 29 years of age in the years they received the bursary. This is in line with the intention of the bursary to target students under the age of 30. There are, however, a number of bursary recipients over the age of 30 and a smaller number over the age of 40.

Table 57: Number and percentage of FLBP recipients according to derived* age group between 2007 and 2012

Derived Age Group	No.	%
15-19yrs	27	0,1
20-24yrs	8 298	35,6
25-29yrs	8 800	37,8
30-34yrs	3 264	14,0
35-39yrs	1 506	6,5
40-44yrs	850	3,6
45-49yrs	385	1,7
50-54yrs	118	0,5
55-59yrs	38	0,2
60-64yrs	11	0,0
65yrs	1	0,0
Total	23 298	100,0

*Age derived from date of birth in identity number.

Among survey recipients, 82.3% reported that they were between 18 and 30 years of age at the time of the survey. A further 13.7% reported that they were between 31 and 40 years of age and 4% over 40 years old.

5.3.8 Conclusion: Programme effectiveness

The FLBP has been largely effective. There has been a very substantial increase in enrolment in ITE over the period under evaluation. While this increase cannot be attributed to the FLBP, it likely that the Programme has made an important contribution; most students (78.9%) would have chosen teaching as a profession without the bursary, which is an indication that by and large the Programme is attracting appropriate candidates and has achieved its goal of attracting quality students to become teachers. We note, however, that 'quality' was measured exclusively in terms of NSC results (for first-time applicants) and academic performance in their studies at higher education institutions, and that other characteristics of ideal candidates (as per the programme theory developed for this evaluation) had not been taken into account in the selection process in the period under review. FLBP students graduate more quickly than is typically the case, and very few drop out of their programmes. Relatively high numbers of FLBP students are teaching in public schools, thus potentially fulfilling their service obligation, and most are teaching in schools in the three poorest quintiles. However, in the absence of a tracking mechanism, the proportion of FLBP graduates who have fulfilled their service obligation is not known. It must also be noted that large numbers of FLBP graduates are not teaching in the subjects of their specialisation.

In the next section we examine Programme efficiency.

5.4 Programme efficiency

5.4.1 Introduction

Programme efficiency can be defined as a measure of the outputs – qualitative and quantitative – in relation to the inputs.[85] Programme efficiency poses questions related to the use of resources, and whether they are used to generate optimal results. This generally requires comparing alternative approaches to achieving the same outcomes, to see whether the most efficient process has been adopted. When evaluating the efficiency of a Programme, it is useful to consider the following questions: Were activities cost-efficient? Were objectives achieved on time? Was the Programme or project implemented in the most efficient way compared to alternatives?

In order to discuss the efficiency of the Programme, the key FLBP business processes involved in delivering the FLBP are reviewed here. These processes were identified during the programme theory stakeholder workshop in 2014, and are described in the report of the process (Annexure D).

Splitting the Programme up into four major business process areas provided a useful framework for developing the programme theory of the FLBP and the logframe, but also for structuring the evaluation questions. It therefore has been used for providing a framework to analyse and present the data, given the wide group of stakeholders involved in the Programme as well as the breadth of the scope of work involved in the FLBP. The four key business processes are: recruitment and application, selection, disbursement and placement.

This section forms an important part of the evaluation findings, as it addresses the core business processes of the FLBP and examines whether the systems, processes, roles and stakeholder relationships are adequately aligned to deliver the FLBP as efficiently as possible. Each section below addresses a key business process of the FLBP, assessing and analysing and synthesising the following findings:

- how the process and related systems operate;
- who the major stakeholders are and what their roles in this process are;
- what the perceptions are of the major stakeholders of Programme operations and efficiency; and
- what the quantitative data reveal about the key business processes.

Programme monitoring and data management is discussed in a separate section as this has been analysed as a separate set of cross-cutting support mechanisms to all the business processes.

5.4.2 Overview of the key business processes

The key business processes are depicted below, using the student journey metaphor, with the students being the constant variable in all of the business processes. The diagram attempts to show the complexity of the Programme, the many elements involved in the work of the FLBP, and the wide group of people involved in the Programme.

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[85] *Source: http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm*

Figure 9: The key FLBP business processes
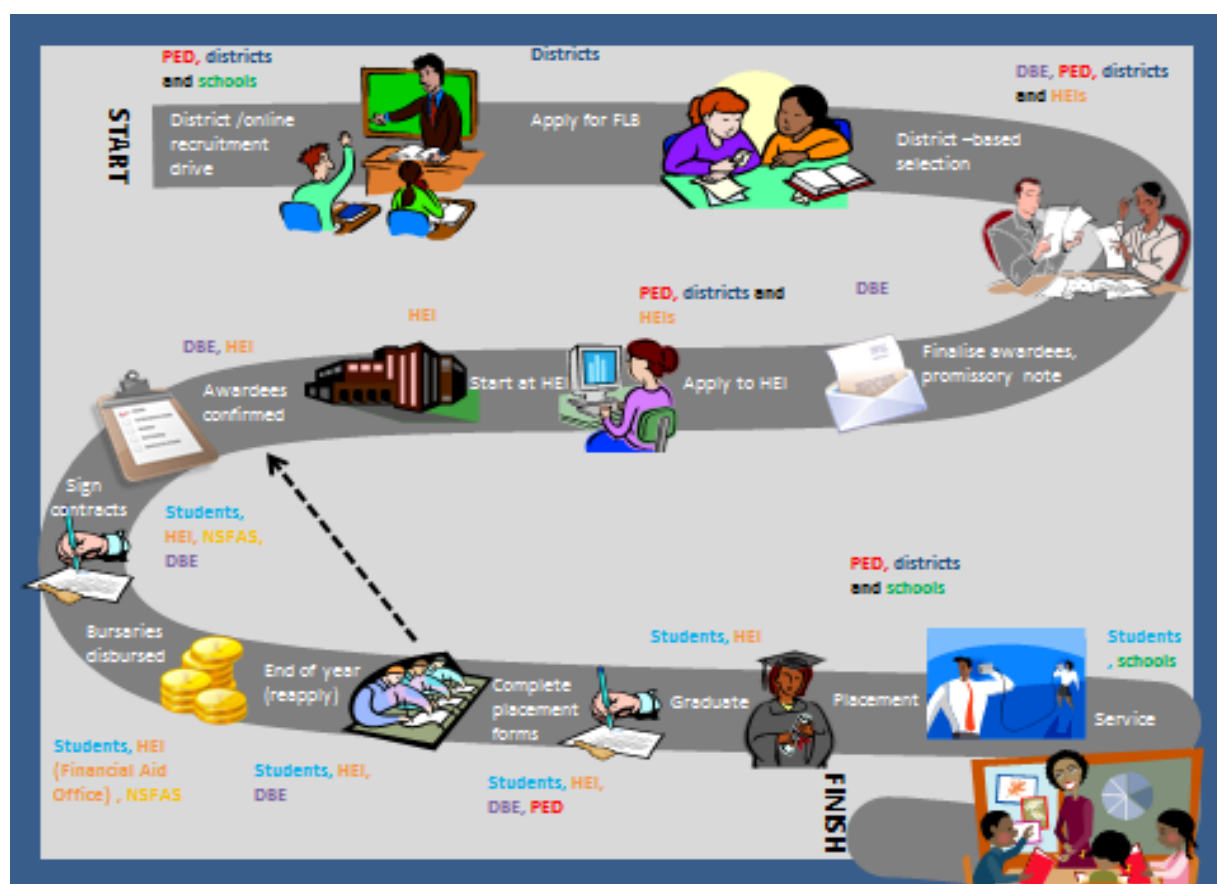
5.4.3 Recruitment and application overview

For the purposes of the evaluation report recruitment and application are grouped as one business process and discussed here together.

Recruitment and application must be designed to meet the objectives of the FLBP to attract suitably qualified students to become teachers in identified priority areas and to increase the numbers of first-time enrolments each year.

Recruitment in the first few years of the Programme was primarily a direct application process to the DBE, which, from 2008, has been an online process. Online applications came about because the high volume of paper based applications of 2007, where about 10,000 applications were received. It became clear that paper-based applications alone would present significant data capturing challenges, and pose a risk of data going missing because of the sheer volume of applications. Prospective students apply via the website: *www.funzalushaka.doe.gov.za*.

For first time university applicants, applications can only be made once students have been allocated a valid student number and have been accepted or provisionally accepted at their university of choice. No applications are considered after the closing date, and applications are processed as they are submitted. Upon completing the application online, the applicant is prompted to print it out to have proof of application, which has to be submitted to the university they would be registering at the following year, accompanied by:

- A copy of their identity document.
- A signed contract/service agreement form (downloadable from the website).
- A copy of their academic results – that is, a copy of the Grade 12 result notification or Grade 12 certificate for first time university applicants, and a copy of the applicant's academic transcript for re-application by existing bursary recipients.
- A completed placement request form for students who will be graduating in the following year, and will be taking up teaching in the subsequent year. The placement request form can also be downloaded from the website.

Universities should only accept applications with all required documentation, and upon receiving the applicants' forms and documentation, universities should check the students' information against FLBP excel spread sheets they get from DBE, to ensure that the student's information is captured. The application window for new applicants is from October/November to January, while that for returning bursary recipients is from early October to mid-November. In the initial years of the Programme, there were three closing dates for new applicants – in January, February, and March, but this changed in 2010 to make provision for only one closing date in January. Previously, late applications in February and March were only be considered if there was any extra funding after the applicants who applied earlier had been considered (DBE, 2009). Applications now close in January.

Some institutions supplement online applications with paper-based applications to support new applicants who have no online access. However, the university is responsible for ensuring that the details are captured online (DBE, 2009).

In 2012, a new recruitment and application initiative was introduced, namely the district-based recruitment process, which aims to attract learners from rural and poor communities into teaching qualifications. District-based applications can be submitted via paper based applications, which removes the barrier of access to computers for online application, but online applications can also be made. Districts and PEDs have the responsibility of capturing the data from any paper-based applications. The rationale behind the district-based recruitment strategy is that demand is determined at district level, so district involvement would realistically address specific needs for teachers in that area. Further, it is assumed that students from specific localities are likely to go back and teach in their district (DBE, 2013[86]).

5.4.3.1 Roles and responsibilities of stakeholders and recruitment strategies

The key role players in the recruitment and application process are the DBE's ITE Directorate, PEDs, district officials, universities, SITA, and applicants. Their roles and responsibilities are outlined in the table below.

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[86] DBE. 2013. District-based recruitment. Pretoria: DBE.

Table 58: Stakeholder roles and responsibilities: recruitment and selection

Stakeholder	Roles and responsibilities
SITA	• Responsible for the hosting of the Funza Lushaka Information Management System (FLIMS) • Work on FLIMS over the application period as and when their services are required • Prepare the system for applications done via the web • Download information on applications and pass it on to DBE in Excel format
DBE ITE	• Provide information to SITA to prepare online applications system in time for opening by 1 October • When the application process has begun, receive weekly downloads of applications in excel and clean the data • Address any queries arising from applicants • Check for consistency between PED district lists and online applications
PED	• Market the bursary • Forward the lists of district applicants to DBE, before the opening of online applications • Collate information on demand and supply from districts • Submit information on demand and supply to DBE
District officials	• Determine teacher demand in district and submit to PED • Recruit candidates and help them with application • Load the application data online • Prior to the online system opening, send the lists of applicants to PEDs
Universities	• Marketing bursary • Assisting students with applications • Loading any district based paper applications that may have come to them onto online system • Check proof of application against online system to make sure applicant information is entered correctly. • Send results of current students to DBE for re-application and re-award
Applicants	• Apply to university • Apply on time for bursary, either online or through district • Submit correct documentation with application

Respondents from stakeholders indicated that roles and responsibilities were clear and were highlighted in the 2007 and 2014 protocol documents.

Recruitment is a key aspect of the bursary Programme anchoring all the other implementation processes. The evaluation explored what the recruitment strategies in place were, and how effective these were. Interview data revealed that most provinces use similar recruitment strategies involving informational talks and presentations held at central venues. In some provinces, only district officials and principals attend these sessions, while in others, participation may include teachers and students. Most PEDs indicated that officials from universities accompany them to these meetings, a strategy that signals collaboration in the management and coordination of the recruitment of students.

Even though students are encouraged to apply on-line, since the introduction of district-based recruitment in 2012, hard copies of application forms are disseminated to schools for applicants to complete and return to the district office. In most cases the forms are given to principals, who appear to play a major role in the advocacy of the Programme in some districts, where they are also required to identify potential bursary recipients who they think would make good teachers.

2012 was the first year of the district-based recruitment so cannot be examined over time.

5.4.3.2 The recruitment and application process

To determine the extent to which the recruitment strategy attracted the targeted applicants, bursary recipients who were surveyed and interviewed were asked to indicate how they had become aware of the Programme. The most prevalent sources of information about the bursary were university information booklets, word-of-mouth from family and friends, schools and teachers, and the Funza Lushaka website or brochure.

Recruitment for the Funza Lushaka bursary occurs mainly through university information booklets and family and friends. Almost 37% of respondents first heard of the Programme through university information booklets and 26.9% and through friends and family. Some schools and teachers are also promoting the Programme with 12% of respondents finding out about the bursary this way. The Funza Lushaka website, the NSFAS office, the district recruitment drive, media and community structures, account for about 14% of recruitment. Of those who mentioned finding out about the Funza Lushaka bursary from other sources, most of these heard about it through the administration, lecturers, faculty staff or other students at university.

Table 59: Number and percentage of survey respondents according to how they first found out about the Funza Lushaka bursary

Responses	No.	%
Funza Lushaka website or brochure	1 216	6.1%
Friends and family	5 355	26.9%
University information booklets	7 285	36.6%
NSFAS offices	635	3.2%
Schools and teachers	2 386	12.0%
District recruitment drive	15	0.1%
Media, TV or radio (adverts)	820	4.1%
Community structures (civic organisations, traditional leaders meetings, ward co	62	0.3%
Other	2 142	10.8%
Total	19 916	100.0%

The data suggests that a variety of the recruitment strategies targeted at applicants were working well, and that the diversity of methods used ensured a wider reach. The university emerges as the most accessible point for bursary information, as students who intend going to universities interact with admission and application structures, and then learn about the bursary from there. This is also a cost effective method which can be integrated within existing university marketing initiatives. However, a barrier can possibly be presented if students hear about the bursary only when they are already at university. Students who are not be able to commence their university studies without the

FLBP bursary may be at a disadvantage; those who are able to enrol (with university or family support) will, conversely, be advantaged.

The number of bursars who heard about the bursary through the district recruitment strategy is very limited, given the acknowledged status of the district as the locus of knowledge on demand. The reason for this limited access to knowledge about the district recruitment drive could be that students engage with universities for admission purposes rather than districts; we note that district-based recruitment is a recent introduction to the bursary Programme, and the survey covered recipients only up to 2012. Its effectiveness cannot be measured through this survey.

In general, the application process is perceived to be relatively straight forward, with a majority of surveyed bursary recipients indicating that access to application forms was easy. Fewer bursary recipients however, provided positive feedback about communication about their application, although the number of bursary recipients who received communication about their application before the beginning of the academic year was still quite significant.

Table 60: Number and percentage of survey respondents according to how they experienced application and advocacy

Statements	No.	%
It is easy to access the Funza Lushaka application forms	18 382	92.3%
When I applied for the Funza Lushaka bursary, I got a response before the academic year started	10 512	52.8%

Just over half of the respondents reported that they had received a response from FLBP about their applications before the academic year commenced. A large proportion, 92.3%, of the participants all agreed that the FLBP application forms were easy to access.

The various recruitment strategies are clearly working well, as the number of applications have increased substantially over the years. There were 2,801 applications for 2008 and by 2012 this had increased to 44,736 applications. This number has continued to grow beyond 2012.

Table 61: Number of applicants who applied for the bursary each year and percentage change, 2008 to 2013

Year	No	% change over previous year
2008	2 801	
2009	7 216	158%
2010	30 736	326%
2011	23 581	-23%
2012	31 876	35%
2013	44 736	40%

Source: Applications data bases supplied by Prof Graham Hall 28 May 2014

Concerns are discussed below in the section about the late notification that bursary recipients receive of awards.

Some universities offer assistance to students during the application stage.

> …it is the second year now, since 2012, they introduced the district-based application process, where they get selected at the district offices. Now that means that they submit a

hand-written application which I am supposed to put on their files, which I am responsible for putting online, as well. So that is it; that is how we help the students, by putting it online when they submit a form (Interview with Academic Coordinator).

The level, as well as the type of assistance provided to students during the recruitment and application phase, varies by university. An example is that in one university, a day is set aside to assist students with on-line applications. Another university provides Saturday classes for rural students in some of the priority areas as part of their recruitment strategy, and this has proven to yield at least half of potential bursars from this group:

They also have a Saturday school project where they teach a group of 40 students from different rural schools and they teach them Maths and Life Sciences on a Saturday and then they try to help them to improve their Grade 12 final marks so that they can comply with the requirements of the university's B.Ed. Programme. Every year they have 20 students who comply and they are able to award them with the bursary as well (Interview with Academic Co-ordinator).

These are two examples of the kind of work that universities can do to support the Programme, but may not be representative of all universities. All universities indicated, however, that they complete the online application having received a paper-based application form, mostly from district recruited students, and they also verify the details of students who have applied online directly. This is different from the stated process in the policy manual, which indicates that provinces and districts place the applications online once the system is opened in October. It does, however, show that universities are playing a role in the application process, by assisting students where they can.

Although the recruitment strategy and application processes seemed effective, there are several key challenges impacting the extent of this effectiveness, including limited access to online applications for those in areas with low or limited connectivity, whether district-based applicants will meet university entrance requirements, and resource limitations, including budgets and human resources.

5.4.3.3 The online application process

Despite the workload challenge that may be experienced as a result of the high volume of applications, the on-line application system is cited by many respondents from stakeholder organisations as functioning efficiently.

Online applications are the best. However with online applications everyone is free to apply and this makes the numbers that they have to choose from very long for the online applications. However for ease of applications, the online application is the best (Interview with Academic Co-ordinator).

The online application is quite straightforward; it's user friendly. Anyone can use it. We've never had anyone experience problems. Anyone who can use a computer can use it (Academic Co-ordinator Interview).

However, some difficulties with the website were identified. For example, the website lists national priority subjects as opposed to provincial or district-specific ones, and these may differ. Students apply according to the website information, which may disadvantage their selection (if they select

subjects which are not in line with the provincial priorities in the province they intend to study in) or their placement once they have graduated:

> Online application was a little confusing the way in which subjects were grouped as it seemed there were more options than what was possible. It seemed to have more areas of study than the university has (Student Focus Group).

> The only problem is students are not clear what they can apply for. On the website they still indicate "languages" and people are very confused when it comes to that. They need to make it clear on their website (Interview, University Dean and Academic Co-ordinator).

> It is vital for the website to update recipients about the changing of priority areas, changes in general and remind them of the terms and conditions of their contracts (Interview, University Administration and Financial Aid Officer).

These statements indicate that although the application process seems easy, there are some genuine concerns about priority areas that need to be addressed at the time of application. This links to a broader discussion about planning for and identifying priority areas, and is addressed more comprehensively later in this report (see Section 6.3.4).

Only 2.3% of FLB recipients indicated in the survey that they experienced difficulties with the application process. Although students sometimes experienced difficulties with the application online, they do get assistance from the universities.

> I found this [online application] to be disadvantageous to students like me who do not have access to computers. I asked help from the university co-ordinator who gave more information (Student Focus Group).

Another difficulty relating to inefficiencies in the recruitment and application phase is located within the areas of bursary renewal application. Students and officials alike suggest that the annual re-application process is unnecessary in its current form. Currently the system treats all applications as new applications. It does not have a mechanism whereby student information is retained.

> Improvements are needed. To me it does not make sense that students need to reapply. If we have signed a contract, surely the system can pick up without having to sign a contract each year. The conditions are clearly spelt out. The HEI manages who have failed. Students who fail cannot be funded (PED Interview).

> I would like that the Funza Lushaka website work properly for a returning student. Why do they need to select their phase and select their specialisation when they're already in the system? It should be there, and it should be something they cannot change (Student Focus Group).

While students have been able to change their specialisations in the past during reapplication, from 2015, students re-applying for the bursary have been locked into their existing specialisations and are not able to change them.

5.4.3.4 District based recruitment

The district based recruitment process, first introduced in 2012, is acknowledged as an important mechanism for locating district needs and identifying students who may return to teach in their home districts. However, several challenges were mentioned. These include the difficulty reaching the targeted numbers of students from rural areas, linked to concerns about district-based applicants not meeting the entrance and merit criteria for the bursary; a significant increased administrative workload for universities, PEDs and the DBE, with the growth in applicant numbers and application-linked paperwork; and issues related to management, coordination and collaboration.

Respondents' perceptions are that districts are achieving different levels of success regarding recruitment, particularly students from deep rural areas. Opinions differ on whether the target population is being reached. Although some interviewees felt that the recruitment strategies were effective, there were many who cited challenges in reaching their targets. These include poor quality results of students, negative attitudes towards teaching by students, misunderstanding of the application process, insufficient marketing of the district-based recruitment, and financial constraints experienced by students. There was no available quantitative data to further explore these claims, and the perceptions therefore need to be treated with some caution. The district-based system is relatively new.

With district based recruitment, there seems to be difficulty in understanding the application process, particularly regarding the promissory letters that are issued to successful district applicants. Applicants who are selected through the district recruitment process receive a promissory letter issued by the DBE, to enable them to register with a university, once they have obtained a place.

Universities indicate that the promissory letters do not state which priority subjects students have been selected to study. This has sometimes resulted in students changing the subject areas for which they were selected, after funds have already been allocated to the different institutions for specific specialisations. However, this has been stopped from 2014 as the online system locks students into particular priority areas identified at application stage.

The promissory letters are also not specific about the institution that the student has been selected to attend, and students are therefore able to change institutions between applying for the FLBP and applying for and selecting a university. This has also created backlogs with the disbursement process further down the line of bursary awarding processes:

> Promissory letters are issued so that students can register. The promissory letters are not issued to reflect the priority areas the student has agreed to undertake and this has been a problem. The PED has decided that from 2015 onward the letters would contain this information to assist the HEIs in ensuring that students do not change majors after funds have already been distributed to them. Promissory letters should specify the priority areas for which the student is being funded (Interview with official from PED).

There is also the very real possibility that students obtaining access through the district recruitment route who have promissory letters are not able to meet university admission criteria. In this case, there have been cases of students having misinterpreted the promissory letters to mean that they have been accepted into the university, as well as received funding:

> When a student's name goes on the list, they get a promissory letter – the student often does not interpret what the letter says, that they must 'meet all the requirements'. The students cry but we have the evidence (if their final marks do not meet the requirements and being top of the crop). There is a difficulty with students reading the promissory letters out of context (Academic Co-ordinator Interview).

This is a significant issue that the FLBP will have to manage going forward. The implication is that more intensive engagement with applicants is necessary to ensure that they understand the process. Universities clearly play an important role in this area, and this should be considered as something to support going forward.

The separate application processes for funding and a place to study for potential bursary recipients is not always well understood by students. They need to apply separately for admission to universities and to the FLBP. Unfortunately also, closing dates for each component are not synchronised and this sometimes complicates the application processes. Some students apply for the bursary without applying to the university. Some also fail to apply because they cannot afford the university application fees. Students have to be accepted by a university before they are eligible for the bursary. Students who are selected for the bursary, but have not applied to universities, then have to make late applications, which carry an additional fee. Many students can ill afford this. This suggests that the application process, which has become significantly more complicated, should be simplified.

Communication seems to be a huge challenge for the management, coordination and collaboration of the district based recruitment process. Although the majority of university officials spoke positively of their relationships with the PEDs (who liaise with districts), problems arise when there is a lack of communication. For example, some universities reserve a quota for district-based applications, and there are problems when district applicants come in late. In cases where places for students have not been reserved, universities experience difficulty with accommodating district-selected students at late notice.

While the district-based recruitment process is relatively new, it is clear that its implications for the management and administration of the FLBP are considerable. It is important to indicate that the recruitment and selection processes have become significantly more complicated and labour intensive as a result of its introduction.

The table below highlights the distribution of the district beneficiaries in 2012.

Table 62: Number of people who received promissory letters, 2012

Province	Bursary Allocation for district based recruitment	District based awarded bursary	District-based awards as a % of total district bursary allocation
Eastern Cape	488	145	29.7%
Free State	134	110	82.1%
Gauteng	106	81	76.4%
KZN	478	375	78.5%
Limpopo	378	230	60.8%
Mpumalanga	142	60	42.3%
Northern Cape	48	15	31.3%
North West	160	170	106.3%
Western Cape	66	7	10.6%
Grand Total	2 000	1 193	59.7%

Source: DBE, 2014c, Report on Funza Lushaka Bursary Programme 2013

In 2012, out of the 2000 bursaries set aside for the district based recruitment strategy, 1193 students were awarded the bursary, and 2,000 were selected for the 2014 intake. Overall, therefore, 60% of district-allocated bursaries were allocated.

There is significant provincial variation though, as the table above shows. In 2013, the first year district applicants formed part of the Funza Lushaka intake, uptake of the allocated district-based bursaries is the highest in the North West, KwaZulu-Natal and Limpopo, with the most interest in the bursary shown in the North West, where more bursaries were awarded than had been originally allocated. However, the Western Cape struggled to meet its targets, and engagement with respondents during interviews revealed that the difficulty with filling their allocations was perpetuated in subsequent years (2013 for 2014 intake, and 2014 for 2015 intake), mainly because of concerns about the quality of district based candidates and whether they had applied to the universities:

> We were allocated 66 students for the district-based recruitment for 2015. We received approximately 255 applications but we recommended only 45 students from the rural areas who met the selection criteria. Even of these 45 we are now in the process of verifying whether they have indeed applied to the universities because this may also be another challenge. Of these 45 you may find that 20 did not apply to the university and they therefore cannot go on to study (Interview with official from PED).

One of the universities has devised a way to meet the district quota should the recommended students not meet the academic criteria, by identifying current university students from the various districts who are selected to replace the students not qualifying, provided they meet the criteria. An (Academic Co-ordinator Interviewed reported that:

We will give them the bursaries because they will be keen to go back to these districts. The Department has bought into the idea and has asked us to create a database of students (about 100) already on our roll and indicate the districts they come from so should the 250 from districts not materialise for this year, we will take some of these students as [Funza Lushaka] students.

As the district-based recruitment process develops, the FLBP coordinators will have to make decisions about the best ways to target and recruit students from rural and poor backgrounds. It is not currently possible to measure this as information about the students' schools, districts and provinces of origin was not available for 2007-2012, and there is no means testing of students carried out to determine their socio-economic background.

5.4.3.5 Resource limitations

Marketing measures are hampered by budgetary constraints and insufficient human resources. Most stakeholders, particularly students and district staff, agreed that marketing of the bursary Programme in rural areas needs improvement.

Resource constraints are specific to both national and district-based recruitment. District-based recruitment was criticised for the additional workload it creates for universities:

PED does not have enough people and then they drop the load on the university and they are now asking the university to load the district based students on the system - they also need a dedicated person (Financial Administrator Interview).

Against the backdrop of large-scale funding for the FLBP, the absence of specific funding for the management and administration of the Programme constrains marketing campaigns for recruitment, for all stakeholders. This points to a significant imbalance in the financial structure:

Our major problem is resources – we are severely under-funded, which is a serious constraint. Even if we have ideas we cannot implement because we don't have the money (Interview with DBE official).

We also run out of budget to print the pamphlets. Universities complain that we are not visible enough as they are running the bursary in the HEI and don't have enough information. Budgetary constraints are always a problem to print these marketing documents (Interview with DBE official).

Most PEDs also mentioned an inadequate budget for management and Programme administration as a hindrance to the effective marketing of the Programme, as there is no money for marketing and additional staff capacity:

> We do not have enough human resources to support the recruitment processes. There are different role players that can be involved in recruitment but there needs to be a central person to ensure that all the role players are coming together to explain their role and responsibilities so as to improve the Programme. We try within our limited resources.

> The human resources are difficult as people are overburdened. There is a lot of travel needed and the cost containment measures make it difficult to travel (PED Official Interview).

Not discounting the need for budget realignment of the FLBP, to deal with inadequate allocations for management and administration, the various marketing strategies reflected in Table 31 (p117) are achieving significant visibility for the bursary and resulting in adequate numbers of applications.

5.4.4 The selection process

5.4.4.1 Selection overview

This description of how selection is supposed to work is drawn primarily from the Standard Operating Procedures manual developed in 2014 (DBE, 2014g[87]), which is consistent with previous versions of the policy and processes manuals, first developed in 2009.

The current process for selecting Funza Lushaka bursars became more intensive in 2013, the first year in which District-based bursary recipients were awarded Funza Lushaka bursaries. Currently, the selection process involves officials from the DBE, the PED in which the university is located, and the FLBP academic coordinator from the university, the financial aid official as well as other education academic staff. Prior to the district-based selection being introduced, universities were responsible for setting up selection panels, to which PED officials had to be invited. The DBE started to attend selection committees when district-based recruitment commenced.

The DBE provides each university with a list of students who have applied, including reapplications, and this is used in combination with academic records to make selections. Decisions have to take into account the quota distribution model for areas of specialisation in each institution set out in the policies and processes manual for each academic year. Selection processes take into account the criteria and the quotas.

Once selection has been completed, final lists are sent back to the DBE no later than 14 March. The lists provide reasons for non-award, and are accompanied by a report from the selection panel, compiled by the academic co-ordinator. The confirmed award list is then generated from the lists received from institutions and institutions are able to confirm awards with students.

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[87] *Department of Basic Education, 2014g, Standard Operating Procedure (SOP) Draft, Pretoria: DBE.*

The process for re-awarding bursaries to returning students is able to be completed faster, given the timing of academic results being released. Recommendations are made to the DBE by universities following the release of academic results in December. The DBE checks awards and confirms a list by the end of January. Students are guaranteed re-award if they progress and have performed satisfactorily. Where all the criteria for re-award are met, the DBE makes a final decision.

Some funding is given for an additional (5th year) of study but on a case by case basis.

5.4.4.2 Stakeholder perceptions of the selection process

The selection process is a careful and detailed one, involving large numbers of applications and returning students and a range of stakeholders. As a result it is not conducted quickly enough to ensure that all students are able to register at the beginning of the academic year knowing whether they have received the bursary or not. There is misalignment between the academic year commencement (February usually) and the FLBP cycles. Selection meetings are normally held only in February and March and are dependent on the availability of DBE staff for each university selection process.

Awards can only be confirmed once this selection process is complete. It is for this reason that one of the biggest concerns about the selection process raised by stakeholders is the relatively slow pace of the selection process, which in turn often results in delays in payments to students. Many universities support Funza Lushaka bursary recipients until their funds arrive, but this only happens if their selection has been confirmed. The delays in selection, therefore, may affect the registration of students in need, and cause anxiety in the early part of the year, as students need to find the funds to register and start studying (if they can afford to) without any certainty about how they will fund their academic year.

> It is quite crazy that we sit at the end of February, beginning of March allocating bursaries for the year. People have been at university for three weeks already (Academic Co-ordinator Interview).

These delays are caused in part by the involvement of the DBE in each university selection process. The ITE Directorate has a limited number of staff and it is not easy, therefore, to schedule meetings with all universities. However, this has to be balanced with the fact that it is the DBE that makes final recommendation decisions. The universities make recommendations, but the DBE has the final determination in the award of bursaries. It must be noted that the selection process as currently structured is labour-intensive and requires significant time investments from a number of roleplayers. There is some indication from the DBE, the PEDS and the universities that the workloads have increased significantly (as the applicant and bursar numbers have increased and the Programme components have become more complex). This must be addressed if the Programme is to be continued sustainably, which highlights once more, the need for adequate funding for management and administration.

While just 2% of FLBP recipients noted in the survey that they had to wait a long time for the selection processes to be finalised, the delay affected students at the various universities differently. One hundred percent of NIHE (MP) students were said they waited a long time for selection to be finalised, while between 3% and 4% of recipients at North West University, University of Fort Hare, University of Johannesburg and the University of the Western Cape indicated this was a problem.

Waiting a long time for selection to be finalised was not a problem at all for any recipients from Cape University of Technology, Durban University of Technology (DUT), NIHE (NC), Rhodes University and the University of Cape Town.

Table 63: Students who waited a long time for selection finalization

University	NO	YES	Total	
CPUT	1,361	24	1,385	1.8%
CUT	562	0	562	0.0%
DUT	195	0	195	0.0%
NIHE (MP)	0	18	18	100.0%
NIHE (NC)	209	0	209	0.0%
NMMU	1,182	25	1,207	2.0%
NWU	1,636	58	1,694	3.4%
RU	116	0	116	0.0%
TUT	838	8	845	0.9%
UCT	183	0	183	0.0%
UFH	920	31	951	3.3%
UFS	1,245	18	1,263	1.4%
UJ	908	28	936	3.0%
UKZN	1,378	26	1,404	1.8%
UL	833	15	848	1.7%
UNISA	689	14	703	2.0%
UNIVEN	617	7	625	1.2%
UNIZUL	1,584	16	1,600	1.0%
UP	1,179	22	1,201	1.9%
US	996	19	1,015	1.9%
UWC	867	27	895	3.1%
WITS	960	25	985	2.5%
WSU	1,055	22	1,077	2.0%
Total	19,514	402	19,916	2.0%

The results here from the survey are at odds with the qualitative data. Selection delays are a major concern of academic co-ordinators at all universities, and were raised by nearly all co-ordinators, yet only 2% of students overall express any concern about selection taking a long time to be finalised. The most likely explanation is that universities are able to protect students from the delays, by allowing them to register.

A complication of the selection process and possibly its timing too, is that by the time some students had been offered the bursary, it was turned down once awarded, as they had already arranged alternative funding by then, or they had changed their minds about the service obligation. In these cases it appears that most universities have a waiting list of students who met the criteria for the bursary but could not be accommodated in the original allocation.

In the survey, only 2.7% of FLBP recipients indicated that they had experienced difficulties with registration due to bursary funding not being finalized, however. Rhodes University had the highest proportion of students (14.3%) indicating that they had difficulty with registration because the bursary funding had not been finalised. This was followed by the University of Johannesburg (5.6%) and the University of Cape Town (5%). None of the bursary recipients at the National Institute for Higher Education in both Mpumalanga and the Northern Cape, at the DUT, the University of Venda or Walter Sisulu University experienced this problem. The differences in registration difficulties experienced by students may be the result of institutional differences in registration systems; examining this phenomenon was beyond the scope of the evaluation.

Despite there being substantial data about the problems of timing of selection and registration, very few students reported problems with registration in the survey. This suggests that the claim is valid that universities are largely able to protect students from negative effects in this area. Though the numbers may appear small, this does not take away the need to address the timing issues. The FLBP appears to tangibly benefit from the strong relationship that exists between NSFAS and the universities.

5.4.4.3 Workloads associated with selection

The selection process that takes place at universities incorporates that of new students (since 2012, this includes applicants who have applied through the district-based recruitment process) and returning students. The selection committees have to take into account the performance of returning students, and the NSC results of the entering students, and to balance the proposed bursary lists with the quotas for district-based, returning and new students. Returning students are given preference, as the intention is to fund students for their full course of study. Sometimes these discussions need to be detailed as they may need to take into account the particular situation of individual students.

> Some of them don't meet the average – they get 49% or 47% and some of them may have been sick perhaps and we know that they have the ability to do well and are passionate about it. We ask them to consider and we also get medical certificates to add to this motivation (Financial Administrator Interview).

> During selection, there are students whose applications still need discussions. These cases are for example of students that have applied and received the bursary for all of their 4 years in the programme but still need a 5th year to complete their degree. This is then up to the Department to decide whether to allocate the bursary for the 5th year to these students or not….you will see the department is still willing to look at those applications even if the student has not performed so as to reduce the risk of losing students that have been funded for long periods of time and then lose out for not passing in one year (Interview with Academic Co-ordinator).

This is one example of the detail required in the selection process, and something that contributes to the labour-intensive nature of the Programme. Selections cannot only refer to results and spread sheets, and sometimes need to take human and other factors into account in gauging whether students deserve to continue receiving a bursary.

It is a strength of the selection process that it can engage in such detail with individual student cases, because it allows individual factors to be taken into account, and means that the selection team can focus on quality issues. The major challenge is that the participation of the DBE and PEDs in each university selection process already takes up too much of the time of busy officials. If, as proposed, the selection processes need to look at issues like student motivation to become teachers, the intensive nature of the selection process is likely to be difficult to maintain. Current staff working on The FLBP across different stakeholder groups, do not have the time to do more work as none of them work exclusively on the Programme. Heavy workloads, particularly in relation to the selection and disbursement processes, was a common theme of discussion in the stakeholder interviews and are a substantive issue to be addressed.

5.4.4.4 Things that are working well

On the whole, the fact that selection committees identify waiting lists means that there is a strong pool of students to draw into the bursary should others choose to fall away. The selection processes appear to be working smoothly. All stakeholders feel that the process is thorough and students are being fairly selected on the basis of merit. It is clear, however, that there is a gap between the broader intentions of the selection criteria (e.g. targeting rural students and exploring student motivation to teach and fulfil service obligations). These are not currently part of the selection process, and should be considered carefully as possible additional selection criteria. One consequence of adding these new criteria will be that it will require considerably more administrative work. The underlying assumptions must be carefully unpacked for why these criteria should indeed be added as part of the screening and selection processes.

Once selection committees have made their decisions and the DBE confirms the final awards, universities are responsible for communicating directly with students about whether they have received their awards or not. Most universities place these lists on public noticeboards in the education faculty or school, and some also communicate directly with students via email or SMS. Students who are not selected are given a reason for their non-selection. Those who are successful are invited for a meeting with the faculty personnel to discuss the conditions of the bursary and process contracts and other administrative requirements. While the same process may not be followed in all universities, students do have to sign contracts through the university, and so some engagement with either faculty or financial aid office personnel is necessary.

5.4.4.5 Monitoring for selection

Selection processes would be significantly improved, particularly in relation to the re-awarding of bursaries to continuing students, should an effective monitoring system to monitor academic performance be in place. At the moment, as with other monitoring processes, this is something that is done manually. However, technology could be used to improve tracking and monitoring to assist selection. This would do away with the need to have re-applicants enter their information on the central applications service, and could streamline re-applications and re-awards and thereby cut down on layers of administration.

It was noted by several stakeholders that the introduction of the district-based recruitment and application system has resulted in a huge increase in applications and has also therefore increased the need for effective data management within the Programme.

The effect of additional monitoring and reporting requirements that increased over time demanded more feedback and resources (Interview with DBE official).

Monitoring is discussed in more depth later in this report (Sections 5.4.9 and 6.4) and specific recommendations are made to improve monitoring at all levels.

5.4.4.6 Participation of PEDs

Some concerns arose in the interviews with universities about the lack of participation of PEDs in the selection processes. Although PED representatives are invited to participate in selection processes, in some provinces, they do not attend (or are not able to attend). The relationship between PEDs and the universities is, therefore, not that strong in all provinces. These were often described as communication challenges between the universities and the PEDs, and have a negative effect on selection processes in particular. This seemed specifically relevant in two provinces, both of which have more than one university.

The DBE required the province to be represented in the selection committee but they would not come and would not indicate why they have not come (Interview with Academic Co-ordinator Interview).

This non-attendance could be related to capacity constraints mentioned earlier, as no stakeholder in the FLBP process works full-time on the Programme. The responsibilities allocated to particular individuals vary across different institutions and departments and cannot be controlled by the DBE. The administrative relationships of the FLBP are governed by the Implementation Protocol, but there is no financial support for any administrative work on the Programme, so the FLBP is dependent on PEDs, universities and other institutions allocating adequate staff and resources to the Programme, depending on availability relative to their other commitments.

5.4.4.7 Alignment between recruitment and selection

There is regular communication between the DBE bursary management officials and the University management officials to expedite recruitment and selection processes. There is, however, a time lapse between student application and selection (applications are open between October and November for returning students and October to January for new entrants). District-based applications are done earlier in the year, and selection within the district usually takes place in February/March). A number of stakeholders have commented that this places tremendous stress on students because they are notified of the outcome of their applications quite late in the year:

The main issue for me is timing. Somehow it all happens too late in the cycle of the students' academic life in the year. If there was a way for selection to happen much earlier... (Interview with Academic Co-ordinator).

Priority areas have arisen as a challenge in the selection process, as there are sometimes changes that take place between the application period and the time that selection committees sit. This is because the selection at particular universities is expected to be guided and influenced by specific provincial subject and phase needs.

Respondents indicated that FLBP applicants sometimes select priority areas in their own province and then enrol in a university in a different province, and are then attending an institution in a

different province with different priority areas. These students are then not selected, as their chosen priority areas are different from those of the province in which they attend university.

This is a planning challenge that the FLBP needs to address, as universities are national institutions, and there are not equal numbers of university places in all provinces. So there are students who attend university in a different province from that in which they matriculated and who intend to work in their home provinces. Universities are therefore not necessarily only training students to work in the province in which the university is located.

As a result, it is reported that some students apply for the bursary with what they thought was a priority area only for it to be communicated during the selection process that some subjects are no longer priority areas. In this case, very few bursary recipients surveyed (just under 2% of recipients), indicated in the survey that they had been unclear about the priority areas. However, it would not be possible to gauge from the survey whether students were unsuccessful in getting the bursaries because of this issue, and this has been implied in interviews.

Some university officials also indicated that it would be helpful for them to know district-specific priority areas:

> I think that the DBE needs to customise the application form according to the province so that it only shows the provincial focus areas so that they only select according to the provincial focus area. Then we would not have students applying for subjects that have not been identified. But now we have to use the FLB application form as it is and there is a whole list of different subjects. I think that they should let us change the application forms in terms of the subjects (PED Interview).

This is discussed in Chapter 6 in more depth.

5.4.5 Disbursement, bursary awards and funding arrangements

5.4.5.1 Disbursement overview

This section of the report details the process of awarding and disbursing bursary funds to recipients, as one of the key business processes of the FLBP. It addresses the evaluation questions about how the management and administration of the bursary is working, and what the key roles and responsibilities of different stakeholder bodies are.

It includes a focus on the coordination and collaboration of stakeholders in the Programme in relation to disbursement, reflects on how efficient and effective these processes and systems are, and includes the perceptions of stakeholders in relation to how well this aspect of the Programme is operating, in terms of both disbursement and the management of bursary funds.

The FLBP policies and procedures manual, updated annually from 2010, details the high level policies guiding the awarding and disbursement of its bursaries across the system. An analysis of the manuals shows that the processes have been fairly consistent from this date.

The bursary is a full-cost bursary which means that it is intended to cover all the major costs to allow a student to study full-time. This includes the full tuition fee, residence and living expenses in university accommodation or a stipend to cover accommodation and living expenses off campus, amounts for books and other materials, and a monthly stipend or living allowance. At UNISA the bursary is structured slightly differently, and is paid on a per module basis. There are structured limits for the funding and minimum modules for each year.

The maximum amounts differ by institution and year, depending on the costs of the different components, and there is a maximum capped amount for all institutions. The policy specifies that each student should receive the specified amount for the relevant institution, and that institutions should not attempt to spread the funds allocated amongst a greater number of students. Institutions are also not permitted to retain any expenses for administration of the bursary. It is intended that students accept the full bursary amount, as any payment for a year of study, even if partial, results in a commitment to a full year of service obligation.

Overall disbursement to institutions is based on a calculation of required amounts for returning students and an amount based on the average number of students already funded, with some adjustments for smaller institutions. Amounts for individual institutions are clearly set out in the policies and processes document produced in the year prior to disbursement. Overall number of students in that institution and prior bursaries awarded are used to determine what ought to be awarded to students in each institution.

There is no evidence from the interviews with education faculties at universities that there are concerns about the overall allocations. The data show that there is some discussion amongst stakeholders about the actual value of individual bursaries. This is discussed below.

In 2014, a Standard Operating Procedures (SOP) document was produced in draft form by the DBE and details the disbursement process as follows:

- "The HEI uses the approved list accompanied by the student's signed contract, a copy of the student's ID or any other documentation required by NSFAS when submitting claims to NSFAS.
- On receipt of the claim and required documentation, NSFAS will process payment to the institution.
- After funds have been received from NSFAS, and after student accounts at the HEI have been settled, all remaining funds must be transferred directly to students through their bank accounts.
- Funds due to students must be transferred to them in two payments: half of the amount as soon as possible after 1 April of each year and the remainder at the beginning of the second semester.
- NSFAS receive from each HEI a statement accounting for the money that has been paid to the bursary recipients, and if the payment cannot be made, the HEI refunds the money to NSFAS
- NSFAS must provide an annual audited statement of the FLBP's income and expenditure. The statement must reach the Department no later than April of the year following the award of the bursary." (DBE, 2014g)

This confirms our understanding of the disbursement process, as determined through interviews with key stakeholders and the programme theory development process. As far as the data shows, this reflects the procedure that has been followed for the period of evaluation, and is not new. It is not possible to determine whether there were earlier variations from this process, but this approach has already been in place for some years now.

The timing of these various processes differs from institution to institution. The DBE only receives the funds from Treasury and pays them over to NSFAS in April of each year, which means that all other bursary disbursement processes only take place after April, by which time the academic year is in full swing.

5.4.5.2 Stakeholder experiences of the bursary disbursement processes

One of the biggest challenges in the efficient implementation and administration of the FLBP is the timeous disbursement of awards to students. As described above, there are several processes and stakeholders involved in the administration of funds. Delays in payments to students appear to be a dominant concern amongst all stakeholders, and were raised consistently across student focus groups and interviews with university officials, NSFAS, and national DBE staff.

Payment schedules depend in part on funding cycles within Government, but also on a chain of administrative processes, taking place across the DBE, NSFAS and institutions, and involving individual bursary recipients. While the relationships and systems that operate within this chain appear to be functioning well, the systems have not been able to support payment of institutions and students early in the academic year. Critically, students start the academic year without different components of their bursary (this differs from institution to institution) and without a clear idea of when the funds may become available. This chain of delay has its origin in the mismatch between the academic year commencing in January/February and the fiscal year of Government, which starts in April.

Annual funding from Treasury is transferred to the DBE in April each year, and from there to NSFAS, based on the agreed number of bursary recipients selected for the academic year already underway. NSFAS then has to transfer money, based on batch claims submitted by each institution, directly to institutions. From there, funds are distributed by institutions to cover the necessary costs identified for each Funza Lushaka bursar. While each university has its own systems in place, the common practice is to place the necessary amounts to cover tuition fees, book allowances, accommodation and food payments and any other university-administered amounts on the student fee account, to clear any outstanding balances. In cases where students live off campus, money is paid directly to students once the accounts have been settled, along with the monthly stipend supplied to Funza Lushaka bursars.

FLBP policy specifies that institutions must disburse money directly to students after settling student fee accounts. It is suggested that this is done in two payments, corresponding to the two main semesters. There are different views of stakeholders about what the best disbursement method is for payments to students. Some institutions pay one tranche out to students, once all student fee accounts have been settled; a number of institutions pay out funds twice a year, once a semester;

and in at least two universities, payments are made to students on a monthly basis. There are also cases in at least one university of payments being made at different times to different students.

Views differed about whether NSFAS pays institutions within the 30-day limit or not. Given that payouts are dependent on both students and institutions submitting accurate information to the NSFAS, including contracts and IDs, and that there are sometimes data verification questions to be answered between universities, the DBE, and NSFAS, it is not surprising that the period between claim submission and payout differs. The lists "don't always agree":

> You find the list from HEIs and the list from DBE there is few students that made their way into this list but they are not on the DBE list and that has to have a back and forth in terms of resolving it as to what has happened (Interview with Technical Stakeholders).

A significant issue is that there are often changes during the year and claims have to be synchronised across NSFAS, the DBE and universities.

> During the year we have a lot of cancellations and replacements (Interview with Technical Stakeholders)

> We do check forms, where student hasn't signed it, we would reject the form when the student didn't submit his ID copy. That form then goes back to the university. They in turn will call the student in and have him bring the necessary documentation in and they submit the claim again to NSFAS (Interview with Technical Stakeholders).

NSFAS admitted that time delays in processing claims can sometimes be a problem but reported that turnaround time is usually 30 days from receipt of claims:

> That is another challenge we do have... Because we are dealing with 50 TVET colleges and 25 universities in which the claims we receive up to could be 1000-2000 forms per day if not more. They would spike up, towards the end of June we have a massive influx where we have boxes coming into our department per day. That would cause backlogs because we have got an influx of claims.

There were mixed responses from the universities on delays in receiving claim from NSFAS. Most indicated that claims are received in 30 days, with a couple of problems noted in some universities. NSFAS officials admitted that they do have spikes at particular points in the year where delays may occur, depending on the workloads. NSFAS reported that:

> Funza is one of our priority funding bursaries at NSFAS. We always try our best to ensure that we process and pay them as soon as possible.

Views differ on the way in which institutions should approach payouts to students. On the one hand there is a view that students should be able to decide how best they spend their money, and the delays in paying money to students mean that many have to refund their families for loans or advances to cover for expenses incurred during the first part of the academic year. A university Academic Coordinator expressed a strong opinion in this regard:

> We have no right to decide for them how they want to spend the money.

On the other hand, there are views that paying out lump sum amounts to students is unwise without support for financial planning. Some students also expressed concerns about the distractions of having access to relatively large amounts of money, particularly in some cases after having struggled for several months to cover basic expenses.

> I think that it is good how the money comes in two separate batches because it helps you to plan your expenses. (Student focus group).

> Perhaps more payments more often will resolve the problems of students spending irresponsibly (Interview with Financial Administrator).

Decisions about how to manage the bursary payments may be the prerogative of different institutions, but national guidance may be necessary from the FLBP management team about what principles should guide the approach to this.

5.4.5.3 Effects of payment delays on students

About 3% of bursary recipients indicated that they had experienced difficulties with registration due to bursary funding not being finalised, while 17.2% said that they experienced problems with late payment of tuition fees. For those who studied at the University of Fort Hare and the University of the Western Cape in particular, late payment of tuition fees was a challenge with 31.9% and 31.4% respectively experiencing this.

Table 64: Late payment of Tuition fees

	Freq.	Percent
NO	16,497	82.8
YES	3,419	17.2
Total	19,916	100

Table 65: Late payment of tuition fees (per university)

University	NO	YES	Total	
CPUT	1,060	325	1,385	23.5%
CUT	454	108	562	19.2%
DUT	180	16	195	8.0%
NIHE (MP)	18	0	18	0.0%
NIHE (NC)	152	57	209	27.3%
NMMU	991	215	1,207	17.9%
NWU	1,384	310	1,694	18.3%
RU	94	22	116	19.0%
TUT	677	168	845	19.9%
UCT	146	37	183	20.1%
UFH	648	303	951	31.9%
UFS	895	368	1,263	29.1%
UJ	782	154	936	16.4%
UKZN	1,281	123	1,404	8.8%
UL	784	63	848	7.5%
UNISA	603	100	703	14.3%
UNIVEN	551	74	625	11.8%
UNIZUL	1,521	78	1,600	4.9%
UP	1,099	102	1,201	8.5%
US	858	157	1,015	15.4%
UWC	614	281	895	31.4%
WITS	712	273	985	27.7%
WSU	991	86	1,077	8.0%
Total	16,497	3,419	19,916	

The effect of late payments on students can be significant. A number of examples were provided in the focus groups and interviews with university officials of students struggling to meet their basic living needs in the early part of the year:

> We don't have money when we really need it (Student focus group).

This is particularly the case for students living off campus, who have to pay rent. Students have to find innovative ways of surviving financially, including relying on family members, exchanging meal cards for rent money (in this institution stipends and book money are paid out to students at the start of the year), taking out loans, squatting, and other methods. The views of various stakeholders (including university-based respondents, technical stakeholders such as NSFAS and students) follow:

> If Funza pays on time students are relaxed and have study time and perform well… Their future success depends on the funding that Funza pays out and if they are worried and running around during exam time (trying to resolve issues) it does affect their grades and success at varsity.

Money comes in April, students start in January. That then puts the students at the mercy of the university, whether the university has money or they don't have money to pay them allowances for things like food, books, out of campus accommodation. Those are things that are usually quite tricky.

I think that the Funza Lushaka bursary is a good story but I think it would have been a great story if they could find a way of giving us something every month because we come from different families, our families don't have jobs or any income so to wait till the end of the year is a very long period, we struggle throughout the months just to survive until that pay out.

According to the survey, some students experienced difficulties as a result of late payment of bursaries. Around 17% percent of recipients experienced difficulties with late payment of tuition, 3.8% with obtaining funds for accommodation and travel, 3.1% with obtaining funds for textbooks and 2.7% with registration, due to bursary funding not being available. Rhodes University had the highest proportion of recipients experiencing difficulties with funds for accommodation and travel (9.5%) and for registration (14.3%). The largest proportion of recipients experiencing difficulties with obtaining funds for textbooks were studying at Unisa (10.2%) followed by the University of Limpopo (8.5%). The proportion of recipients experiencing challenges with late payment of tuition was highest at University of Fort Hare (31.9%) followed by the University of the Western Cape (31.4%).

One or two interview participants indicated that student unrest has occurred as a result of payment delays. However, it is not clear, whether student unrest in some institutions is linked to broader unrest about NSFAS funds, as FLBP payment delays could also be linked to delays in payments to NSFAS students. It was not clear whether those participants who did mention student unrest were describing general unrest over NSFAS payment delays, rather than those specific to Funza Lushaka bursars.

At one institution, students mentioned that they had difficulty in getting their "change" paid out – that is the payment due to them for their stipends and what remains on their student fee account when all other amounts have been covered. This could be evidence that universities are withholding funds from students, though this was not specifically probed in these cases. There were two universities where it was suggested that this might be happening. In one institution it was stated that it had been the practice to withhold excess amounts from students and distribute money to other students. This has been explicitly against FLBP policy, and is expressed clearly in the policy documents from 2010 onwards. In at least one institution, interest was charged on student accounts which resulted in reduced scholarship payments to students. However, it appears that this is not common. A significant 76.9% of survey respondents highlighted that bursary funds are distributed in line with university payment deadlines.

The table below illustrates the challenges which participants identified having faced in relation to the management and administration of the disbursement of the bursary

Table 66: Management and administration challenges participants faced

Challenges	No.	%
Late payment of tuition fees	3 419	17.2%
Difficulties with obtaining funds for accommodation	747	3.7%
Difficulties with obtaining funds for text books	621	3.1%
Difficulties with registration due to bursary fund	536	2.7%

The highest proportion (17.2%) of participants experienced the late payment of tuition fees as a challenge. The issues in relation to defaulting and not understanding the priority areas to be studied by recipients were least identified as challenges with only 0.2% and 1.8% of participants respectively mentioning them.

5.4.5.4 Effects of payment delays on universities

The delays in payments to institutions do not only affect bursary recipients, but can expose the universities themselves to cash flow problems and financial risk. In a majority of institutions, substantial support is provided to students to fill the gap between the beginning of the academic year when awards are confirmed and the actual time that payments get made by NSFAS to institutions. This takes different forms and varies across universities, depending on the policies and resources of different institutions.

In a majority of institutions, students with confirmed awards are allowed to register and stay in residence without making upfront payments. Some institutions also credit food accounts with funds, but not all institutions are able to do this. In a small number of institutions, book allowances are also made available in the form of credit for campus bookshops. In at least two institutions universities advance students monthly stipends on the strength of their award.

Given that payments from NSFAS often do not reach the universities until mid-year, universities are playing an important role in keeping the FLBP operational, through providing direct bridging finance. NSFAS confirmed that universities play an important role in supporting students early in the academic year. They referred to this as a "juggling act" that "universities do behind the scenes to make this thing work" (Interview with Technical Stakeholders).

This commitment from institutions reflects the importance that stakeholders attach to the FLBP. It also may reflect the strong links with NSFAS, as funding from NSFAS is a major vehicle for poor students to access university education. From the interviews it is evident that universities have a strong relationship with NSFAS and the FLBP has benefited from this relationship. One institution described the NSFAS-university relationship as a "really well-oiled machine" (Academic Coordinator Interview).

5.4.5.5 Other effects of disbursement delays

There is a perception that Funza Lushaka bursars are well off relative to other students. It is true that the bursary is worth more than the average NSFAS student loan, and also that means testing has never been conducted to screen FLBP recipients for relative financial need.

> The main issue from our side is the fact that the FLB is a very generous bursary. Given the rumours we have heard from universities that the bursary is so generous to a point

that students call it the car payment bursary. The cash equivalents that they get out at the year-end are so huge that they can afford to spend that monies on lavish items and stuff. We feel that DBE should … review their maximum amount (Interview with Technical Stakeholders).

The challenge with this approach is that the large pay-outs to students are a direct result of the delays in payment to students, and though the bursary may be generous in relation to other programmes, the amounts are carefully calculated to cover the costs of a full bursary. It is risky to assume that if students receive large pay-outs, they do not need them. Students and their families cover their own costs during periods where the bursary funds are not available to them and many struggle to do this.

It must be noted that it was beyond the scope of the evaluation to examine the relative socio-economic status of FLBP recipients. So it is not possible to determine the extent of financial need of FLBP recipients. However, there is no evidence that large numbers of students have used bursary money for "buying cars".

Evidence from the student focus groups and the survey data is that students perceive the bursary to be adequate for covering their major financial needs, and that a majority of students feel privileged and proud to receive such comprehensive financial support for their studies. The bursaries have the potential to relieve Funza Lushaka bursars of all financial worries for the period of their studies, as long as payments are made timeously. The university officials involved in the FLBP have the most regular and direct contact with bursary recipients of all the stakeholders. Moreover an analysis of the extensive interviews with university officials did not reveal that this was a major issue of concern for them

One of the ways in which universities "hedge" things for potential Funza Lushaka bursary recipients, is that they advise students to also apply for NSFAS funding. Then if they are unsuccessful in receiving a Funza Lushaka bursary they have a chance of obtaining NSFAS funding, if they meet the criteria. This is an option for needy students, as if they are accepted for a NSFAS loan, they can sign a loan agreement earlier on in the year and submit claims for NSFAS, converting the loan once the Funza Lushaka bursary has been approved and "universities would normally send back the full loan amount that they received for that student for that year" (Interview with Technical Stakeholders).

It is also an option for students who do not quite meet the re-award conditions for the bursary, but who are able to continue studying, and may be able to re-apply for a Funza Lushaka bursary at a later stage of their degree. The problem with doing this though is that if the student does qualify for a Funza Lushaka bursary and a NSFAS loan has been reserved for them then another needy student may not be able to benefit from a NSFAS loan.

There is a view that the "refund policy" of the bursary Programme, which pays out cash to students once all universty-related costs have been covered, is something that should be reviewed (NSFAS). In other bursary programmes, like the DAFF bursary, additional funds are paid back into the fund to cover other students. Another example is that of NSFAS loans, where if there is credit in the loan, repayment amounts can be reduced.

It is possible that in a small number of cases, the additional amounts are not needed by students, because they have other sources of income. However, without means testing of students being conducted, there is no way to determine the relative affluence of different students. The current model would have to be adjusted.

This is discussed further in the recommendations. In an environment of such scarce funding for higher education and significant financial need, it may be necessary for government to consider targeting funds at students in need. However, there is also significant focus now in the Higher Education sector on what is known as the "missing middle". These are students whose families earn above the very low income threshold to qualify for NSFAS funding, but who still cannot afford university education.

Certainly, perceptions of some students not needing the full cost bursary have contributed to the view of the Funza Lushaka bursary as being the "car bursary", and this could become problematic for the FLBP, which is a government-funded bursary. It is important that it is not perceived to be wasteful, even though there is no evidence that it is wasteful. The DAFF and DSD bursaries also cover the same types of expenses covered by the Funza Lushaka bursary (fees, accommodation, books, meals etc.) and like the Funza Lushaka bursary, the amounts to be awarded are determined by the relative costs of attending different universities.

5.4.5.6 Concerns about communication

In order to ensure that applicants for the bursary are aware of the service obligations and contractual implications of receiving the bursary, and to ensure that students do not reject the bursary at a later stage because they have not understood these, universities are requested to communicate/engage with bursary applicants early on in the academic year to ensure that they understand these obligations at an early stage.

A related challenge is communication about payments. Students feel that when there are changes to payment dates or expectations that they are not always well communicated to students.

This means students do not always have access to relevant information about when payments will be made, how much money will be received, and that there have been delays. Better communication would allow students to plan better, particularly in the event of delays. The expectations of students could be managed better. Strikes are often caused by "anxiety and frustration", but better communication about delays and deadlines may help to manage student expectations about the bursary.

5.4.5.7 Stakeholder relationships affecting disbursement

NSFAS have existing relationships with institutions. They pay funds over in bulk batches. They don't have a specific FLBP team as they do the administration for a number of funds, including the general NSFAS loans system. They are set up to administer bursaries and loans and do quarterly reports to the DBE on funds and claims received, payments to date and they pay funds over in bulk batches

They engage with DBE and universities throughout the year, so communication is fairly regular. They also attend the annual FLBP meeting hosted by the DBE, where they present on the fund's performance. There is a steering committee set up for the overall operation of the FLBP, including

representatives from NSFAS, DBE, DHET and some of the education Deans, and this committee meets quarterly.

NSFAS relationships with the HEIs are well established and stakeholders view these relationships positively. The relationships have been in place for a long time, and the same people at the HEIs deal with other NSFAS funding. . The different stakeholders communicate well and work together well. If conflict arises, it does appear that the necessary mechanisms are in place to deal with it. The challenges facing the Programme as a whole relate to streamlining administrative processes across the different stakeholders. This may require a number of things to work, but at least the relationships are in place.

> We have been dealing with universities I think since the inception of NSFAS. So there is a good balance of, and a clear understanding, when we ask requests, when we do follow-ups and have queries and end-queries to certain universities in terms of claims and funding and students complaining about the service they are getting at universities. We are normally able to resolve it fairly quickly (Interview with Technical Stakeholders).

Here it seems that the FLBP has benefited in particular from the fact that existing payment relationships are established between NSFAS and universities.

5.4.5.8 Payment administration

In 2014, NSFAS made a forward payment to universities of 50% of the bursary allocation available to universities, though this was still done post-April once the Treasury funds had been paid over.

> This year was particularly bad, it was June and we had not paid universities which is why we decided to pay them in advance. So that those crying 'cashflow' could be able to start paying the students (Interview with Technical Stakeholders).

There is some discussion amongst stakeholders about how payments might be made earlier to assist institutions, but this has not been resolved. Also there are sometimes unspent funds which can be used as a "buffer… we are exploring how this can be used to improve the efficiency of administration for the bursary" (DBE interview).

However, it was also indicated that though rollover funds were available from 2007 to 2010, in 2011 all unused funds were utilised in supporting 2011 bursaries. An internal discussion at the DBE is taking place to determine how accumulated funds may be used to "close the gap" between the beginning of the academic and financial years.

The FLBP payment system is a complex one with many payment processes involved, requiring verification and quality assurance checks. Payments cannot be made without verification, from the DBE, from NSFAS, and from the institutions themselves. There can be delays paying institutions from NSFAS. There can be delays paying students from the university Financial Aid Offices. These offices have different levels of capacity and may not be able to verify and process payments as soon as money is received from NSFAS. Contracts and banking information for students have to be in place and administrative errors can delay payment. In addition, lists from the DBE have to be

matched against claim lists from the universities, and these have to be resolved by NSFAS before funds are paid to universities.

> It is a bit of a manual process on our side. The lists are received in Excel format. They are protected so we cannot make any physical changes. We do lookups. We have got an electronic template from the universities for their claims. We do v lookups and match and see which ID numbers correspond to DBEs and well as student numbers. Based on those checks and validations we will then highlight on the batch which students need to be rejected because they aren't bursary holders and which students may be approved for payment (Interview with Technical Stakeholders).

Capacity was raised as a concern as, according to the policies and procedures, each institution is expected to have in place an academic coordinator, a bursaries administrator and a financial aid officer who liaises with NSFAS and students. NSFAS admitted that some universities are faster and more efficient at submitting claims, which may reflect the different staffing levels at universities.

The DBE is the central hub of all approvals for the bursary. When universities notify the DBE that changes have been made, and students from short lists are added to the approved list, the DBE and NSFAS have to liaise about these changes also.

> There is this whole triangulation of information that happens between NSFAS, DBE and the universities (Interview with Technical Stakeholders).

> A typical claim form from an HEI will be a batch of 250 contracts maximum. Anywhere, between 1 and 250 forms. The Funza Lushaka contract that the student completes, and signs along with the bursary agreement. The university also includes a cover letter to state which fund they are claiming from because we deal with various funds at NSFAS....Accompanying that is a hard copy of the control sheet which will have basic information on such as the name and surname of the student, ID number, student number, in some instances they put in the field of study as well as the full bursary amount they are claiming for. Together with that claim they send an electronic copy of the control sheet. That control sheet we then use to do our v lookups (Interview with Technical Stakeholders).

5.4.5.9 Students' use of funding

Specific concerns were raised in the interviews about the need for flexibility in how students use their book/stationery money. Some courses have more expensive textbooks than others. Foundation Phase teacher education students have to laminate posters that they use in practice teaching.

Flexibility is also important in how students access funds during their practice teaching, for example. Under the system being piloted in 2014, where students access vouchers for particular shops, concerns were raised that student teachers on practical could often not access the relevant suppliers without cash. This means that students cannot purchase second-hand books and there are restraints on purchasing textbooks and other materials required for teaching practice. In addition, some programmes require different kinds of resources.

NSFAS is in the processing of piloting a new system for making payments to students, which will involve direct contact between students and NSFAS. Online contracts are signed with students' cellphone and email addresses being recorded. Students are able to login to an online system. Bursaries are broken down into specific "pockets" where vouchers are disbursed to students. The system is a "paperless one and ensures that students receive monthly payments, with tuition being paid directly over to the university. The major difference with the pilot system is that students will have a direct relationship with NSFAS.

FLBP recipients in four universities were participating in the pilot in 2014. There was therefore some discussion in the focus groups and interviews about this (SBUX) system. As it is a pilot there have been several administrative challenges that have affected payouts to students and there has been considerable confusion about how the system operates. As a result, a number of negative comments arose during the focus group and other interviews. As this was not a specific focus of the evaluation, it is not possible to comment on whether the system will improve the administration of FLBP bursaries. It should also be noted that the system is not designed specifically for the FLBP, but rather more broadly for students receiving NSFAS funding as a group. While the challenges which have been experienced with the (SBUX) system in 2014 could be a result of teething problems, it is too early to tell.

Some very strong opinions were expressed by universities about the teething problems with the new system, including labelling it as "not functional". There were also concerns from the DBE about the teething problems affecting student performance negatively. As the pilot scheme was not within the scope of the evaluation (it commenced in 2014) the research instruments did not specifically probe this.

However, one finance officer expressed concern that taking universities out of the equation in relation to payments would expose students to risk, as universities have a direct connection with students and are able to advise them when problems arise. There is concern that if universities do not have control over payments, then they will not be able to assist students adequately.

According to the survey, most Funza Lushala bursars utilised the bursary to cover tuition fees (99.6%), textbooks 94.6%) and stationery (90.8%). Just over 83% utilised the bursary to cover accommodation, 74.9% to cover meals and 53.9% for transport. Other areas of expenditure on which recipients spent their money included: electronic equipment (35.3%), clothing (34.9%) and entertainment. Just under 17% of respondents said they used FLBP money to help support families.

Of the 1% who indicated that they spent the Funza Lushaka bursary on other items, these included, inter alia, printing costs, covering the costs of assignments and projects, medical and medicine costs, costs during school observations, sports and extra-mural activities and pocket money. One person mentioned that they had bought a house for their mother and one person mentioned that they used the funding to purchase a car.

Table 67: Number and percentage of survey respondents according to the costs covered by the bursary allocation

Costs	No.	% (n=19916
Tuition fees	19 829	99.6%
Accommodation	16 544	83.1%
Textbooks	18 847	94.6%
Stationery	18 074	90.8%
Electronics (laptops, ipads, phones)	7 026	35.3%
Transport	10 729	53.9%
Airtime and internet access	8 000	40.2%
Meals	14 913	74.9%
Entertainment	5 389	27.1%
Support families	3 352	16.8%
Clothing	6 944	34.9%
Other	196	1.0%

Only 3.7% of all survey respondents found that the Funza Lushaka bursary was not sufficient to cover all their academic costs. The remaining 96.3% found the funding sufficient.

Table 68: Was the funding sufficient to cover your academic costs (tuition, textbooks, accommodation and meals)

	No.	%
No	729	3.7%
Yes	19 183	96.3%
Refused	4	0.0%
Total	19 916	100.00%

Almost three-quarters of all FLBP recipients reported in the survey that they had surplus funds paid out to them at the end of the year. This is consistent with the qualitative data.

Table 69: Survey respondents according to whether or not surplus funds were paid out at the end of the year

	No.	%
No	5 093	25.6%
Yes	14 715	73.9%
Refused	109	0.5%
Total	19 916	100.0%

Of those who had surplus funds, the main reason for having surplus funds related to universities making adjustments to fees or course structures, while 4.1% mentioned that they had financial support from family. Almost 40% cited other reasons for having a surplus. These reasons given included, inter alia: saving and economising; making use of cheaper accommodation and therefore getting meal and accommodation money back; paying for expenses out of their own pocket and then getting the money refunded; the money was more than the tuition fees; and some could not remember why.

Table 70: Reasons for having surplus funds at the end of the year

Reasons	No.	%
Had financial support from family	807	4.1%
University adjustments to fees or course structure	5 630	28.3%
Awarded additional funding through university scholarships	318	1.6%
Awarded additional funding through another bursary	76	0.4%
Part time work	199	1.0%
Spouse	12	0.1%
Other	7 924	39.8%

However, the money was said to be important for student access, retention and success, as 96% of students indicated that the bursary assistance helped them to successfully complete all the required academic activities for their degrees.

Something could be done about excess payments that include adjustments for course fees. Downwards adjustments of course fees should be factored into overall bursary amounts, as these amounts should not be legitimately paid to students, but back to the funders. An administrative mechanism would be necessary to make this happen as each institution would have to pay closer attention to the student fee accounts of bursary recipients. This is another aspect of FLBP administration that points to its staff-intensive nature.

5.4.5.10 Tracking of payments and service obligations

From the interviews with NSFAS and the DBE management of FLBP it is clear that there is currently no formal mechanism in place to track students beyond their placement to ensure that they meet their full service obligations.

This is not just the absence of an information system to allow tracking, but is a serious missing link in the FLBP. The evaluation team proposes that the following objective be added to the programme theory and logframe: "to track bursars, to ensure that they fulfil their service obligations and monitor their performance over time". While students sign agreements, there is very little control over how students fulfil these agreements. Part of this relates to the 60-day limit on placement, which allows students to give up their obligation if they are not placed in a teaching post within this period of time. Several issues need discussion about defaulters. For example, what are the legal documents needed to convert a bursary into a loan? Is there an "admission of debt" tool that is required? These discussions are needed to prevent costly legal challenges.

However, the evaluation team were unable to obtain evidence of the extent of actual defaulting on the scheme, as defaulting could take place at a number of junctures – not just in failing to take up a placement, but also in failing to complete the full number of service years required. It is difficult to show the extent of this as no data is available to show this.

Defaulting could happen in a number of ways – students can drop out of the Programme, or they do not graduate, or they are offered places and do not take them up. Reconciliation needs to take place annually to work out who the defaulters are, and how many people were released from their obligations by not being placed.

> I think this is the only part we have not done well at. When I say I have not done well I mean a collective in terms of us, the DBE and Provincial Departments in terms of sharing the information (Interview with Technical Stakeholders).

> …the issue of following up on defaulters and ensuring repayment has been a grey area (DHET interview).

NSFAS could not confirm whether any money had been paid back to the fund, except in a small number of cases where students had voluntarily contacted NSFAS and agreed to convert their bursaries to loans.

Planning discussions are currently underway between the DBE and NSFAS about how a proper tracking system can be put in place. However, this is not yet in place and is an area that requires urgent intervention.

5.4.6 Placement

5.4.6.1 Overview of the placement process

The placement of students in teaching positions is a key objective of the FLBP. This refers to students being matched appropriately and being placed to teach their phase and subject specialisations.

Before 2010, the placement process was largely located at a national level within the DBE, with PEDs playing a minor role in the determination of priority areas, but being expected to place graduates on completion. This has since changed, with provincial priority areas informing the selection process for FLBP graduates. Provincial post provisioning processes are also taken into consideration. Placement of qualified FLBP graduates is still, however, dependent on the provincial processes for appointing teachers, a process that is entirely distinct from the bursary administration.

Bursary recipients indicate in the re-application for the final year of study that they will be graduating in the following year. In June of their graduation year, the FLBP coordinator at each university submits a list of final year FLBP students to the DBE, who then send letter reminders to students, specifying the service commitment and informing bursary recipients about the placement process.

Bursary recipients complete a placement request form that they return to the university coordinator by the end of July. The university coordinator sends the placement forms to the DBE by mid-August.

The DBE ITE Directorate compiles provincial placement lists and distributes these to the HR Directorate in the DBE, who, in turn, sends them to provinces with copies of the placement request forms by the end of August. Provinces are expected to identify suitable posts for the bursary recipients, and inform the bursar when a post has been identified, ideally before the end of the year. Bursary recipients complete a result notification form and submit it to the university coordinator at the institution by end of July.

When final results are available, the university coordinator indicates the result of the student on this form and date stamps it, attaches an academic transcript to the form, and sends the batch of forms to DBE by mid-December. The DBE then sends updated placement lists to the provinces, for bursary recipients who have passed and are ready to take up a post by start of the school year.

When the bursar takes up the post, they complete a placement notification form which is signed and stamped by the school principal, and sent to the DBE. PEDs are required to provide regular placement progress updates to the DBE, as well as report any students who default on the service obligation (DBE, 2009[88]).

The challenge with this process is that between 2007 and 2012 there is no reliable data to indicate placement information of FLBP bursars. There is also no effective information management process to collect and store information. This is discussed further in section 6.5 below.

From 2010, provinces started playing a more engaging and meaningful role and placement became more responsive to provincial needs. From 2011, the DBE Human Resource Planning, Provisioning and Monitoring Directorate in collaboration with provinces (DBE, 2011c), managed the placement process, based on the following protocol:

- By April of each year, PEDs are required to conduct an analysis of post vacancies, particularly for posts in quintile 1 — 3 schools, in order to create a closed vacancy list against which Funza Lushaka bursars could apply or be matched.
- By end of June, DBE provides PEDs with a list of bursary recipients who chose to be placed in each province.
- PEDs work with these lists to place/match the bursary recipients with specific posts. PEDs notify DBE of bursary recipients that they are unable to place, by end of August, and the details of these bursary recipients are made available to all the provinces for possible placement.
- By the end of October, bursary recipients who have been placed are notified of their placement and they take up their posts on the first school day at the beginning of the following year. PEDs have 60 days, from the day of receiving confirmation of students' results, to place the student in a teaching post (DBE, 2013e[89]). If, after 60 days, a graduate has not been placed in a teaching post, they are released from their obligations to repay the bursary (DBE, 2012b). It is the duty of both the PEDs and bursary recipients to inform DBE of non-placement.

If bursary recipients are placed and they refuse the offered post, the PED must report this to DBE, who will inform NSFAS to recover the funds paid to the student. Bursary recipients who leave their post before the service period is over will also be reported to DBE, and then to NSFAS for recovery of the outstanding bursary value (DBE, 2009).

5.4.6.2 Placement in practice: roles and responsibilities

Placement plays a key role in the success of the Programme, if the Programme is to fulfil its mandate of providing sufficient and appropriately trained teachers in areas of shortage. In order to evaluate how placement is taking place within the Programme, it is important to understand the context of post provisioning and teacher recruitment in the provinces (discussed in some detail in the literature review), as this is the system within which FLBP placement is located.

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[88] *Department of Basic Education. 2009. Teacher supply patterns in the payroll data. Pretoria: DBE.*
[89] *Department of Basic Education. 2013e. Placement process for Funza Lusaka graduates. Pretoria: DBE.*

When provinces start planning for post provisioning for the following year, they have to address the issue of excess teachers in the system. In this regard, Funza Lushaka graduates are mostly not considered a priority, as teachers already in the system have to be accommodated. However, most provinces have now put in place measures to actively place Funza Lushaka graduates by developing policies for their placement.

Table 71: Provincial[90] FLBP placement policies for 2012/2013

Province	Description of placement policy
KwaZulu Natal	- Educators declared in excess are first priority for placement, followed by Funza Lushaka graduates. - After all teachers in excess have been placed, any vacancies are sent to the Head Office which compiles a composite vacancy list. The matching and placing of FLBP graduates is effected by the District Task Team which includes the unions. Allocation of posts is on a first come first served basis for districts. Placements are forwarded to Head Office to process appointments letters - only the Head Office is allowed to appoint Funza Lushaka bursars and issue letters, to avoid nepotism and corruption. After this initial placement, Head Office requests vacancies daily from districts to place available bursary recipients.
Mpumalanga	- Comprehensive lists of bursary recipients are provided to all District Offices and Circuit offices. - These lists were distributed to schools in October 2012 after the 2013 post provisioning was released. - Schools identify bursary recipients who meet the requirements of the vacant post at the school and appoint bursary recipients accordingly. - At the same time, bursary recipients can submit a complete CV to schools and Circuit Offices for possible placements. - Updated lists were constantly distributed after the results were received and bursary recipients who had already been appointed and those who could not be placed were removed from the list.
Gauteng	- Bursary recipients were required to apply for vacancies at schools through the Vacancy Circular 09 of 2012 published in January 2013. - GDE announced that for all vacancy lists preference must be given to FLBP graduates and other bursary holders. - Graduates were placed temporarily into vacant ad hoc posts and permanently into substantive posts during the first term. - Graduates were placed into profiled posts with due consideration to curriculum needs and teacher qualifications. - Graduates were placed in vacant posts against promotional posts or any other resultant posts due to attrition.
Free State	- Head office receives lists of vacancies from schools and assessment of vacancies is done that can match the profiles of bursary recipients. - Vacancies are matched with profiles of bursary recipients at HR Head Office, and matched lists are sent to schools. - Schools conducts interviews with Funza Lushaka bursary recipients for possible placement, and submit recommendation forms to HR official signed by all stakeholders - HR sends appointment letters to bursary recipients – indicating that their appointments are subject to passing their qualification (must be qualified teachers).

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[90] *No data was available for the Eastern Cape. Western Cape information is excluded as it is not clear from the description in the DBE report (2014c) what the position is with Funza Lushaka graduates*

Province	Description of placement policy
	• Appointments are done on PERSAL once confirmation of the results has been received. • Academic results are made available by tertiary institutions on request by HR if qualifications are obtained, as graduation ceremony takes place in March/April 2014. • The above process is repeated in the 2nd quarter if profiles do not match existing vacancies. In this regard, bursary recipients are placed throughout the year.
Northern Cape	• The province has a list of substitute posts by 1st December of each year • FLBP graduates are matched with provincial substitute posts. • SGBs are consulted and offers of employment are confirmed. • The PED make offers of employment to successfully matched FLBP graduates • A list of bursary recipients who decline the post is sent through to DBE to follow up with regard to conversion of bursary to loans. • Students are contacted to ensure that they are in the posts in which they have been placed and a summary is made of teachers who are placed in temporary posts.
North West	• Vacancies in the province are analysed and matched to the FLBP graduate profiles at Head Office. • Meetings are held with districts to discuss the provincial database and the temporary teacher issue to prepare for the FLBP intake for 2013. • District placement teams are formed. • There is initial placement of students in the Funza B.Ed. followed by placement of the bursary recipients with PGCE. • Schedules, documentation, and recommendation of successful candidates are submitted to area project Offices for verification and certification. • There is continuous monitoring of the process and placement of those who cannot be placed when placement takes place initially. • The final placement list is submitted to DBE.

Source: DBE, 2014c, Report on Funza Lushaka Bursary Programme 2013

These policies signal provincial responsiveness to draw on a competent pool of mostly young teachers, and highlight that there are solid plans to absorb FLBP graduates.

5.4.6.3 Stakeholder perceptions of placement

A prevalent theme identified as a concern by DBE and the PEDs is students changing priority areas during the course of their degree. This further impedes placement when their subjects do not match the priority needs of the province they choose to be placed in. This challenge is also linked to the fact that students can change their programme of study because they re-register every year:

> We are not sure if the students do change their subject choices while studying and how that happens or is allowed to happen. I am familiar with the FLB policy that states that if students change their subjects, they will forfeit their bursaries (Interview with PED official).

> A lot of the learners we recruit for our specific needs but by the time they qualify, they no longer meet those needs. They change their courses which is a challenge – those ones we find difficult to place (Interview with PED official).

A further challenge is that some stakeholders raised the concern that students apply for areas that are a priority in the province in which they study, but then are not able to be placed in the province they select once they complete their studies, because the priority areas are not the same:

> When such students apply, they apply for the priority areas from the province where they come from and then they are not able to be placed in the province they select to go to (PED Interview).

> Students are extremely disappointed when they hear their chances of placement are 5% because their subject is saturated. This is what the EMS students were told. There is now an oversupply in the province. If we had not gone to the presentation we would not have known (Academic Co-ordinator Interview).

> They complain that some subject areas are priority areas but the province refuses to place students taking some of these subjects such as IsiXhosa even if the student then majors in teaching IsiXhosa and Geography which they will then consider a priority area (Academic Co-ordinator Interview).

This is an important concern that links to the national planning system for priority teaching needs, which in turn links to decisions about priority areas for the FLBP funding. There is a mismatch between the provincial considerations of the selection processes at universities, and both the need for national planning and the fact that universities are not only training teachers for the provinces in which they are located. This is mentioned as an issue in the alignment between recruitment and selection and comes up again in placing graduates in teaching posts. Is FLBP a provincial or national Programme, and can FLBP graduates be placed in any province on completion of their studies, depending on particular provincial, district and school based needs?

While just under 8% of Funza Lushaka graduates indicated in the survey that they experienced delays in being placed in a teaching post, the problem seemed greatest in the Eastern Cape. Almost 24% of graduates from Rhodes University, 11.2% from NMMU and 8% from Walter Sisulu University indicated that there had been delays in their placement. A substantial proportion of recipients at the University of Pretoria (18.6%) also experienced delays. Only four universities had no recipients who experienced a delay in placement: namely the NIHE (MP), NIHE (NC), University of Limpopo and the University of Venda.

Table 72: Graduates who experienced delays in being placed in a teaching post

University	No	Yes	Total	%
CPUT	1,353	32	1,385	2.3%
CUT	533	29	562	5.1%
DUT	187	8	195	4.0%
NIHE (MP)	18	0	18	0.0%
NIHE (NC)	209	0	209	0.0%
NMMU	1,071	135	1,207	11.2%
NWU	1,572	122	1,694	7.2%
RU	88	28	116	23.8%
TUT	763	82	845	9.8%
UCT	164	18	183	10.0%
UFH	863	89	951	9.3%
UFS	1,174	89	1,263	7.0%
UJ	863	73	936	7.8%
UKZN	1,242	162	1,404	11.6%
UL	848	0	848	0.0%
UNISA	670	33	703	4.8%
UNIVEN	625	0	625	0.0%
UNIZUL	1,469	130	1,600	8.1%
UP	977	224	1,201	18.6%
US	934	81	1,015	8.0%
UWC	863	32	895	3.6%
WITS	910	74	985	7.5%
WSU	991	86	1,077	8.0%
Total	18,386	1,530	19,916	7.6%

5.4.6.4 Monitoring of placement

The DBE reported that monitoring of placement is very difficult to do, as information is held in PERSAL. The placement information of FLBP graduates cannot be held in the ITE system because of confidentiality issues, and this makes placement reporting difficult. PERSAL and EMIS information are needed to adequately track students and ensure that they fulfil their bursary obligations. The ITE Directorate manually captures information about whether students have defaulted, been placed, or not been placed. Defaulter information should be passed on to the NSFAS for follow up, but through a system for tracking FLBP recipients to ensure that they are placed appropriately and then fulfil their full teaching obligation to the State:

> If a Funza teacher leaves the school that they were placed at while still under obligation to Funza, they are not fulfilling the strategic position allocated to them and it should trigger a refunding of the bursary (DBE Interview).

There is currently no system in place to address this.

Of the surveyed bursary recipients, a significant number of those not in service indicated that there had been no follow up from anyone to determine whether or not they had paid back the bursary.

Table 73: Follow up on bursary recipients not in service

Follow up	No.	%
No	1 370	88,3%
Yes	174	11,2%
Refused	8	0,5%
Total	1 552	100.0%

The lack of a monitoring system for placement is leading to missed opportunities for feeding data back to universities on how their students are faring on the labour market, and whether universities' contribution to the FLBP is leading to placement. Feedback to universities will also help shape their strategy on supply. Universities can also inform bursary recipients of progress with placement if they are kept informed by the DBE:

> ... it would be good to get feedback about the number of students who have been placed because we continue to get phone calls from the students enquiring what is happening. So it would be good for them to keep us informed – maybe quarterly - about who has been placed and in which specialisation areas so we have a better sense of which specialist areas are taken up first. This could help us inform students when they choose specialisation subject (Academic Coordinator Interview).

PEDs also lose track of bursary recipients once they have been placed in a job, and this can lead to a breach of contract which is not detectable by the PEDs. Once the student is on PERSAL, if they change their school, but are still employed by DBE, the system cannot pick this up. A PED official elaborated:

> Once they are appointed in a particular institution and captured in PERSAL, we don't track them further. Our understanding is they understand the conditions of the bursary. We have never received a report from our districts to say teacher graduates have shifted. There was one case where after a year, a teacher wanted to move to another province and we iterated they must be within the public education system – we apply the transfer policy to them as we do for other teachers. But the tracking system as to whether they remain obligated to the period we funded is lacking on our part – I do think it is necessary to determine value for money and whether they remain in the public system and obligated to the terms of their contract. We do follow that up – in the beginning of the year we request for districts to place at least temporarily where possible. The report sent to DBE we also send to the districts so they can see those in temporary posts and it motivates them to place those graduates permanently PED Interview).

Some PED officials feel that if appointment letters to principals indicate the conditions of a Funza Lushaka bursary, principals will make sure bursary recipients do not only work in the school for a few months and transfer:

Some students not just the FLB holders will apply and accept a job offer in the rural areas with the intention of not staying in the area for a long period. Some will just apply for the post so that they can be in the system and then they will apply for a transfer to another school (PED Interview).

In one province, a moratorium has been put on transfers:

… the HOD has decided to make the placement process to exclude transfers so that there are no other transfers that are taking place in the province now. So if you are appointed to a particular school, you are required to stay and work at that school. Since last year transfers have been put on hold until further notice. Therefore we cannot listen to them when they state that they do not want to work in the rural areas that they get placed in. If they are placed, they must go and work (PED Interview).

The absence of an effective monitoring system to track students from graduation to employment and to ensure that they complete their period of service to the State is a very serious limitation of the FLBP. This is discussed in more detail later in this report.

5.4.6.5 Alignment between recruitment, selection and placement

Much has been said about the link between recruitment, selection and placement. The general perception by stakeholders is that provincial placement teams should be part of the selection process and inform universities of their needs, so that the final process of placement has already been pre-determined from the outset, not just for the province but nationally too. A DBE official felt that the link should be so tight that a student is almost placed at selection.

If information from PEDs can be accurate, if they can have their actions spot on then there will be minimal problems around placement. Once they (the students) are recruited then they will be attached to this post (Interview with DBE official).

However, it is not as simple as this in all cases. For PGCE bursary recipients, selection and placement can be twinned, as the Programme is only for one year, and is more amenable to short term demand and supply planning. However, for the longer B.Ed. degrees, which take four years, aligning selection and placement would require that longer term supply and demand modelling be in place, but this currently does not exist at a national or provincial level. Although the DHET is currently working on a multivariate model to determine supply and demand projections using multiple variables, the nature of labour market planning, and the lack of good data make an exact science impossible. The FLBP will always have to plan on the basis of broad trends. In the absence of a reliable model of supply and demand projections, some believe the provincial role in placement becomes crucial to its success: DBE interviewees presented the following arguments:

PEDs need to have a stronger data management system on the supply, demand and placement processes. So (now) we award bursaries to more Foundation Phase teachers without checking in which provinces and districts these teachers are needed. We target the right problem but not in a sufficiently textured way.

What is important is for provinces to do research, looking at trends in terms of attrition, turnover, and difficulty to fill posts. Currently I don't think the provinces are

doing the research to the detail needed. The reason they didn't do it is because in the past we had a national general shortage. But they are now accountable to do the research because they are accountable to place the 500 teachers they are wanting. This demand-research strengthens the issue around accountability. They request the people across the priority areas; they would need to place them.

Some stakeholders believe that demand and supply planning should be a national competence, and that it needs to be sharpened at that level. They believe that such planning should be systemic and should consider the education value chain of supply and demand. DBE interviewees noted that:

We don't have proper systems in place to plan for five years to be able to see attrition rates. I have a problem in that lots of thumb-sucking is done when determining our need. We don't have systems in place as a Provincial Department where I can plan for the next five years for all the people that will exit in terms of normal retirement, attrition etc.

We find that there are many students graduating in fields that are in oversupply. This planning should be done at the level of DBE. They should be able to tell the universities from a provincial perspective that you should only offer these pre-determined packages for a specific number of years.

If priority lists are determined by provinces, they should not conflict with DBE lists. The DBE must also consider how the curriculum has been evolving, how the packages offered by institutions are evolving. (Interview with PED officials).

The current situation in the area of placement is summed up in the following comment, which highlights some segmentation within the system. A DHET official noted that:

One challenge we have in teacher education is we have a national supply system and a provincial demand system. We haven't done it sufficiently well.

The challenge for the FLBP is that placement of graduates is currently an important objective of the Programme, but is something out of the direct control of the Programme. The State should be accountable for placing FLBP graduates following the significant investment in their training, and there should be adequate mechanisms for ensuring that this takes place and can be monitored. The planning system must be continuously improved, and while a national supply system is necessary and should continue, the quality of provincial data on teacher demand and post provisioning should continue to be improved as much, and as quickly, as possible.

5.4.6.6 Efficiency in placement processes

Students and Universities indicated that a reason that "Funza is so popular" is because they will be placed once they graduate. The most prevalent theme identified around students and their roles was that during the placement phase, they had to complete placement forms and rank the provinces of preference and they also had to submit their results to the PED. Although isolated comments were made, it is relevant to mention that two officials interviewed (from a University and PED) commented that students should apply for their posts, and not wait to be placed by the PED. This is not in line with FLBP policies but has worked in other provinces:

In our province, we tell them to go and search for a placement opportunity. We want them to contact schools. What we find is when I want to go to a place; I will go there to find the job. Last year we offered a post to students and then two months down the line when a post became vacant in their area, they moved there, which meant finding new placements in the schools they were placed. We prefer them to choose their placements (PED Interview).

Universities indicated that many students were unhappy because they had not been placed and some students refused to be placed in rural schools:

On the placement side, most students are not happy because they were not placed on time (Financial administrator Interview).

They refuse flat out. This year 10 said they would rather pay back the money rather than go to the schools… Funza students pick and choose and don't want to go where there's a need for them like [in a] township (PED Interview).

Although this is an important perception to capture, it is not supported by quantitative data. It reflects the attitudes of a minority of students. The survey data does not back up the claim that large numbers of students do not want to go and teach in rural schools. However, the survey data are self-reported and students may have been reflecting a social desirability bias, expressing popular sentiment rather than what they really think or feel. The data do show that relatively large numbers of students are placed in urban schools, but this could also be because of where they are placed, rather than because they refuse to be placed in rural schools. It is also important to note that stakeholders attending the programme theory workshop recommended that the objective be reworded to remove reference to "rural areas" and instead reference "areas of need" reflecting that there is a need for teachers to be placed in different areas, not just rural areas.

Stakeholders from Universities and the DBE also indicated that it is unclear who does what in some provinces in relation to placement and that roles and responsibilities should be clarified. It seems as though the greatest challenge centres around placement officials and that this is the area where Universities receive no feedback:

Sometimes we are unclear about who is responsible at the PEDs for placement (DBE Interview).

We give the placement list to DBE who give it to PED and then we have no feedback (Academic Coordinator Interview).

As the beneficiaries of the Programme, bursary recipients were asked to reflect on their experiences of the placement process.

Table 74: Bursary recipients' experience of placement process

Statements	No.	%
The forms for placement in schools, after your studies, were made available early enough	12 035	60.4%
The placement requirements and rules were properly explained to students	14 235	71.5%

Most of the surveyed bursary recipients (71.5%) indicated that the placement rules and requirements had been properly explained to them, and 60.4% reported that placement forms had been made available early. This high level of clarity could be as a result of the input by universities. It emerged that a few HEIs are organising information sessions about the employment of bursary recipients, and these also clarify the placement process:

> We organise a meet your employer day every year for the 4th yrs. and PGCEs. National and province come down. Province brings their ITE person – to tell them about the benefits of working for the department, HR is here to tell them about the process of getting placed and National tells them about what the dept. expects. Then there is SACE to speak about professional conduct and what is expected and also to assist with registration. I believe that workshop is enough to make everyone understand what they are expected to do once they finish and how they will be placed as well as what to do if they are not placed (Academic Co-ordinator Interview)

Only 11.7% of the surveyed bursary recipients indicated that they faced challenges related to poor communication about the placement process.

Of those survey respondents who had graduated, 8.2% were not placed in teaching posts. The Eastern Cape had the highest proportion of unplaced graduates, 18%. This was followed by the Western Cape, where 12.3% of graduates were not placed. Limpopo, on the other hand, placed all their graduates while less than 1% of graduates in Mpumalanga were not placed.

Table 75: Number of graduates who were not placed in a school, according to the province they were currently living in

Province	No	%	Total graduates
Eastern Cape	264	18.0%	1,465
Free State	46	6.5%	715
Gauteng	138	6.8%	2,025
KwaZulu Natal	207	7.7%	2,678
Limpopo	0	0.0%	747
Mpumalanga	6	0.8%	755
North West	6	1.3%	460
Northern Cape	31	5.2%	604
Western Cape	218	12.3%	1,777
Total	916	8.2%	11,225

Repayment is not an option for most students, as was expressed by students themselves, who highlighted that they are keen to be placed as they cannot afford to pay back the bursary. This is an important finding, as there are a few stakeholders who believe that students leave the system

because it is easy to default. Although this bursary was principally based on academic criteria, most of the students who are accessing it seem to also be financially needy students (although this was not accessed). In this regard, their aim is to work when they complete their studies, and this alone results in a high uptake of teaching jobs, if they are available. It is highly unlikely that a significant number of students take up the bursary with the intention to renege on the service condition, as this is not supported by the survey data, and contractual obligations are clearly explained to students when they accept the bursary.

Bursary recipients who are teaching seem to have had a positive experience with the transition from university to school, starting with the completion of placement forms, which was regarded by the majority of bursary recipients as simple.

Table 76: Bursary recipients' experiences of placement in schools

	No.	%
The Funza Lushaka placement form is simple to understand and complete	8 836	78.7%
I experienced difficulties with placement	5 135	45.7%
The school principal was happy with my placement at the school	8 419	75.0%
The provincial office was helpful in getting me placed at a school	6 474	57.7%
The district offices were involved in the placement process	6 316	56.3%
I was inducted and orientated at the school at which I was placed	7 302	65.0%
I received support and mentoring when I first arrived at the school	8 314	74.1%

That quite a significant percentage of students (45.8%) experienced difficulties with placement attests to the challenges of placement highlighted by stakeholders and discussed in the following section. That both PEDs and districts were involved in the placement of bursary recipients could be an indication that districts have embraced their role in placement and determination of demand for teachers in their districts.

Almost 98% of those teaching were placed in school after graduation. Some 67.5% of respondents had been placed in their schools within 60 days, while 30.4% were placed, but not within the 60 day period (which releases them from their service obligation). Just 2% of those teaching were not placed in schools immediately after graduation. These figures support the qualitative finding that the 60 day period may not be adequate for full placement to occur and should be revisited.

Table 77: Placement Period

Placement Period	No.	%
No	209	2.0%
Yes within 60 days	6 959	67.5%
Yes but not in 60 days	3 134	30.4%
Refused	6	0.1%
Total	10 308	100.0%

Almost a quarter (24.4%) of all survey graduates were placed in their teaching position in the school directly by the school, 16.7% were placed through the provincial placement database, 12.5% by the district office and 11.2% through a newspaper advertisement.

Table 78: Method of placement in teaching position in schools

Method of placement	No.	%
Through the provincial placement database of my first choice of province	1 683	15,0%
Through Funza Lushaka and the province in a province not of my choosing	194	1,7%
Application through a newspaper advertisement	1 256	11,2%
Through a recruitment agency	125	1,1%
Directly by the school	2 744	24,4%
By the district office	1 399	12,5%
Other	947	8,4%
No response or N/A	1 132	10,1%
Total	11 225	100,0%

In terms of those graduates whose placement was not successful, 30.1% indicated that the reason for their unsuccessful placement lay with the province failing to communicate suitable vacancies. A further 12.1% said that the problem was located in the DBE's role in confirming the completion of qualification of graduates. In some instances students themselves were responsible for their failure to be placed: 7.3% said they did not complete the forms in time and 4.2% said that they did not submit the documentation on time.

Table 79: Reason for unsuccessful placement of graduates (n= 722)

Responsibility for unsuccessful placement	No.	%
The student: did not complete forms on time	53	7.3%
The student: did not submit documentation on time	30	4.2%
The universities: in their role of providing graduation	45	6.2%
The provincial office: in its role of communicating suitable vacancies	217	30.1%
The provincial office: in its role of communicating with schools about teachers they require	53	7.3%
The district office: in its role of informing schools of available graduates	66	9.1%
The school: in its role of requesting teachers	57	7.9%
The SGB: in its role of approving placement of suitable candidates	6	0.8%
The DBE: in its role in confirming completion of qualification of graduates	87	12.1%

However, 60.4% of survey respondents felt that the placement forms had been made available timeously. Seven out of 10 respondents said that the placement requirements and rules had been properly explained to them.

Placement is high, there are many students working in rural areas, and there are even more working in under-resourced schools. Nevertheless, the placement rate needs to improve, and the achievement of this is threatened by several challenges identified by stakeholders, which can be classified and distinguished as individual and systemic issues.

There are several systemic challenges with placement:

- Students who change their subject specialisations: The issue of students who change their subjects while studying also causes placement problems. If the students no longer have the priority subjects needed for a particular Province, they cannot be placed. Currently, there do not seem to be any mechanisms to detect when students have changed their specialisation. In other cases, as mentioned in the discussion on recruitment and application, district based students can change from that which they were awarded the bursary for, because the promissory note does not specify the subject specialisation. In this regard, students can exploit weak monitoring systems.

- Current post provisioning system: As highlighted previously, FLBP graduate placement is taking place within a context that has existing norms of post provisioning. This system usually gives preference to teachers already in the system, and this leaves FLBP graduates vulnerable and mostly at the mercy of this post provisioning system. This is compounded by the fact that enrolment figures have remained stable so there is no requirement for an expanded teacher workforce, as highlighted in the literature review.

- Lack of a proper model to project demand and supply over a long time: Currently, demand for teachers is determined each year, and students are then recruited by PEDs, if there are posts, to fulfil the immediate needs identified at that specific time, despite the fact that students take at least a year to complete the PGCE programme, and four years to complete the B.Ed. programme. This lack of long term demand and supply projection often leads to an oversupply of teachers in certain subject areas which were initially indicated as priority subjects.

- Lack of enforcement of contractual obligations: The intention of district-based recruitment is that students will return to their Districts after completing their studies, they sign a service agreement to this effect. However, the general understanding among students is that the service agreement mentions only that they could be placed in any public school and does not stipulate that they need to return to their Districts.

- Lack of tracking mechanisms: Thus far, there do not seem to have been any consequences for students who default. As a result, some students try and get themselves out of being placed, exploiting the 60 day rule in which they can be placed or relinquished of their service obligation.

- Centralised placement: The fact that PEDs are currently responsible for placement relieves the burden of finding a school from the bursary recipients, who then can potentially be relieved of their obligation if the 60 days pass without placement. This is especially problematic if the province is experiencing problems with placement. In some provinces, bursary recipients are being encouraged to look for their own places, and sometimes they find these places in more affluent schools.

Some stakeholders believe it is better for bursary recipients to find their own places as they prefer teaching in their own localities:

> Students were forced to look for employment themselves, and at times they find posts supported by school governing bodies. These are mostly affluent schools, which means that FLBP has very likely not placed a teacher in a school that the state needed them in. If students do not know about posts in schools, they will go where they will receive employment (Academic Co-ordinator Interview).

Students are also supportive of the option to look for their own posts, and are critical of the fact that the 60 day condition together with the restriction of choice of schools, places restrictions on their employability. Students felt that the 60 day clause should not exist and felt that they should be placed before the year is over. Students feel that by not placing them, the FLBP is in breach of its responsibility. By restricting bursary recipients to teaching in under-resourced schools, the FLBP is depriving bursary recipients of potential teaching positions . Bursary recipients explained that they had already turned down posts because of the FLBP clause, and they believe that the conditions should be changed to allow them to teach in any public schools.

Some universities also feel that their established relationships with schools and principals put them in good stead to find teaching posts for their students, in collaboration with PEDs:

> There should be both options where student can take placement where they find it and where they are able to make connections with principals and schools especially if the DBE is not able to place them. Our Teaching practice unit has indicated that in the past they were able to liaise with schools to assist with placement. They have the network because they are in constant connection with the schools. Perhaps we and the DBE should consider utilizing this means as well (Academic Co-ordinator Interview).

Funza Lushaka bursars who had graduated but were not in service teaching were asked whether anyone had followed up with them to ascertain whether or not they had paid back their bursary. Only 18.9% of unplaced graduates indicated that someone had followed up with them in this regard.

These findings raise a number of issues about how the placement processes work, and highlight the complex set of influences on the placement of FLBP graduates. While the national and provincial systems for appointing newly-qualified teachers must be improved, the FLBP must also develop its own viable policies and procedures for placing graduates. These policies must consider national and provincial demand requirements, the objectives of prioritising geographical and priority areas of need, the time necessary from graduation to placement of graduate teachers in schools, and the methods by which students are able to obtain teaching positions.

5.4.6.7 Correlation between province of origin and teaching placement

The assumption that students are likely to go back and teach in their areas of origin may be supported by survey data, which, although not focused specifically on district-based recruitment (which is intended to encourage teaching in local communities by selecting from those communities), shows that bursary recipients do return in fairly large numbers to teach in the provinces where they matriculated.

Of those respondents who were currently living in the province that they matriculated from, Mpumalanga had the lowest proportion (63.9%) followed by the North West (68.5%). The Western Cape had the highest proportion (94.8%) followed by Gauteng (89.3%). This lends support to the premise that students recruited via the district-based strategy may well return to their home province and district to complete their teaching obligations, should they be placed there. However, data should be collected in future to track this. There is a difference between returning to your province of origin (for example in a major urban centre) and returning to a rural district with a shortage of teachers. A more sophisticated tracking system is needed to answer this question more thoroughly.

The Funza Lushaka bursary is regarded by all universities and students alike as one of the best bursaries that students can receive, and it is no surprise that large numbers of students want to obtain a Funza Lushaka bursary. A further driving factor for applicants is the knowledge that they will be placed after their studies. In focus group discussions, students cited the guarantee of a job at the end of their studies as additional motivation to choose teaching as a career. PEDs also acknowledge that they have a contractual obligation to place students. There is a national collective agreement that indicates how a teacher should get employed and in provinces where collective agreements with unions are in play, it can run smoothly.

Academic staff at Universities expressed the view that PEDs have a major role to play in teacher supply and they should ensure that when young people are encouraged to become teachers they should also be guaranteed employment. However many have their misgivings about exactly how smoothly the Programme is running and there is a common perception that the Programme will not be on track to completely fulfil its goals of 100% placement of all FLBP graduates. According to agreements, graduates should be placed within 60 days, but this is not happening. In some cases it has taken longer than the 60 days and in several others, graduates are still unplaced after six months. As the Programme advances the number of unemployed graduates increases and provinces are hamstrung about how to deal with this escalating problem.

> There is nothing that we do as the province regarding this. We do not even communicate with the graduates and some of them will just go and look for jobs in other provinces. So we do not have control over that to say that we were supposed to place 400 and managed to place all, some or none of them. We do not have a plan to deal with the unplaced graduates. (PED Interview).

Even the KwaZulu Natal PED who appeared to have the best placement record now admits that it can only place 75% of its new graduates:

> We have a high placement rate – 78% - 79% the highest in the country I think. Since inception I think we've placed all the bursary recipients. Right now we have approximately 300 not placed from the last intake. This is the worse year we've had in KZN and we are now trying to prioritise them for next year. So effectively we have 1600 plus to accommodate this year making our problems bigger (PED Interview).

Students who are desperate to get a job will hang in there and wait, but students who have other options are lost and there is a loss of potential. Some graduates find employment at Independent

schools, as survey data shows, while many others possibly opt to teach abroad and may be lost permanently, as highlighted in the literature review.

One of the positive spin-offs of the FLBP is that in some regions these graduates appear to be preferred at schools where they may have established a relationship. This does however appear to be more prevalent at institutions in the smaller towns or more rural settings.

> I've had students coming in and saying that the Principal of the school at which he did his teaching practice, wants him to teach there next year. This is an indication that the FL students are preferred at the schools (Academic Co-ordinator Interview).

The Funza Lushaka bursary has created tension among some stakeholders. Stakeholders at the programme theory workshop and some interviewees highlighted that in the past, principals preferred experienced teachers above bursary holders, but that as provinces enforced the policy of "FLBP graduates first", principals started to give bursary holders first preference. However, this tide has begun to turn as well. Unions believe that the PEDs have been favouring FLBP graduates since inception and that this has helped to create a pool of disgruntled teachers who have been out of jobs or in temporary and substitute positions. They want these teachers to be prioritised and FLBP graduates to wait their turn:

> Long serving teachers have been side lined since FLBP. So unions – organised labour - have decided that this is what we want and it has been agreed on in Provincial chamber. Provincial departments have decided that these professionally qualified teachers who have been teaching as substitutes or temps for many years must now be given preference over FLBP graduates. So that's where we are now and the problem is going to get worse. We did have the DBE coming to us and mandating a non-negotiable decision that all FLBP graduates must be placed before the 31 October. Unfortunately the decision taken in chamber supersedes that of DBE. These placements may not take place by 31 Oct. (PED Interview).

5.4.7 Monitoring, tracking and data/information management

5.4.7.1 Roles and responsibilities

The administrative hub of the FLBP is located in the ITE Directorate within the DBE. The Directorate is the manager, administrator, and owner of a database of FLBP applicants and recipients: the Funza Lushaka Information Management System (FLIMS). The Business Unit (ITE Directorate) is responsible for their area of work, supported by SITA and the Government Information Technology Office (GITO) of the DBE.

The data is stored on a server owned by the DBE but hosted by SITA at its Centurion offices, as is the case with all DBE data. This arrangement is governed by a Service Level Agreement (SLA) between the DBE and SITA. SITA's responsibility is to ensure that the data is secure and available, that the information technology (IT) infrastructure necessary for supporting the FLBP data is adequate and up to date, and that any technical queries are resolved timeously.

The GITO office at the DBE is headed by a Chief Director employed by the DBE. The role of GITO is to ensure that the IT needs of the DBE are adequately planned for and managed, that support is

provided to the DBE in managing its IT services, and GITO acts as the formal liaison between the DBE and SITA. All communication between the ITE Directorate and SITA, therefore, is supposed to take place via GITO managers or technicians.

According to the agreement between the DBE and SITA, SITA charges for actual work done, within the frame of an annual budget for the FLBP work, for which the ITE Directorate has responsibility. SITA staff are primarily required to work on the FLBP system over the application period from October to January every year, though they are available on an ad hoc basis when responses are necessary. There is, therefore, no one full-time staff member on the FLBP throughout the year. Services are provided as and when needed and requested. Requests are logged on an online call logging system.

The ITE Directorate has one key staff member responsible for managing the FLBP databases. It must be noted that ITE Directorate staff are responsible for data other than the FLBP and they must be able to provide data on the entire teacher education system. The person responsible for managing FLIMS is also responsible for answering queries during the period that the online application process is open. He is assisted by two administrators in the ITE Directorate who respond to telephonic queries and assist with the capturing of data at other points in the year. Queries on the system are resolved manually.

The staff involved in managing and processing the FLBP data for the ITE Directorate plays a significant role in capturing and packaging data for use in all the major business processes throughout the annual cycle of the FLBP. The current processes for producing data that can be used for both administration, as well as for monitoring, is very labour-intensive. The ITE Directorate is responsible for generating information for FLBP reports to both Treasury and to Parliament.

The diagram overleaf provides a graphic description of the data flows involved in the FLBP system.

What this figure shows is the importance of the DBE as the administrative hub of all the FLBP data. It also shows the multiple points at which data is manipulated, which opens the system up to possible errors at each point. The diagram is also intended to show the limitations of the online system, which, as discussed below, is merely an input-output database. The graphic also shows the lack of a system to monitor or track students across the various business processes of the FLBP.

Figure 10: FLBP Data Flow Diagram
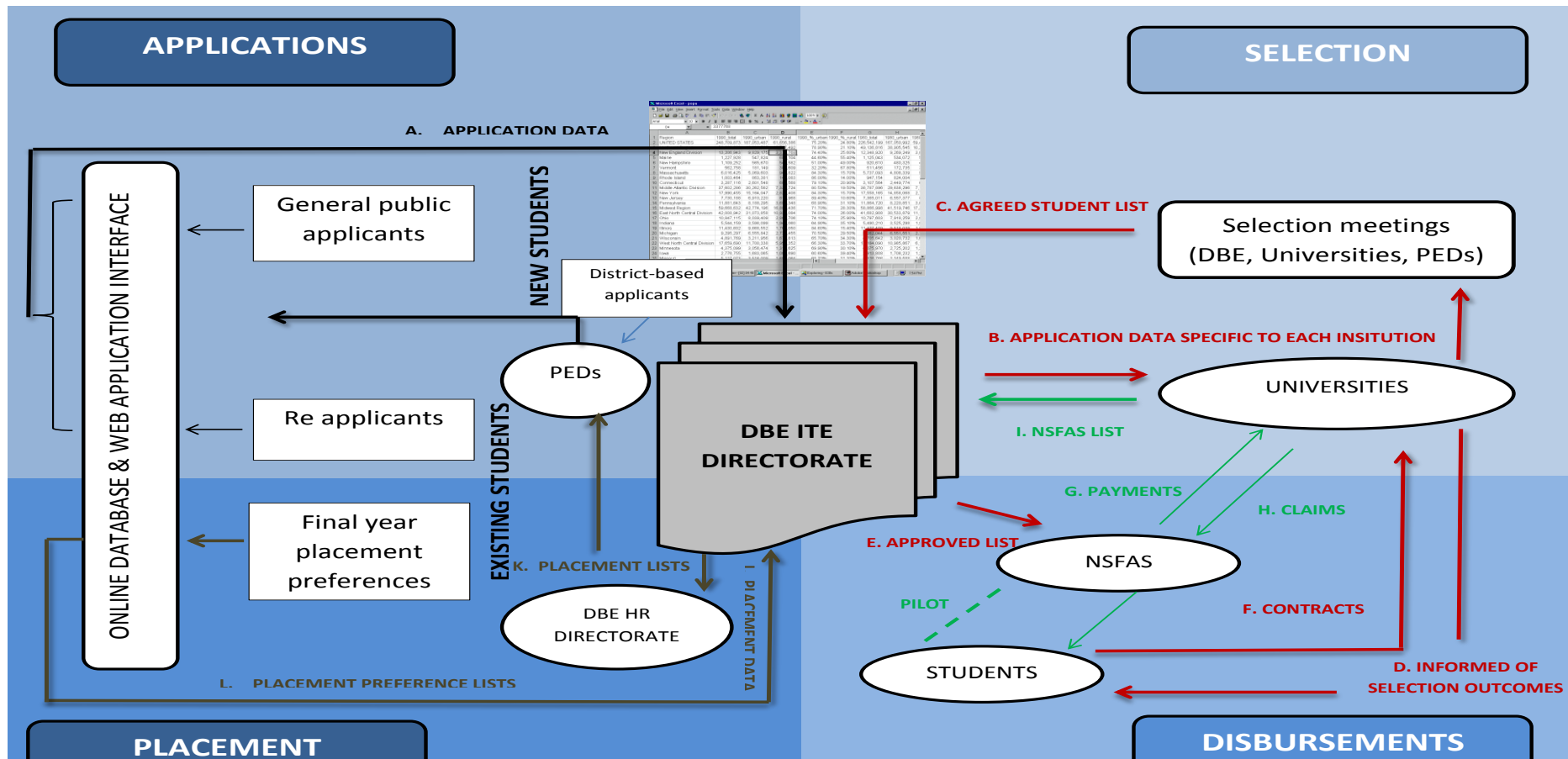
5.4.7.2 The FLIMS

FLIMS is primarily a manual system. In truth, the system that exists currently cannot accurately be described as an information management system. The only online portion of the FLBP business processes is an annual application process, where individual applicants and re-applicants load their details in an online environment supported by SITA. SITA provides weekly downloads of this data to the DBE who works manually on the data for the selection process. Once the data are removed from the system to inform the selection processes, they are stored in Excel spreadsheets kept by the DBE. Some information from those spreadsheets is fed back into the applications system on an annual basis in order to allow current bursary recipients to re-apply, but it cannot be said that there is one single MIS for the FLBP. The data for the awarding and placement processes are also manually produced in Excel.

> This is effectively an electronic portal where people can capture their information and from there everything is actually managed outside the system. The system was created at the start of the FLBP in 2007. It can only capture application data. This means that no tracking data is stored on the system at all (Interview with Technical Stakeholders).

As mentioned previously, each year the online application system is prepared in advance of the formal opening date at the beginning of October. In particular there may be changes to the priority phases and fields of study. In 2014, for example, changes were made to ensure that re-applicants for 2015 were unable to change their phase and subject specialisation information, which would constitute a breach of their contracts. The details of all current FLBP recipients must be on the system to allow for re-applicants to enter their information online. These data are provided to SITA by the DBE in excel format, which SITA then uploads into the FLBP application system. Re-applicants going into their final year of study provide information about where they would like to be placed as teachers, as the first step in the placement process. The system is then opened up online at the beginning of October. In 2014 the system opened online from 1 October for online applications and closed on 15 November for re-applicants and on 9 January for new applicants. Applications are also received from provinces via the district-based recruitment process as well as from the online application system; districts are responsible for uploading the district-based applicants onto the system between October and January.

A high volume of applications are received. In 2014, within two days of the portal opening on 1 October, 4 000 applications had been received. Within one month 41 000 applications had been received.

Data are downloaded from the SITA server in Excel format for the ITE Directorate. They are then worked on manually across the range of business processes described in this report.   The DBE work on the application data to verify missing information; they send the data relevant to each university to that university for selection to take place; once selection has taken place they prepare information about selected students to send to NSFAS; any changes to individual recipients, selection decisions etc. are referred back to the DBE and changes are made manually and then communicated directly back to the relevant stakeholders through the DBE. With regard to placement, data are supposed to be recorded in in the monthly placement reports. This includes the number of FLBP recipients who have and have not been placed within the 60 day period. The PEDs are also expected to submit to HR a list of the names of individuals who refused to be placed and are

therefore tagged as defaulters. HR submits it to the ITE directorate who sends it on to NSFAS. The only process that takes place on the FLMIS is the capturing of application and reapplication data for each year.

The FLIMS is:

> an electronic portal where people can capture their information and then from there everything is actually managed outside the system (Interview with Technical Stakeholders).

Because of its manual nature, a DBE official argued that "there is no intelligence in the system to do anything."

5.4.7.3 System design

The original design of the FLIMS was based on requirements which were identified in 2006. At that stage, all that was required was an electronic portal for the capturing of application information. But, the policies, processes and priorities have changed over the years and the system has not kept up with these changes.

> The whole thing about Funza is that the requirements have changed. The requirements in 2007 were completely different to the requirements now. And the system hasn't kept up to date with the changing requirements (Interview with Technical Stakeholders).

In addition, several people involved in the implementation of the FLBP during the period being evaluated noted that in the early years of the bursary, there were capacity and skills problems at SITA which created difficulties with the implementation of the Programme. This no longer appears to be a problem, however.

Problems with the design of the data system also relate to its original design being carried out in an open source environment. This makes maintenance difficult to carry out and changes difficult to implement. Several people involved in the data system raised concerns about the open source design and the ability of government IT systems to adequately support open source.

> ..open source is difficult to maintain and leverage on (Interview with Technical Stakeholders).

The original design of the FLBP data system is, therefore, widely agreed to be unsuitable for the Programme's current needs. Historic data is not available or reliable. Opinions differ about why this is the case, but what is agreed is that the system needs to be updated. At the inception of the Programme, it may have used the best technology available, but technology has developed since then, and the needs of the Programme have developed significantly too.

According to those involved, there are always problems once the online system goes live in October – these are technical glitches, which affect the ability of applicants to complete their applications. The volume of applications is high and most of the problems occur in the first few weeks of the site opening for applications at the beginning of October.   Other difficulties which occur relate to applicants trying to access the application using old versions of web browsers. The more versions

supported, the bigger the challenge for the service provider. The ITE Directorate responds directly to these problems and queries and, where they are unable to resolve them, they work with SITA to resolve them.

> Most of the problems come when the site first opens in October and then after a few weeks most of the problems are sorted out (Interview with Technical Stakeholders).

Concerns were expressed that SITA may not be testing their systems and that bugs are not being ironed out before the site opens in October. Equally there are challenges with the system having to change every year in order to meet new requirements, and then loading the previous years' data that has been changed and manipulated off-site back onto the Programme. Each year there is a period that the website has to be shut down to resolve technical issues.

Data is received from a number of different sources to be consolidated at the DBE. It is moved in different formats across different Excel spreadsheets as the DBE must "package data" so that it is user-friendly for the various different business processes. Because of the vast amount of data that is being frequently manipulated during the FLBP cycle the system is vulnerable in a number of ways. DBE interviewees argued that:

> The data exchanges a lot of hands and if anything goes wrong you are not sure where exactly the problem arises.

> Once the data leave the system exported in an excel spreadsheet and given to the unit we don't know if it is adequately managed.

This raises issues of security, as data accuracy, quality assurance and consistency are dependent on manual control processes, managed by the ITE Directorate. Data integrity is also an issue of concern as, according to stakeholders acquainted with the information system:

> … It is possible that data that is being manipulated and controlled outside the system might be lost.

> There are concerns with the integrity with SITA giving the DBE data and then the DBE giving SITA back the data with changes. The moment you have data outside of the system you can't control it.

Large amounts of data exchange hands, and often cannot be sent via email and has to be sent via courier. Sending data by courier clearly has cost and security implications.

Access to the system by other stakeholders raises confidentiality and security issues, which will have to be addressed. However, given the large number of processes required at different points in the year, and the enormous data support issues, there is no doubt that the system must be changed and updated. The current system does not cover "the whole management of applications and evaluation" (Interview with Technical Stakeholders).

> The programme available for electronic applications is working well on a distributed environment, ie. It is opened for use by anyone who has internet access. The problem which we have is that it is not written in a way that it is scalable - so that we can extend the functionality to include the outcome of panel decision in terms applicants

and linking to HEI in a more secure way than having excel downloads. This is what is seriously lacking in the system. You want to link with other systems. If it goes to NSFAS and others, you don't want to send them an excel spreadsheet which is not secure. There needs to be a more secure way of making data available. Preferably all the tasks should be done on the system not outside of the system. And you can make that available to anyone in terms of access credentials (Interview with Technical Stakeholders).

In 2013, the DBE ITE Directorate signed a Project Charter and Plan (PCP) with SITA to undertake a scoping exercise to improve the FLIMS The problems with the original platform were acknowledged in the PCP document, and it was agreed that the scoping would look at what business process functionality the FLBP would need, what records capabilities, reporting tools/modules were necessary, and what user requirements would be necessary for a new system. The scoping process would also look at what possible future scalable enhancement may be necessary for the system. The PCP resulted in an application service specification, which sets out the proposal for new functionality and software and hardware requirements for a new system. This scoping process was completed, but it is understood that the proposal for a new system was not taken further, due to the cost involved. The cost of a new system would depend on the user and business service requirements for the Programme.

It is asking how much it costs to build a house. It depends on what type of house. How many rooms? How many storeys? What type of tiles?... (Interview with Technical Stakeholders).

Unfortunately this scoping exercise is now significantly out of date, and would have to be redone.

5.4.7.4 Tracking and monitoring

The FLIMS was not set up to facilitate monitoring and tracking of FLBP recipients. Monitoring is done manually, if at all, using data from excel files, some of which are downloaded from the online environment.

the system doesn't provide for monitoring. At the moment, monitoring is being done outside of the system using the excel download… (Interview with Technical Stakeholders).

With the current system, individuals cannot be tracked through the system: the system was not designed to be a management information system, so data has not been systematically stored to enable tracking to take place. The limitations of the data system and the available data were very evident when trying to obtain and analyse FLBP data during this evaluation, as is discussed in Section 4.7.

While application data for each year exists, there is no data to indicate whether or not an applicant was awarded and/or re-awarded a bursary. Because there is no available annual data on what degree, subjects or phases were actually being studied by those awarded the bursary, either for new awards or for re-awards, we cannot say whether the new awards made each year or even the whether the overall number of awards made each year met the specified breakdown for phase or

the priority subjects declared for that year. The best that can be provided is a description for the full six-year period of the overall allocation per phase. However, it must also be kept in mind that the information is not considered reliable as the phase had to be derived from all the available FLBP data sources, but in about 25% of cases this data differed from that obtained during the survey (see section on data limitations). In addition there is no information on an applicant's NSC results so it is, therefore, not possible to monitor whether or not the merit criteria for the bursary was effectively being implemented when applicants were first selected. Although there is a requirement that bursaries should be evenly spread between 1st, 2nd, 3rd and 4th year students, the data to monitor this is not available.

Although the NSFAS definitive list provided certain information about those who have been awarded an FLBP bursary (namely name and ID number of the recipient, the university attended and the value of the bursary received by the recipient), this information was insufficient to use for tracking and monitoring as it contained no information on the degree, phase, subject or year being studied in each year that the money was allocated to each student.

As historic academic tracking data was available for only one year (2012), it is not possible to track students through university and as a result there was no indication in the data as to whether students were passing or failing, or passing some subjects but not others each year. This, as well as the fact that there was no information on what degree and year of study recipients were enrolled in each year, meant that it was not possible to calculate dropout and throughput rate. Also, because there is no academic information, it is impossible to monitor whether or not the academic criteria set for the FLBP was being adhered to. With regard to graduating Funza Lushaka students, although the HEIs notify the ITE directorate in December informing them if a FLBP student has passed, failed or will be writing supplementary exams, this information is not collected and stored in a way that could facilitate monitoring.

Monitoring of placement is very difficult to do, as information is held in PERSAL. The placement information of Funza Lushaka graduates cannot be held in the ITE system because of confidentiality issues, and this makes placement reporting difficult. Regular PERSAL data plus EMIS information are needed to adequately track students after they graduate and ensure that they fulfil their obligations in relation to the FLBP.

The ITE Directorate manually captures information about whether students have defaulted, been placed, or not been placed, using information supplied by the provinces. Defaulter information should be passed on by provinces to the NSFAS, but this requires a system for tracking FLBP recipients to ensure that they are placed appropriately and then fulfil their full teaching obligation to the State. There is currently no system in place to address this.

> if a Funza teacher leaves the school that they were placed at while still under obligation to Funza, they are not fulfilling the strategic position allocated to them and it should trigger a refunding of the bursary (DBE Interview).

The poor data collection and protection mechanisms and systems available to the FLBP have a serious effect on the quality and availability of data to determine success of the Programme. They limit planning and decision-making, overburden administrative systems, and restrict Programme sustainability and development.

5.4.8 Measuring the cost effectiveness of the FLBP

Using survey data, it is possible to do a limited assessment of cost effectiveness of the FLBP during the period 2007 to 2012. Other data limitations, however, prevent a full economic analysis being conducted as part of this evaluation.

In order to attempt to analyse the cost effectiveness or cost benefit, one needs to look at the cost ingredients. Identifying cost ingredients is an approach that seeks to identify all the costs associated with the bursary and attribute a monetary value to them. Costs can either be direct or indirect. In the case of the FLBP, the direct costs are the cost of each bursary awarded to a student. The indirect costs associated with the bursary are the opportunity costs of administering the bursary both at the DBE and at the institutions of higher learning. These are costs associated with staff time administering FLBP. Perhaps a relatively obscure cost is the cost associated with late payment of the bursary money to the beneficiaries. The direct costs associated with giving the bursary are readily available from the "Definitive List". Some of the indirect costs such as staff time are harder to gauge though, and can only be estimated. Others, such as those associated with the late payment of bursaries, are often impossible to quantify.

In order to apply cost benefit analysis (CBA), benefits would also need to be quantified in Rand terms. The benefits include: individual benefits and societal benefits. In the case of FLBP, the benefits of the bursary apart from the individual benefits would be very difficult to estimate and potentially have wide variation. Cost effective analysis (CEA) has more relaxed assumptions compared to CBA, as one needs to decide on the unit of effectiveness. This is a subjective process. It is important that the correct unit of effectiveness is chosen. In this exercise, two primary units were used to measure Programme effectiveness: the number of successfully placed graduates and the completion rate of graduates in the minimum time.

Table 80 below shows the per-capita expenditure to successful completion by programme type. An amount of just over one year's bursary (R73 620) was spent per every Postgraduate Diploma in Education produced in the period 2007 to 2012. Nearly twice that amount was spent for every B.Ed. holder produced. As expected, the amount spent for the professional degree is more than the one year PGCE. However, the cost of study over the degree period should be balanced with the required service obligation period, which is in line with the years of study funded.

Table 80: Average amount spent per successful graduate by programme

Programme	Amount Per Capita	Std. Dev.[91]	Freq.
PGCE	R 73,620.52	R 48,329.09	215
B.Ed.	R 131,057.00	R 56,741.41	1561
Total	R 124,103.82	R 58,842.39	1776

An important measure is not graduation itself but time taken to graduate. Minimum time to graduation refers to the minimum time that the programme can be completed in the absence of repetition. For PGCE, this is usually one academic year. The minimum duration for the B.Ed.

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[91] *Standard deviation (Std. Dev.) measures the variability of bursary amounts for the group specified.*

programme is usually four academic years. Anyone who completes their studies in the time that exceeds the minimum duration is considered to have taken more than the minimum time. In Table 82 below, there appears to be significant saving to the FLBP for PGCE students that complete their studies in minimum time. The expenditure for students who finished the programme in more than one year is nearly double that of those finishing in one year.

Table 81: Amount of money by time to successful graduation

Programme	Time Taken	Amount Per Capita	Std. Dev.	Freq.
PGCE	More than Minimum Time	R 92 793.91	R 61 108.45	109
	Minimum Time	R 53 904.49	R 12 058.10	106
B.Ed.	More than Minimum Time	R 131 310.43	R 62 465.20	296
	Minimum Time	R 130 997.70	R 55 343.23	1265

There is a slight difference in the expenditure to a successful B.Ed. graduate between those completing their studies in minimum time. Again there is saving to the FLBP with students who finish in the minimum time.

What is critical about the table above is that a very high proportion (81%) of the 1 561 students who had graduated with B.Ed. degrees in the FLBP graduated in the minimum time. As mentioned above, this is an important finding as it shows that FLBP students completing in the minimum time are doing so at a much higher rate than the average in the system. This would suggest that the Programme is relatively cost effective and efficient, in the context of a relatively low throughput rate, and low minimum time completion rates.

The placement data from the survey showed that of the 1 776 students who had graduated from university, 92% were employed and 86% of these reported that they were paying back their service obligation by teaching in a public school. The gap could be those teaching in independent schools or in SGB-funded teaching posts in public schools. The 6% of graduates that had not been placed represent a financial loss to the State, as well as a personal cost to the students not placed. The proportion of FLBP graduates working as teachers in public schools is relatively high though and can be seen as relatively cost effective. However, the absence of a proper monitoring system that determines the extent of student pay-back in relation to the number of years worked for number of years funded, is an important piece of missing data for measuring cost effectiveness.

This cost analysis aims to highlight the approaches to cost benefit and cost effectiveness analysis and that it is possible to conduct one. There are, however, key inputs that are required for a proper value-for-money assessment. A proper cost benefit/cost effectiveness analysis was not possible as all the costs could not be accounted for and all the benefits could not be quantified. It was therefore not possible to put together a full analysis in cost terms.

5.4.9 Effects of non-funding

About a quarter of survey recipients indicated that they did not apply for FLBP funding in some years of study.

Table 82: Number and percentage of survey respondents according to whether or not there were some years in which they did not apply for the bursary

Some years they did not apply for funding	No.	%
No	14181	71.2%
Yes	4 947	24.8%
Refused	5	0.0%
Not applicable	782	3.9%
Total	19 916	100.0%

In addition, 24.3% said that there were years in which they applied for the bursary and did not get it.

Table 83: Some years when students applied for but did not receive funding

Years not received	No.	%
No	1 275	71.7%
Yes	4 843	24.3%
Not applicable	798	4.0%
Total	19 916	100.0%

For those individuals who did not apply to the FLBP for funding in a particular year or years, 41.9% said that they did not know about the bursary, 11% said that they did not apply because they did not meet the requirement to progress to the next year of study, 10.5% said that they found alternative means and 8.8% said that they were late for reapplication. Less than 1% said that they did not want to complete the obligatory service period. A large proportion gave "other" as the reason and these included: they did not know about the FLBP at the time, they did not have information or the forms, concerned about the placement, dropped out, only had a few modules to complete, they were not eligible because of the type of degree or teaching subjects they were doing at the time.

Table 84: Student reasons for not applying for funding

Reasons for not applying for funding	Weighted	
	No.	%
Did not know about the bursary	2 073	41.9%
Late for reapplication	435	8.8%
Did not meet requirement for progress to next year of study	543	11.0%
Found alternative means of funding degree	655	13.2%
Changed subjects to non-priority areas	37	0.7%
Changed to a different course/degree	64	1.3%
I decided I didn't want to do the obligation service period	47	0.9%
Did not have information/forms in order to apply	171	3.5%
Only had a few modules to complete	349	7.0%
Not eligible because of degree/teaching subjects	90	1.8%
Other	565	11.4%

By study programme we can see that 42.3% of B.Ed. students and 36.6% of PGCE students did not apply for the Funza Lushaka bursary in a particular year or years because they did not know about the bursary; 10% of PGCE and 11.1% of B.Ed. did not apply when they knew they did not meet the requirements to progress to the next year of study; while 12.9% and 10.3% of PGCE and B.Ed. respectively said they did not apply because they found alternative means of funding for their studies.

Table 85: Student reasons for not applying for funding by programme

| Reasons for not applying for funding | Weighted | | | | | |
| | PGCE | | B.ED. | | Total | |
	No.	%	No.	%	No.	%
Did not know about the bursary	140	36.6%	1932	42.3%	2073	41.9%
Late for reapplication	16	4.1%	419	9.2%	435	8.8%
Did not meet requirements to progress to next year of study	38	10.0%	505	11.1%	543	11.0%
Found alternative means to fund studies	49	12.9%	472	10.3%	522	10.5%
Changed subjects/majors to non-priority areas	12	3.1%	25	0.6%	37	0.7%
Changed to a different degree	6	1.6%	58	1.3%	64	1.3%
I decided I didn't want to do the obligation service period	6	1.5%	41	0.9%	47	0.9%
Did not have information/forms in order to apply	0	0.0%	171	3.7%	171	3.7%
Only had a few modules to complete	43	11.3%	305	6.7%	349	7.0%
Not eligible because of degree/teaching subjects	18	4.6%	72	1.6%	90	1.8%
Other	14	3.6%	551	12.1%	565	11.4%

For those individuals who applied but did not receive the bursary, almost half (47.4%) said they did not know why they did not receive the bursary, while 28.2% said that they did not meet the requirements to progress to the next year. Almost 7% indicated that they did not receive funding because the numbers of bursaries were limited and so they were not chosen, while 6.4% they were late in applying for their application or re-application.

Of those survey respondents who did not get funding for one or more years, 48.9% completed the year, either through another bursary, or with the assistance of NSFAS, while 30.8% finished either the year or their degree through self-funding. Just over 2% were able to pick up the Funza Lushaka bursary again in subsequent years but 4.7% dropped out. It is presumed that those who applied but did not get the bursary in some years then received the bursary in later years and were able to continue. The large numbers of students completing their studies with other funding sources seems to corroborate the universities' indications that they assist unsuccessful students in applying for NSFAS and other bursary funds.

Table 86: Alternative plans made by survey respondents in the year(s) they did not receive funding

Alternative Plan	No.	%
Completed the year of study by self-funding	1 493	30.8%
Completed the year of study by another bursary programme or NFSAS	2 368	48.9%
Completed the rest of the degree by self-funding	84	1.7%
Picked up the Funza Lushaka bursary again and completed	114	2.4%
Got another bursary to pursue teaching	128	2.6%
Pursued another degree	6	0.1%
I left university (dropped out)	228	4.7%
Other	363	7.5%
Not applicable	58	1.2%
Total	4 843	100.0%

This data shows the complexity of student pathways through their degrees, and also indicates that significant numbers of students in the period 2007-2012 obtained Funza Lushaka bursaries during their studies, rather than at the onset of their degrees. However, the absence of a sophisticated tracking system has made it difficult to assess the cohort-level data and provide accurate and detailed success, graduation and throughput rates for the full group of FLBP recipients.

5.4.10 Conclusion: Programme efficiency

This section has focused on efficiency in the four key business processes of the FLBP: recruitment and application; selection; disbursement; and placement. Programme monitoring and data management have been discussed as a separate set of cross-cutting support mechanisms to all the business processes; cost effectiveness has also been assessed in this section. A very important inefficiency is that FLIMS is an information system but not a management information system – for example, the system does not allow the monitoring or tracking of students across the various business processes of the FLBP, including, for example, subjects or phases studied by FLBP recipients and placement. It is not possible to calculate failure, dropout and throughput rates. Another important inefficiency is the lack of human and financial resources for efficient administration of the Programme. A further inefficiency, beyond the control of the Programme, resides in the misalignment between the commencement of the academic year and the FLBP selection cycles; disbursement, however, is efficiently governed by the FLBP steering committee. Appropriate placement of graduates in areas of need is likely to improve with the district-based recruitment strategy, introduced in 2012. Despite key data limitations, the FLBP has been assessed as cost effective.

5.5 Programme sustainability

The Programme is largely effective in contributing to the challenges of teacher supply and demand and should be maintained; noting that over the coming years it is likely that the number of new teachers needed will not grow at the same rate as in recent years. Programme sustainability is

dependent on the recommendations of this evaluation related to Programme design, effectiveness and efficiency being implemented. In particular:

- Adequate human and financial resources are needed to strengthen the management and administration of the FLBP.

- An effective management information system is needed to support all business processes and eliminate the potential for error at multiple points in the data capturing process.

- An effective planning system is needed, for example in the areas of teacher supply and demand and teacher employment.

- Alignment is needed between government funding cycles and those of relevant stakeholders, including universities and NSFAS – the financial year of government differs from the academic year, and consideration needs to be given to how the resulting funding gap can be addressed.

Funding for the FLBP is secured in the medium term, as outlined in the Medium Term Strategic Framework, and is likely to be sustained, as the FLBP is a key modality for the DBE to achieve its goal of improved quality of teaching and learning through development, supply and effective utilisation of teachers (DBE, 2011a). However, if the Programme is to continue to receive political and fiscal support going forward, it must respond to the current socio-political and economic context in higher education. In the context of the #feesmustfall movement, any significant government investment in higher education should take financial need (defined broadly) into consideration. This underscores the importance of the Programme considering a mechanism for determining relative financial need and targeting needy students.

6. Conclusion and Recommendations

This Chapter summarises the major findings of the evaluation, linking these to recommendations for the improvement of Programme design, enhanced Programme delivery and the achievement of desired objectives and outcomes, improved Programme efficiency, enhanced Programme sustainability and the future measurement of cost-effectiveness and impact.

The recommendations in this Chapter are developed from the integrated evaluation findings and result from the triangulation of the different data sources analysed for this evaluation report. Although the evaluation was retrospective by design, the qualitative component targeted participants who are currently involved in the FLBP, and the survey included some students who are current recipients of the bursary. Though the different data sets address different time periods of the bursary, the fact that interviews were held with current stakeholders means that many of the recommendations made by stakeholders that were interviewed and arising from the qualitative data may already be under consideration, and are likely to have been raised in FLBP stakeholder forums.

As the FLBP is a National Programme which aims to improve the supply of teachers in scarce skills areas, accurate supply and demand data on teachers are essential for the effective functioning of the Programme. These processes are not within the direct control of the FLBP but will be greatly assisted by an effective skills planning system in the teacher education sector. As the literature review shows, significant progress has been made in this regard by the DHET. Discussions must continue about how the FLBP can link to supply and demand planning and what role it can play. Once a national system is in place, FLBP will need to link to this system and the priority curriculum areas of funding will be informed by identified supply and demand. Planning cycles will be important as the B.Ed. degree has a four-year duration. In the past, priority areas identified have changed over the period that students are in the university system, and this may have affected placement for some students. While no system can accurately predict attrition rates and subject needs, some forward planning will improve the priority areas identification for FLBP specifically.

A number of stakeholders indicated that the recruitment and selection process would be significantly improved if accurate information is obtained on the priority curriculum areas in each province in advance of the application and selection process. Priority areas have to be properly communicated to those who are engaged in recruitment so that there is a relevant focus on recruitment. In the current situation, priority areas are subject to ad hoc changes, sometimes even after applications have been placed and before selection takes place. This is unfair to both students and institutions and should not continue. It also creates considerable confusion. While an effective overarching planning system is critical, the Programme must set priority areas for each bursary year in advance of the application process opening. There should be no changes permitted until the following year's process starts. Communication to stakeholders and applicants alike must be clear and not subject to changes. This would also require the priority areas to be fixed within the application system.

In the current process of identifying teaching skills needs, the information supplied by PEDs plays an important role in selection processes within different universities. This also has the potential to

create confusion and uncertainty. Universities are national institutions, and are not specifically set to train graduates for work in particular provinces. Though there is some correlation between province of origin, province of university study and province of employment, this is not at all uniform. One reason for this is that universities are not spread evenly across all provinces. The other is that students do sometimes choose to study in provinces that are not their home, particularly if there is funding available for full-cost study. The FLBP planning system has to find a way to address provincial and national needs without restricting high performing applicants to particular areas of study in one university when they may be subjects of need in other provinces.

Ultimately three- or four-year planning cycles for teacher education may be more productive for the system as a whole. Provincial data should be used to influence a national picture of demand-side requirements, which will influence the FLBP priority areas for funding at a national level. As far as possible, FLBP should be viewed as a national Programme, and universities as training students for teaching positions in all provinces. This is challenging given the need to make use of provincial placement systems, but a national placement system for FLBP graduates would ensure that graduates are more closely matched to priority geographical areas and particular areas of subject need. Students would also have to accept that they can be placed in any province. A large majority of graduates return to their home provinces to teach. Approaching the awarding of scholarships with a national vision recognises that universities are not provincial institutions and can train teachers for more than just the province in which they are based. It does not exclude the possibility of targeting particular provincial needs within certain universities.

6.1 Programme design

6.1.1 Goal, objectives and programme theory

For the evaluation, JET developed a clear purpose, goal and objectives for the FLBP, based on interviews with key individuals involved in the establishment and design of the Programme and a participatory process involving all FLBP stakeholders. These were based on current understandings of the Programme (at the time of the programme theory development in August-September 2014) which have developed over time as the Programme has grown and matured. These were subsequently updated at the end of the evaluation in light of the evaluation findings and are summarised below.

The proposed **goal** to guide the Programme going forward is:

> *To address educator scarcity and contribute to the supply of qualified teachers in priority phases and subjects, targeting geographical areas of need in South Africa.*

Four **objectives** are proposed which are the following:

1. *To provide bursaries which attract academically deserving and financially needy students, with a passion for teaching and the potential to become good teachers, into teacher education programmes, specialising in priority phases and subjects.*

2. *To provide financial support to Funza Lushaka bursars to complete their studies, where possible in the minimum time possible, and graduate specialising in priority phases and subjects.*

3. *To match FLBP graduates with vacancies aligned to their phase and subject specialisations in schools with shortages of qualified teachers.*

4. *To track FLBP bursars, to ensure that they fulfil their service commitments and monitor their performance over time.*

The **theory of change** developed for the FLBP evaluation is summarised below:

> *If* you provide a sufficient full-cost bursary as an incentive to recruit students for ITE, *and* you select teacher students based on merit (academic performance) and suitability (passion for teaching, teaching ability and desire to teach in priority subjects, phases and identified areas), *and then* you develop induction and academic support programmes and tracking systems to ensure satisfactory completion of funded students, *and* you link bursaries to service contracts and place FLBP graduates in posts where they will be teaching priority subjects and phases in identified geographical areas of need, *then* you should be able to increase the supply of qualified teachers to meet the need in priority areas (subjects, phases and identified geographical areas of need) so as to address educator scarcity.

The evaluation uncovered weaknesses in the programme theory which should be addressed in terms of Programme design and implementation going forward:

- There are weaknesses in terms of marketing the Programme, a considerable proportion of bursars do not hear about the Programme until they commence studies. Thus the aim of attracting young people into the teaching profession – who may not otherwise have considered studying teacher education - may not be achieved.
- Monitoring of students' subject specialisations (after enrolment) and academic performance and the provision of support where relevant is undertaken by HEIs currently, but information regarding this is not fed back to the FLBP. This is a gap, such information could help to streamline selection of continuing students, ensure that bursars continue to study subjects which are "priority subjects" and assist in ensuring a satisfactory completion rate of FLBP bursars.
- The evaluation findings have demonstrated that there are weaknesses in terms of matching FLBP graduates with vacancies linked to their phase and subject specialisations. This could be the result of poor planning (priority subjects are not linked to real needs) or poor matching (graduates are not well matched with a vacancy which is aligned to their specialisations) and needs to be addressed.
- A considerable proportion of FLBP graduates are not placed within 60 days and are thus effectively released from their teaching service obligations. The 60 day placement period and the modalities of placement should be reconsidered.
- Monitoring of placement and non-placement and whether FLBP graduates fulfill their service obligations by teaching in public schools for the same number of years as they received a bursary for is not happening. Linked to this, there is no mechanism in place to convert busaries into loans. These aspects of Programme design and implementation need to be addressed as a matter of urgency. We recommend that an additional business process be designed around this.

A logframe was developed to guide the evaluation and updated at the end of the evaluation. Many of the indicators in the logframe are already being measured to assess Programme performance, but, as this report has highlighted, there are several areas in which data is not readily available currently. The logframe lays the basis for ongoing Programme monitoring and effective evaluation design in future, if the current data and monitoring challenges can be addressed.

6.1.2 Appropriateness of Programme design

Given the context of ITE outlined in the literature review, the Programme design is appropriate for and relevant to the current needs in this environment. A strong policy framework exists for the development of teacher education, the effective identification of teacher supply needs and the need for a consistent supply of suitable teachers in priority subjects and phases and into particular schools. The FLBP is set up to contribute to these policy goals. In addition, the cost of higher education is substantial and the provision of a full-cost bursary is a necessary incentive for the recruitment of competent young people into teaching careers.

The FLBP grew in every respect during the period under evaluation, with increasing investment from the state in teacher education bursaries, substantial growth in both the numbers of applications and the numbers of bursaries being awarded and greater involvement by a larger number of stakeholders. Over the period under evaluation the FLBP was funding 15% of the total students in teacher education. This is a substantial contribution to the overall ITE output.

The FLBP started as an initiative to grow the numbers of teacher education graduates to encourage more people to consider teaching as a career to respond to the concerns about low levels of teacher supply in the mid-2000s, and in particular priority areas. As the Programme grew the design developed to respond to growing demands in the sector for teachers in priority subject areas, for teachers to be placed in rural and poor schools, and to encourage young people with a passion for teaching to enter ITE. While the fundamental purpose of the FLBP has remained unchanged since 2007, the expectations placed on the Programme have developed in scope (huge increase in applicant and student numbers for example) and complexity (the addition of separate district-based recruitment process, for example).

As the supply of teachers has improved substantially in the period of existence of the FLBP, perhaps partly as a result of the FLBP's comprehensive support for teacher education students, focus has shifted onto the qualitative performance of the Programme, in selecting top performing teacher education students, graduating these students in priority areas of need, placing them in schools and ensuring that their service obligations are fulfilled.

What is evident is that the Programme is complex and multi-layered, now explicit in the programme theory and logframe. However it requires involvement of a substantial group of stakeholders and coordination is therefore a critical element of success for the Programme. Programme design, therefore, must respond to the complexity and put adequate structures and human resources in place as well as sustained funding, to ensure its effectiveness.

6.1.3 Findings related to Programme design

The full-cost bursary mechanism adopted by the FLBP funds successful applicants subject to key conditions to which applicants are legally bound, such as being placed in schools for a period equivalent to the duration of their bursaries as repayment for the investment by government. A challenge in this regard is that there is no official government definition of rurality; this requires careful consideration when considering and revising Programme forecasting systems to address the key question of geopolitical need and target the schools most in need effectively. Although the relative poverty of bursary recipients has not been measured up until now (in the absence of a means test), the bursary may become more pro-poor through the introduction of a district-based recruitment scheme, targeting learners attending schools in quintiles 1-3.

Despite the complex challenges, the FLBP responds to the demand-side requirements of the basic education system and has addressed (as we shall see in subsequent sections) the complexities of supply-side needs. The FLBP has adopted a policy of adaptive programming, implementing continuous improvements in its strategy, such as greater involvement of PEDs in selection processes, recruiting based on priority needs identified in consultation with provinces and the introduction of a district-based recruitment system.

We have noted that there is a need for further shifts in the design of the Programme which must be given serious consideration. In particular, the contractual obligations of students must be monitored, and the limited timeframes available for placing students must be reviewed. The need to fine-tune the Programme for it to remain appropriate over time must be factored into future plans.

Another Programme design issue discussed in this section has been the definition of 'merit', which is currently only measured by academic performance rather than, for example, a "passion for teaching" as incorporated into the programme theory developed for this evaluation at the request of stakeholders attending the programme theory workshop. Another important design issue is the need for a DBE/PED planning system that helps to attract FLBP graduates to poor and rural schools in "identified geographical areas of need", noting that the placement of graduates is not within the control of the Programme. The quality of graduates is also a factor that the Programme cannot manage but needs to be concerned about.

A further consideration which has arisen since the completion of the evaluation is the heightened focus on affordability of higher education and financial need. It is likely that this will continue to be a point of political focus and government-funded initiatives are likely to be under significant scrutiny in the future for their relevance in addressing issues of financial need and access to higher education for those in need. In this context, the FLBP is advised to consider introducing a mechanism to determine the relative financial need of FLBP applicants.

The FLBP design is relevant in terms of its political, economic and social context. It is also largely appropriate in terms of the complex environment in which it is implemented, characterised by multiple role players and stakeholders. However, the Programme design issues cited above need to be reviewed regularly with a view to enhancing the appropriateness of the design.

6.1.4 Recommendations related to Programme design

Recommendations related to Programme design are presented below.

1. 'Merit' is currently only measured by academic performance rather than the more extensive criteria[92] defined in the programme theory documented for this evaluation. *Practical ways of using the refined definition of merit in the recruitment and selection processes should be designed by the DBE in collaboration with PEDs, piloted and taken to scale.*
2. *A planning and contracting system that helps to attract increased numbers of FLBP graduates to poor and rural schools in "identified geographical areas of need", as per the programme theory, should be designed by the DBE in collaboration with PEDs.*

6.2 Programme effectiveness

6.2.1 Key results

The results framework for the FLBP is based on the goals, objectives and intended outcomes outlined in the evaluation Terms of Reference as well as the programme theory and logframe which were developed for the evaluation. The following key indicators of Programme performance were used:

1. Overall contribution of the FLBP to growth in ITE enrolment
2. FLBP selection criteria – are the right students being selected? Are they completing within a satisfactory timeframe?
3. Outcomes of the placement of teachers in identified areas of need (rural and poor schools)
4. Number of students recruited and funded in priority areas
5. Number of graduates teaching in the subject they specialised in

There has been increased enrolment in ITE over the period since 2007, but this cannot be attributed to the FLBP alone. The Programme contributed 15% of the overall cohort of ITE students over the period 2007 to 2012.

There is evidence that FLBP students are performing significantly above average, with 81% of B.Ed. students completing their degrees in the minimum time. This is evidence that top-performing students are being selected.

Students surveyed report high levels of interest in teaching and indicate in focus groups that the promise of employment is a strong motivating factor to accept bursary obligations and complete their studies.

Despite significant challenges with placing newly qualified teachers (there is variation across provinces), evidence from the evaluation shows that high numbers of FLBP graduates are or have been teaching in the public schooling system. Of the surveyed students, 92% of those who have graduated are employed as teachers, and of those 82.8% are teaching in public schools. This figure

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[92] *Defined as having a passion for teaching, teaching ability and desire to teach in priority subjects, phases and identified areas.*

could be higher, as some schools could not be identified. Of those teachers 74% are permanently employed.

According to definitive FLBP data, only 39.1% of graduates are teaching in rural schools, and the survey data showed only 29% of graduates in rural schools. There is missing data with some schools unidentified, but certainly it appears as though urban schools are benefiting more from FLBP graduates than rural schools. Similarly there are more or less equal numbers of graduates teaching across each school Quintile. There should be higher numbers in the Quintile 1-3 schools if FLBP graduates are to be targeted at schools in more socio-economically disadvantaged areas. This is currently not the case.

Students have largely been selected in priority curriculum areas so the Programme could be said to be contributing to the output of teachers in key under represented areas of study. However, there are challenges with the data on which the demand-side teaching needs are identified. This affects the Programme design.

Survey results showed that large numbers of students are teaching in areas that they have not specialised in, which may indicate systemic problems with matching qualified teachers in particular subject areas with appropriate teaching posts. For example, of those FLBP graduates surveyed teaching Mathematics in the Senior Phase, only 38.3% actually specialised in Mathematics during their ITE course.

According to the survey data, over 90% of graduates from the Eastern Cape and KwaZulu Natal are teaching in these provinces. Apart from Gauteng and the North West Province (where 65 and 62% of graduates respectively are teaching in their province of origin) there are relatively high numbers of students who return to their home province to teach.

6.2.2 Findings related to Programme effectiveness

The FLBP is a multi-stakeholder Programme, complex in design and implementation with many points of engagement. The key business processes of the FLBP are operating effectively overall, but there are important areas of weak functioning and alignment. Improvements are needed in all areas and greater alignment between the different processes and across stakeholders is necessary. This includes the need to better streamline selection and disbursement processes to support the academic cycles, and the need for promissory letters to district-based applicants to be linked to approved priority areas and institutions.

The evaluation has found ample evidence of Programme effectiveness (the extent to which the FLBP achieved its objectives in the evaluation period). Findings related to effectiveness are presented below under the following headings:
- The contribution of the FLBP to growth in the numbers of ITE students enrolled.
- Who is being selected for FLBP bursaries?
- The contribution of the FLBP to the supply of qualified teachers in public schools.
- FLBP priority areas.
- The number of students completing within the minimum timeframe.
- FLBP planning systems.

- Alignment between business processes
- The strength of stakeholder relationships.

6.2.2.1 Contribution of the FLBP to growth in the numbers of ITE students enrolled

There has been a very substantial increase in enrolment in ITE over the period under evaluation, from 29,000 in 2007 to over 86,000 in 2012. While this increase cannot be attributed to the FLBP, it likely that the Programme has made an important contribution (FLBP students were 15% of the total ITE student intake over the period, peaking at 22.5% in 2009).

6.2.2.2 Who is being selected for FLBP bursaries?

The data on student profiles were presented by gender, race, home language and age. Salient features of the profiling are that, when compared to overall ITE enrolment, the FLBP is attracting more female than male students. The Programme has attracted very low numbers of speakers of African languages other than isiZulu and isiXhosa. Most students surveyed (61.9%) chose their major subject because they were interested in it; only 3.5% were influenced in this regard by the availability of the bursary. Most students (78.9%) would have chosen teaching as a profession without the bursary.

The FLBP has achieved its goal of attracting quality students to become teachers. However, in the period under review 'quality' was measured exclusively in terms of NSC results (for first-time applicants) and academic performance in their studies at higher education institutions. In interviews with the evaluation team many stakeholders questioned this approach – in particular the reliance on NSC results. Ascertaining whether the best-performing students are being selected would require the development of an effective academic monitoring and tracking system. Indicators more recently suggested such as a "passion for teaching", were not used in the period being evaluated, and ways to measure such characteristics have yet to be developed. Students surveyed and interviewed, however, generally expressed positive views about their choice of teaching as a profession, such as wanting to work with children and wanting to improve the quality of education.

In the future more candidates from rural areas may be selected as a result of the introduction of the district-based recruitment system, which falls outside the period under review. FLBP students interviewed generally did not oppose the idea of working in rural schools, but some expressed reservations about working in under-resourced schools, although some universities were reported as having prepared students to teach in such schools.

6.2.2.3 Contribution of the FLBP to the supply of qualified teachers in public schools

There is evidence that the majority of students are paying back their bursary obligations by teaching in public schools – 86.2% of FLBP graduates surveyed reported that they are meeting this obligation in government-paid positions, and only 2.4% reported being in breach of contract. This is supported by PERSAL data, which show a similar percentage of FLBP graduates (83.5%) are working in public schools in government-paid positions. This is a positive finding. There is, however, no mechanism in

place for monitoring graduates' full service obligations so it cannot be determined whether students fulfil their full service obligation to the State. There is also no mechanism for establishing whether or not graduates are teaching in schools where they were placed or whether they obtained their position via another means. There is also no mechanism in place to follow up on defaulters. This lack of data makes it very difficult to measure the Programme's cost effectiveness. Despite this, the survey data suggest that there are relatively few students who are not paying back the bursary through service.

Despite the lack of a tracking mechanism, it appears that relatively high numbers of FLBP graduates are teaching in public schools. Focus group discussions with students revealed positive attitudes to their service obligation. These are important indicators of the success of the FLBP and an indication of its sustainability. We note, however, that in the absence of a tracking mechanism the proportion of FLBP graduates who have fulfilled their service obligation is not known.

The survey data show that more FLBP graduates were placed in urban schools than in rural schools. This is supported by linking FLBP data to EMIS data, which shows that 39% of FLBP teachers are placed in rural schools while 47% are in urban schools. The placement of FLBP graduates is thus falling well below the target of a majority of graduates teaching in rural schools. However, it should be noted that there is no clear government definition of 'rurality'.

The FLBP has placed 63.1% of its teachers in schools in the three poorest quintiles (a Programme objective only adopted in 2012).

The breakdown by province of placed FLBP graduates ranged from 27.3% in KwaZulu Natal to 3.5% in the North West and the Northern Cape; most provinces are experiencing difficulties with placement.

6.2.2.4 FLBP priority areas

The FLBP is graduating significant numbers of students in priority fields of study, and therefore contributing to national teaching needs. Among survey respondents who were teaching 86.2% were doing so in a priority subject. However, large numbers of FLBP graduates are not teaching in the subject of their specialisation – for example, among survey respondents teaching in the Senior Phase, in only two of the priority subjects were more than 50% of the survey respondents teaching in the subject they had specialised in. This indicates a poor fit between FLBP graduates' studies and schools' needs, a phenomenon which is beyond the scope of this evaluation but which requires careful consideration. It is particularly a problem in the Foundation Phase, Intermediate Phase and Senior Phase and less prevalent at FET band level, but is a matter of concern that relates to skills planning and teacher placement. It is not, however, within the direct control of the management of the FLBP.

There is evidence from this study that the skills planning processes of the DBE and PEDs impact significantly on the identification of priority areas and planning for the FLBP. At the moment, the Programme responds to a number of planning processes, taking national and specific provincial needs into account. Decisions about what are priority areas are also not fixed and are open to change between the application and selection processes. This leads to confusion among stakeholders and students who apply in a particular field, only to discover that it is no longer a

priority area. Another issue is the extent to which universities are linked to provincial or national teacher needs. There are not equal numbers of universities in each province, and universities are national institutions, often training students from a range of provinces. The extent to which province-specific needs can be incorporated into the selection processes of universities needs to be addressed at a policy level.

The issue of time lags between the identification of priority needs, the recruitment of students specialising in these subjects and their graduation is a broader planning issue and needs to be taken into account in planning for student funding. This, however, is a competency of the DHET, so alignment between planning for systemic teaching needs and FLBP priority areas is necessary.

African languages are still an area of considerable need, and with the policy imperative of IIAL the FLBP needs to respond to this. However, low numbers of students with African language competency are participating in the Programme, with English and Afrikaans first-language speakers dominating overall.

6.2.2.5 Number of students completing within a satisfactory timeframe

A much higher percentage of FLBP students graduate in the minimum timeframe than is typically the case in the South African university system, an important indication of Programme efficiency and cost effectiveness. Very small numbers of FLBP students drop out of their programmes (1-3% across qualification types), and the majority graduate (55-74% across qualification types). This is confirmed in a DHET study (DHET, 2016), which shows that the national B.Ed. throughput rate in minimum time was 46.7% and 41.7% for the 2000 and 2005 cohorts respectively; the same study reports that 16.2% of the cohort commencing their B.Ed. studies in 2005 dropped out after their first year of study and 31.1% by year 10.

6.2.2.6 FLBP planning systems

Programme planning appears to be weakly embedded in the work of the DBE ITE directorate and across stakeholders. This may well be a feature of heavy workloads, but also results from the complexity of the Programme and its links to broader planning processes in the DBE and the PEDs, such as scarce skills and priority areas planning and post-provisioning and placement of teachers in teaching posts. Overall, planning appears to be ad hoc and reactive and therefore weak. The FLBP itself needs an effective planning system, which must be linked to and aligned with the overall planning of government in the relevant areas of teacher supply and demand and teacher employment. Planning is also necessary to ensure alignment between government funding and planning cycles and those of relevant stakeholders, including universities and NSFAS.

Systematic and regular planning and feedback into Programme development is challenging given multiple deliverables (recruitment, selection, awards and payment, monitoring and tracking, placement and compliance monitoring). Planning requires time and focus and is severely hampered by the lack of dedicated focus on the FLBP by all stakeholders.

6.2.2.7 The strength of stakeholder relationships

Stakeholder relationships are mostly well established and there is evidence of substantial collaboration across stakeholders to make the Programme work. For example, the strong relationship between the Financial Aid Officers of universities and NSFAS is a relationship that has benefited the operations of the FLBP. All stakeholders are necessary for Programme delivery and the successful implementation of the Programme relies on strong relationships across groups of stakeholders. The DBE as the central hub of the Programme plays an important role in maintaining relationships across stakeholders and there appear to be solid mechanisms in place to allow for effective communication between the DBE and stakeholders and across stakeholder groups. Roles and responsibilities of stakeholders appear to be well understood by most people involved in the Programme, but may need to be streamlined to improve effectiveness. Overall, the research found a very high level of commitment to the FLBP from all stakeholders. This commitment is a very important reason why stakeholder involvement is strong, despite concerns about capacity. Growing workloads, mainly as a result of the introduction of the district-based recruitment and selection process in 2012, are a challenge for the Programme and not only have the stakeholders involved increased, but coordinating the different roles of the stakeholders (districts, PEDs, universities, NSFAS) requires dedicated support.

6.2.3 Recommendations related to Programme effectiveness

Recommendations related to Programme effectiveness are presented below.

3. 'Quality' in awarding bursaries is measured exclusively in terms of NSC results (for first-time applicants) and academic performance at universities after selection; however, it is not currently possible to track even these arguably minimal measures of quality. *The DBE, in collaboration with universities, should develop an effective academic monitoring and tracking system which shows NSC results (for first-time applicants) and academic performance of FLBP bursars at universities during their studies (this will also assist with efficiency in selection).*

4. The breakdown by province of placed FLBP graduates ranged from 27.3% in one province to 3.5% in two provinces; most provinces are experiencing difficulties with placement. *The DBE, in collaboration with PEDs, should examine different approaches to placement, such as allowing students to apply directly to schools in identified areas of geographical need, garnering the support of universities which have robust relationships with schools and extending the current 60-day period in which graduates must be placed (and after which they are released from their service obligation) (this will also assist with efficiency in placement).*

5. Large numbers of placed FLBP graduates are not teaching in the subjects of their specialisation – for example, among survey respondents teaching in the Senior Phase, in only two of the priority subjects were more than 50% of the survey respondents teaching in the subject they had specialised in. *The DBE, in collaboration with PEDs and universities, should conduct rigorous research to improve the match between FLBP graduates' studies and schools' needs.*

6. Low numbers of students with African language competency are participating in the Programme - with English and Afrikaans first-language speakers dominating overall – and a

minority of FLBP students are opting to specialize in African languages. *The DBE should plan to respond effectively to the IIAL policy.*

7. Greater alignment between the different FLBP business processes and across stakeholders is necessary. *The DBE should ensure that selection and disbursement processes are streamlined to support the academic cycles.*

6.3 Programme efficiency

Fundamental resource needs for efficient Programme functioning need to be put in place, including adequate levels of funding (including funding specifically for administrative purposes) and adequate human resources to manage the increasing workloads brought about by the growth of the scheme and its growing complexity. The district-based recruitment process, for example, has added to the already considerable workloads of all stakeholders. Dedicated capacity is needed at all levels and with all stakeholders to effectively manage the Programme.

The ITE Directorate in the DBE is the central hub of all FLBP activities and coordinates every aspect of the key business processes. This role has become significantly more time consuming as the Programme and its goals have grown. The ITE Directorate also has other systemic responsibilities, so greater capacity is necessary to improve and streamline the work of the FLBP.

Efficiency has been examined in the four key business processes of the FLBP: recruitment and application; selection; disbursement; and placement. Programme monitoring and data management have been discussed as a separate set of cross-cutting support mechanisms to all the business processes; the cost effectiveness of the FLBP has also been assessed.

6.3.1 Findings related to recruitment

We have noted that recruitment of FLBP students anchors all other business processes. Recruitment is working well, as the Programme is able to select adequate numbers of students who meet the selection criteria and are being selected on merit. Universities play an important role in marketing the Programme to potential bursary recipients. It is difficult to determine the extent to which the Programme is targeting needy students from rural areas. Though the district-based applications process is now in operation (from 2012) and is likely to attract greater numbers of rural students into teacher education, the evaluation did not specifically probe this area as it falls outside the evaluation period, and the absence of data on socio-economic status of bursary recipients makes an independent determination impossible. Means testing of students does not take place, but would be one mechanism to determine relative need of students. The data suggest that marketing to rural and poor students could improve significantly, though this may already be happening.

It appears that urban schools are benefiting from FLBP graduates more than rural schools. However, a number of schools could not be identified in the EMIS database, so the figures may in reality be quite different. This impacts on cost effectiveness as one of the objectives of the Programme is to place teachers in rural and poor schools. It should be noted that during the programme theory process the objective of placing teachers in rural schools was changed to talk to placing teachers in areas of geographical need, which are not always rural schools. In terms of quintiles, there are too

many FLBP graduates teaching in quintile 4 and 5 schools, given that the Programme is supposed to target quintile 1-3 schools. This may be because only 29% of FLBP graduates teaching in public schools reported being placed by the district or province, and 24% had been employed directly by schools.

Stakeholders interviewed by the evaluation team indicated that their roles and responsibilities in recruitment, as set out in the 2007 and 2014 protocol documents, were clear. Most provinces use similar recruitment strategies involving informational talks and presentations held at central venues, and in most provinces representatives of universities have been present; a district-based recruitment strategy was only introduced in 2012, and may help to address the problems some students have with online applications because of poor connectivity. Recruitment for the FLBP occurs mainly through university information booklets and family and friends (these two sources were reported by almost 67% of students); only 12% of student respondents reported having heard about the scheme through schools or teachers. Universities provide a variety of forms of assistance with applications (an efficient form of assistance seems to be providing Saturday classes in the priority subjects, which occurs in at least one university). The important role played by universities is cost-efficient, as students have to interact with the institutions anyway for admission purposes. The vast majority of student respondents judged the FLBP application process to be straightforward, but 53% reported that they did not receive a response before the start of the academic year. The efficiency of the FLBP recruitment strategy is evident in the growth in the number of applications, from 2,801 for the academic year 2008 to 44,736 for 2013. However, the following efficiency challenges have been noted:

- Students have typically chosen their priority subjects from the FLBP website, but the subjects listed are national rather than provincial or district-level priorities. This may affect either their chances of being awarded a bursary or their subsequent chances of being placed.
- Renewed applications (for second and subsequent years of study) are treated as new applications and lead to new contracts, which many interviewed felt was unnecessary.
- The separate application processes (for funding and a place to study) are not always well understood by students. Closing dates for each application are not synchronized; some students apply for the bursary without applying to the university. Some also fail to apply because they cannot afford the university application fees.
- We have noted that while the new district-based recruitment strategy may help to recruit students from rural and poor backgrounds, it is more complicated and labour intensive, and is resulting in a substantial increase in applications. Although its timing means that it falls outside the scope of this evaluation, the implications of this strategy for the management and administration of the FLBP are considerable.
- Marketing of the FLBP needs more human and financial resources at national, provincial and university levels, and needs improvement in rural areas.

Among students surveyed who did not apply for the FLBP bursary in a particular year or years there are indications of both efficiency and inefficiency. We have noted that 42.3% of B.Ed. students surveyed and 36.6% of PGCE students did not apply in a particular year or years because they did not know about the bursary, an indication of inefficiency in FLBP marketing; 10% of PGCE and 11.1% of B.Ed. students did not apply when they knew they did not meet the requirements to progress to the

next year of study; 12.9% and 10.3% of PGCE and B.Ed. students respectively reported that they did not apply because they found alternative means of funding for their studies; and 24.3% said that there were years in which they applied for the bursary but did not get it. Less than 1% said that they did not want to complete the obligatory service period. Students surveyed reported that they made alternative plans for the year or years in which they did not receive FLBP funding: 48.9% completed the year of study using their own funds and 30.8% entered another bursary programme or were funded through NSFAS. It seems clear that substantial numbers of students in the period 2007-2012 obtained FLBP bursaries during their studies, rather than at the onset of their degrees.

An important Programme inefficiency is that among students surveyed who applied but did not receive the FLBP bursary in a given year or years almost half (47.4%) reported that they did not know why they were unsuccessful.

6.3.2 Recommendations related to recruitment

8. The important role played by universities in recruitment is cost-efficient. *The DBE should ensure that effective recruitment strategies are shared among key role players.*
9. Applications for second and subsequent years of study are treated as new applications and new contracts are drawn up. *The DBE should consider whether administration of the FLBP can be enhanced by issuing a single contract for the duration of the qualification.*
10. Some students fail to apply because they cannot afford the university application fees. *The DBE should consider requesting universities to waive their application fees for needy FLBP applicants.*

6.3.3 Findings related to selection

Prior to the introduction of district-based selection, universities were responsible for setting up selection panels with representatives of PEDs (who in some provinces reportedly do not or are not able to attend). These panels took into account students' academic records (performance of returning students and the NSC results of new students) and the quota distribution model for areas of specialisation. Selection processes are sufficiently flexible to take into account individual student information. Human factors such as illness may also be taken into account (a strength of the selection process). The selection process allows for support for students who may need an additional year to fund their studies; this is helpful to get students to completion and should remain in place.

The selection panels draw up waiting lists should students awarded a bursary withdraw from the scheme. According to stakeholders interviewed, students who are not selected are given a reason, but, as noted above, almost half of the applicants surveyed who were unsuccessful in a given year or years reported that they were not given a reason; at least in some universities those who are successful meet with the relevant faculty personnel to discuss the conditions of the bursary; an indication of Programme efficiency is that in all universities contracts are drawn up with successful applicants.

The selection process is faster for returning students than for first-time applicants because of the timing of the release of the relevant academic records (returning students are guaranteed a renewed bursary if they have performed satisfactorily). However, an effective system to monitor academic performance would increase efficiency in the selection of these re-applicants.

While the selection process was judged to be efficient and thorough by stakeholders interviewed, an inefficiency resides in the misalignment between the commencement of the academic year and the FLBP selection cycles. The delays in selection affect the registration of students in need, and cause anxiety in the early part of the academic year when students are not aware of the result of their applications. We have noted that the numbers of students affected by long delays vary across universities.

The lack of human resource capacity in the ITE Directorate of the DBE, which is involved in each university selection process and is responsible for final decisions about awards, is a major factor affecting efficiency in the selection process; this is likely to be compounded if there is a future emphasis in selection on aspects such as students' motivation to become teachers. We have noted that no financial support is allocated for administrative work on the Programme, so the FLBP is dependent on PEDs, universities and other institutions allocating adequate staff and resources to the Programme.

A final factor impacting negatively on efficiency in the selection process is that applicants may select priority areas in their province but then enrol in a university in a different province with different priority areas. These students are then not selected because of the lack of alignment in terms of their priority areas – even though they may intend to return to their home province after completing their studies. This is a complex inefficiency to manage, and would become more complex if district-level priority areas are determined, which above and beyond any administrative difficulties for the FLBP seems to be an attractive policy option. Changes in priority areas between students' applications and the selection decision are a related problem for an apparently small number of FLBP applicants.

By and large it appears that students are motivated to teach and to pay back their service obligations. This is an extremely positive finding, as the selection process does not include a mechanism for measuring motivation to teach.

6.3.4 Recommendations related to selection

11. A strength of the selection process is that human factors, such as illness, among applicants may also be taken into account. *The DBE should draw up guidelines that set out possible mitigating factors in students' applications.*

12. The selection process was judged to be efficient and thorough by stakeholders interviewed, but an inefficiency resides in the misalignment between the commencement of the academic year and the FLBP selection cycles; the delays in selection affect the registration of students in need, and cause anxiety in the early part of the academic year. *The DBE, in conjunction with other Programme stakeholders, should consider ways to improve efficiency in responses to applications and give reasons for unsuccessful applications.*

13. Applicants may select priority areas in their province but then enrol in a university in a different province with different priority areas. *Since universities are national not provincial institutions, studying in another province should not affect a candidate's chance of selection. However, the DBE and PEDs should collaborate to attune the priority areas to local circumstances and consider district-level priority areas. Working in a particular district should be part of a district-based FLBP student's service obligation.*

14. Changes in priority areas between students' applications and the selection decision are a related problem for a small number of FLBP applicants. *The DBE, in collaboration with universities, should develop an effective system to monitor the priority areas that students have enrolled for; priority subject areas should be fixed in the period between application and selection (this will also assist with efficiency in placement).*

6.3.5 Findings related to disbursement

We have assessed both disbursement and the management of bursary funds. Our analysis shows that disbursement processes have been fairly consistent from 2010, since when the FLBP policies and procedures manual has been updated annually. Efficiencies in the disbursement policy follow: although the bursary amounts differ by institution (but are intended to cover all the major costs to allow a student to study full-time), there is a maximum capped amount for all institutions; institutions may not spread the funds allocated amongst a greater number of students; and they may not retain FLBP funds for administration of the bursary scheme. (This latter efficiency relates to the FLBP, not to universities, which necessarily do incur administration costs.) There were no concerns about the FLBP allocations among education faculties.

As has been noted, means testing has not been conducted up until now to ascertain the relative financial need of FLBP recipients. JET recommends that the DBE consider introducing a mechanism for this, to support the additional selection criteria introduced in 2014, which states that: "Everything else being equal, selection should favour candidates from rural areas, candidates who wish to teach in rural areas and candidates whose financial position would otherwise exclude them from enrolment for a teaching qualification." (DBE, 2014g) This is not a simple issue, given the constraints of existing administrative demands on the Programme. However, means testing mechanisms are available through NSFAS, and the FLBP could make use of such tools.

This recommendation needs to be qualified in relation to the evaluation questions and findings. Although the evaluation did not ask specific questions about financial need of bursary recipients, it was raised as an issue of concern at meetings of the evaluation steering committee and in stakeholder meetings that took place during the evaluation. The concerns, which also arose in a small number of interviews, relate to the perception that there are a number of FLBP recipients who use bursary resources for non-study purposes, such as (in the extreme example) buying cars.

The evaluation provided little evidence that large numbers of students were diverting bursary resources away from their primary intended purpose. However, this was not a specific area of focus. What is clear is that the perceptions exist. This may provide one reason to consider addressing financial need.

There are also, however, other reasons that relate to the socio-political context within which the FLBP operates. Providing access to students in need through supporting financing of poor students in particular is a major priority of government and there are a number of initiatives looking at how to make higher education more affordable for all. In this context, it could be argued that any significant investment by government should take financial need (defined broadly) into consideration.

An inefficiency is in the timing of disbursements, which are effected to NSFAS in April of each year (because the government fiscal year differs from the academic year), by which time the academic

year is in full swing (and the delay in payments by NSFAS to universities is up to 30 days). Consequent delays in payments to students (and uncertainty regarding when payments will be made) are a concern among all stakeholders. We have noted that the effect of late payments on students can be significant, for example in terms of basic needs with students in some cases reportedly resorting to squatting; late payment was a particular challenge at two of the universities in the sample. Students reported that changes to payment dates are not always well communicated.

To cover delays in FLBP approval students sometimes also apply for NSFAS funding, which compensates for the inefficiencies mentioned above. They can then convert the loan once the FLBP bursary has been approved and universities return the full NSFAS loan amount. (We note, however, that this option means that other needy NSFAS applicants will be denied loans, which perhaps represents an inefficiency for NSFAS but not for the FLBP.)

Funding is sufficient to meet student needs and students are mostly using their funds to support their direct academic and support needs. Students adapt to late payments from the FLBP with assistance from both the universities and their families. However, addressing the issue of late payments, by finding ways of streamlining administrative processes is essential. Many respondents felt that when payment comes the FLBP bursary is very generous and more comprehensive than the NSFAS loan; FLBP recipients were reported to be better off than other students. We have noted that no means testing has been conducted to determine the relative financial need of FLBP recipients, but we have also noted that large payments to FLBP students are often the result of delays in disbursement. Our assessment is that the total amounts paid are carefully calculated to cover the costs of a full bursary; university officials did not have concerns with the amounts paid. The majority of students interviewed and surveyed perceive the bursary to be adequate and are proud to receive such comprehensive financial support for their studies (96.3% of students surveyed found the funding sufficient and reported that the assistance helped them to successfully complete their qualifications). Overall, the amount of the FLBP bursary represents a Programme efficiency.

The delays in payment noted above impact on the cash flow of universities that provide support to students to fill the gap between the beginning of the academic year and receipt of payment by NSFAS (often in mid-year). This varies across universities depending on their policies and resources, but all are keeping the FLBP operational by providing bridging finance to students. In a majority of institutions, students with confirmed awards are allowed to register and stay in residence without making upfront payments. Some institutions credit food accounts with funds. In a small number of institutions, book allowances are also made available. At least two universities advance FLBP students monthly stipends.

Once students have received payment, views differed on whether they should decide how to spend their money (just under 17% of respondents said they used FLBP funds to help support families, which in the South African context is to be expected) and whether support for financial planning is necessary to ensure wise spending. Expressing a similar concern, some students felt that monthly payments are preferable to lump-sum or semester payments. NSFAS is in the processing of piloting a new system for making payments to students, which will involve direct contact between students and NSFAS; since this system was introduced in 2014 it falls outside of the period under review. We have noted, however, that very strong opinions were expressed by universities and the DBE about

teething problems with the new system and its impact on students' financial situation and academic performance.

We have mentioned the view that the 'refund policy' of the FLBP may need review. We have noted that downward adjustments of university course fees should be taken into account, as these decreased fees should not be paid to students but back to NSFAS and returned to the FLBP. An administrative mechanism to address student fee accounts would be required to make this happen and improve Programme efficiency.

Disbursement appears to be efficiently governed by the FLBP steering committee, which meets quarterly and includes key stakeholders such as NSFAS, the DBE, the DHET and some of the education deans; an annual FLBP meeting to review Programme performance is hosted by the DBE. Stakeholders rate their relationships as overall very positive; the relationship between NSFAS and the universities is particularly well established and is a strong contribution to the efficiency of the FLBP. We have noted that challenges facing the Programme relate to streamlining administrative processes across the different stakeholders. For example, there has been discussion among stakeholders about how payments to institutions might be made earlier, but this has not been resolved; another administrative issue is how accumulated unspent funds might be used as a buffer (between the beginning of the academic and financial years) to improve efficiency.

Improving efficiency in disbursement is crucial. We have noted that the FLBP payment system is a complex one with many payment processes involved, requiring thorough verification and quality assurance checks which can give rise to multiple delays across FLBP stakeholders such as university financial aid offices (which have varying levels of capacity), NSFAS and the DBE itself.

Finally, it is important to note that to improve FLBP efficiency a tracking system should be put in place to ensure that FLBP graduates meet their full service obligations beyond their placement. There is currently very little control over how students fulfil their contractual obligations. This relates to FLBP graduates failing to take up a placement, or failing to complete the full number of service years required. Attention is also needed to possibly costly legal challenges (such as admission of debt) if FLBP graduates convert a bursary into a loan; this was referred to by a DHET interviewee as a "grey area" in the Programme.

6.3.6 Recommendations related to disbursement

15. *The DBE should consider introducing a mechanism for determining the relative financial need of FLBP applicants to better target needy students (this also relates to Programme design and assists with sustainability).*
16. Universities provide varying levels and types of support to students to fill the gap between the beginning of the academic year and receipt of payment by NSFAS. *The DHET should develop guidelines for universities to ensure that all students receive similar levels and types of support to fill the gap between the beginning of the academic year and receipt of the bursary. National guidance may also be necessary to guide the timing of the disbursement of funds to students once the funds have been received from NSFAS.*
17. *The DBE should review the refund policy, noting that students should not receive the benefit of downward adjustments of university course fees and that such funds should be returned to*

NSFAS; an administrative mechanism to address student fee accounts would improve Programme efficiency in this regard.

18. A challenge facing the Programme is the need to streamline administrative and planning processes across the different stakeholders. *The DBE should ensure that important discussions lead to policy decisions and action; for example, the discussion among stakeholders about how payments to institutions might be made earlier should lead to decisive action, and a decision is also needed on how accumulated funds may be used to close the gap between the beginning of the academic and financial years.*

19. The FLBP payment system is a complex one with many payment processes involved, requiring thorough verification and quality assurance checks which can give rise to multiple delays across FLBP stakeholders. *Given the scale of the Programme and the large amounts of funds available, the DBE and other role players should allocate adequate staff and resources to reduce disbursement delays.*

20. FLBP bursaries should be converted into loans if FLBP bursars do not fulfill their service obligations when the graduate. *To avoid possibly costly legal challenges the DBE should examine the feasibility of mechanisms such as admission of debt.*

6.3.7 Findings related to placement

The success and cost effectiveness of the FLBP requires the placement of all graduates in public schools, but this is not currently happening. PEDs, in collaboration with the DBE, need to collaborate to identify methods of effective placement for teachers across all provinces. There are many possibilities here, including specific posts for newly-appointed teachers, temporary posts and placement across provinces (even if they are not necessarily the first choice of the student). All possible initiatives should be explored to improve the placement rate of FLBP graduates. Although the evaluation findings are positive in terms of the numbers of teachers working in public schools, there is considerable room for improvement. Ultimately an improved placement system will ensure the proper fulfillment of the teaching obligation for all students. It should be noted, however, that the directorate within the DBE that manages placement processes is different from the directorate responsible for the FLBP, and this should be considered when measuring the performance of FLBP against a Programme objective which it has no direct control over. Nonetheless, the data, in particular from discussions with PED officials, indicate that FLBP responsibilities need to be better integrated into the job descriptions and work plans of specific officials, including district directors, to ensure stronger buy-in for the placement of FLBP graduates.

From 2010 the placement of FLBP graduates has been increasingly the responsibility of PEDs, informed by provincial priority areas; placement has thus become more responsive to provincial needs, and PEDs now have robust plans to place graduates while still attending to other priorities, such as teachers already in the system but declared in excess. However, there are certain complicating factors related to placement: some stakeholders reported that in the past principals preferred experienced teachers above FLBP graduates, but as provinces began to play a more effective role they started to give bursary recipients first preference – this may be changing as unions believe favouring FLBP graduates has helped to create a pool of disgruntled teachers who have been out of jobs or in temporary and substitute positions; moreover, the post provisioning norms give preference to teachers already in the system. PEDs must submit progress updates to the

DBE and report defaulting FLBP graduates; however, there are no reliable data on the placement of graduates and no effective information management process.

In the absence of sound data, we have noted the following efficiency concerns from stakeholder interviews and our survey findings: students may change priority areas in the course of their degree, which impedes placement when their subjects do not match the priority needs of the province (there do not seem to be mechanisms to detect when students have changed their specialisation); students may apply for the priority areas of the province in which they study but cannot be placed in the province they select for placement because the priority areas are different (despite the fact that universities are not only training teachers for the provinces in which they are located); students sometimes choose priority areas in which there is an oversupply of teachers, making placement impossible (the lack of demand and supply projection often leads to an oversupply of teachers in certain subject areas which were initially indicated as priority subjects); and, finally, graduates' reports of delays in placement (which must happen within 60 days of receipt of students' results) vary across provinces, affecting between 0% and 24% of graduates.

An important efficiency issue is that monitoring of placement is difficult as information is held in PERSAL rather than the ITE system because of confidentiality issues. The ITE Directorate manually captures information about whether students have defaulted, been placed or not been placed. There is currently no system in place to track defaulting graduates and ensure that bursaries are refunded to NSFAS – over 88% of graduates surveyed reported that there had been no follow-up in this regard, and there do not seem to have been any consequences for students who default. Provincial follow-up on graduates who have not been placed or are not fulfilling their service obligations, ranged from 0% of graduates in Limpopo and the Northern Cape to 23% in Mpumalanga.

Importantly, because of the lack of monitoring there is no feedback to universities on placement to help shape their strategy on supply (for example, information on which specialist areas are most likely to be taken up). We have noted that the absence of an efficient monitoring system to track students from graduation to employment and to ensure that they fulfil their service obligation is a very serious limitation of the FLBP.

Linking selection of FLBP recipients to placement, a key efficiency issue, is easier in the case of the PGCE, which is only one year, than in the longer programmes, which would require longer-term supply and demand modelling than exists currently. Although the national DHET is currently working on a multivariate model to determine supply and demand projections using multiple variables, we have noted that estimating supply and demand is not an exact science. Although some stakeholders believe demand and supply planning should be a national competence, the provincial role in placement, supported by strengthened province-level research and data management, seems crucial to successful placement. However, balancing the national supply system with provincial demand is a key Programme challenge; we have noted that while placement of graduates is an important objective, it is not within the direct control of the Programme.

Almost a quarter (24.4%) of all graduates surveyed were placed in their teaching position in the school directly by the school, 16.7% were placed through the provincial placement database, 12.5% by the district office and 11.2% through a newspaper advertisement. We have recorded different stakeholder opinions on whether graduates should be placed or apply for their posts; the latter option is not in line with FLBP policy (but is clearly happening in practice); at least one PED finds this

option preferable as a graduate may be placed by the PED but later move to another preferred school anyway. Some of these graduates reportedly find places in more affluent schools, including independent schools.

A high-level decision on the best placement option or options is an important Programme efficiency issue. Students are supportive of the option to look for their own posts as it increases the chance of their being employed. They believe that they should be allowed to teach in any public school. They also believe that the 60-day timeframe for placement before FLBP graduates are released from their service obligations should be extended to one year. University respondents argued that they can use their established relationships with schools and principals to find teaching posts for their students, in collaboration with PEDs.

The survey data indicate that FLBP recipients return in fairly large numbers to teach in the provinces where they matriculated. However, we have noted that there is a difference between returning to the province of origin and returning to a rural district with a shortage of teachers. Although some stakeholders interviewed believed that FLBP graduates are reluctant to be placed in rural schools, the survey data indicate that this is the attitude of a minority of students. We have noted, however, that the survey data are self-reported. We also note that stakeholders attending the programme theory workshop conducted for this evaluation recommended that the objective be rephrased to remove the reference to "rural areas" and instead refer to "areas of need". The fact, reported above, that more FLBP graduates are placed in urban schools than in rural schools does not mean that they are not placed in 'areas of need'.

There is some confusion amongst stakeholders about how placement processes work in the provinces. This is partly because methods differ from province to province. It is also because provinces have a broader responsibility for the employment of teachers, which includes, but is not restricted to, placing FLBP graduates. In some provinces, there are a range of other demands which impact on the ability of the province to prioritise the placement of Funza Lushaka graduates. University and DBE stakeholders reported that inefficiency arises from unclear roles and responsibilities in some PEDs in relation to placement – university respondents, for example, reported that they do not receive feedback from provinces. This is another example of how efficiency in the administration of the FLBP can be improved.

An efficiency in placement is that most of the surveyed FLBP recipients (71.4%) indicated that the placement rules and requirements had been properly explained to them, and most (60.4%) reported that placement forms had been made available early. Universities appear to be playing a crucial role in this regard, organising information sessions to clarify the placement process. These meetings are attended by key stakeholders such as PEDs, the DBE and SACE. Perhaps the most important indication of efficiency is that only 8.2% of FLBP graduates had not been placed in schools. Almost 98% of FLBP graduates surveyed who were teaching were placed in school after graduation; 30.4% of these were not placed within the 60-day period (which releases them from their service obligation); this suggests that stipulated period may not be adequate – possibly a Programme inefficiency.

Most students surveyed were keen to be placed as they cannot afford to pay back the bursary. Their aim when they complete their studies is to work, and this results in a high uptake of teaching jobs.

The survey data indicate that it is highly unlikely that a substantial number of students take up the bursary with the intention to renege on the service condition.

The placement process is efficient in some aspects and inefficient in others. For example, most FLBP graduates (78.7%) found the application process simple but many (45.7%) reported having experienced difficulties in being placed; 57.7% reported that the PED had been helpful, and 56.3% reported that the district office had been involved. This indicates that provinces and districts are largely responding to their increased role in placement. However, 30.1% of FLBP graduates surveyed who were not successfully placed reported that the reason lay with the province failing to communicate suitable vacancies; a further 12.1% said that the problem was located in the DBE's role in confirming the completion of qualification of graduates.

6.3.8 Recommendations related to placement

21. PEDs must submit placement updates to the DBE and report defaulting FLBP graduates; however, there are no reliable data on the placement of graduates and no effective information management process. *The DBE should ensure that placement data are captured and stored in an effective management information system.*

22. Students sometimes choose priority areas in which there is an oversupply of teachers, making placement impossible. *The DBE should develop a strategy and tools for projecting supply and demand to inform the determination of priority areas; this initiative should link to the multivariate model being developed by the DHET and broader education sector planning.*

23. The absence of an efficient monitoring system to track students from graduation to employment and to ensure that they fulfil their service obligation is a very serious limitation of the FLBP. *The DBE, in collaboration with PEDs, should develop an effective tracking system to follow up on graduates' service obligations and provide feedback to universities on placement to help shape their strategy on teacher supply (for example, information on which specialist areas are most likely to be taken up) (this will also assist with efficiency in disbursement).*

24. Although the national DHET is currently working on a multivariate model to determine supply and demand projections, the provincial role in placement is also crucial. *The DBE should encourage strengthened data management and province-level research into teacher supply and demand.*

25. Graduates are placed in a variety of different ways, ranging from direct appointments by schools (the most common route) to placement through the provincial database (30.1% of FLBP graduates surveyed who were not successfully placed reported that the reason lay with the province failing to communicate suitable vacancies). *Given that in practice many FLBP graduates apply directly to schools, the DBE should accept this but introduce safeguards to ensure, with the assistance of universities that have robust relationships with schools, that graduates take up posts in areas of need.*

26. A Programme inefficiency arises from unclear roles and responsibilities in some PEDs in relation to placement. *The DBE, in collaboration with PEDs, should ensure that responsibilities are clear in this regard and develop protocols to ensure that universities receive feedback from provinces on placement.*

27. Not all FLBP graduates are placed in public schools, and there is considerable room for improvement. *The DBE, in collaboration with PEDs, needs to identify methods of effective*

placement, considering all possibilities, such as national placement for FLBP graduates who agree to be placed in any province when they accept the bursary.

6.3.9 Findings related to monitoring, tracking and data management

The administrative hub of the FLBP, the ITE Directorate in the DBE, is the manager of the FLIMS, which supports all the major business processes throughout the annual cycle of operations and requires a very labour-intensive process (for example, in 2014 within one month 41,000 bursary applications had been received). The Directorate, which generates information for FLBP reports to both Treasury and Parliament, is supported by SITA and GITO. SITA's responsibility is to ensure that the data are secure, that the IT infrastructure is adequate and up to date and that technical queries are resolved timeously; the role of GITO is to ensure that the IT needs of the DBE are adequately supported and to liaise between the DBE and SITA. There are no SITA or GITO personnel assigned full time to the FLBP, but the ITE Directorate has one key staff member responsible for managing the FLBP database, but also data on the entire teacher education system.

There are various key efficiency challenges with respect to the FLIMS: the system is primarily manual (the only online portion of the FLBP business processes is the annual application process, but the DBE works manually on the data in Microsoft Excel™ for the selection and placement processes, for example to verify missing information); there are multiple points at which data are manipulated, which opens the system up to possible errors at each point and raises confidentiality and security issues; the online system has limitations as it is merely an input-output database (at the design stage in 2006 all that was required was an electronic portal for the capturing of application information); and the information system does not allow the monitoring or tracking of students across the various business processes of the FLBP, including, for example, subjects or phases studied by FLBP recipients and placement. It is not possible to calculate failure, dropout and throughput rates. As one DBE official put it, "there is no intelligence in the system to do anything" because of its manual nature; the system has not kept up with changes in FLBP policies, processes and priorities over the years since its design, and its open-source environment reportedly makes it difficult to maintain and update. The PCP signed in 2013 between the DBE and SITA has resulted in an application service specification, which sets out the software and hardware requirements for a new system; work has not yet begun because of the cost involved, and this scoping exercise is now out of date. However, improving the information system so that it can support all FLBP business processes is crucial for effective planning and decision-making, less onerous administrative systems and Programme sustainability. This is a key aspect of Programme efficiency.

6.3.10 Recommendations related to monitoring, tracking and data management

28. Although managing the FLBP business processes requires a very labour-intensive process, there are no SITA or GITO personnel assigned full time to the FLBP and the ITE Directorate has only one key staff member responsible for managing the FLBP database (but also data on the entire teacher education system). The DBE should allocate adequate staff and resources to manage Programme data for effective planning and monitoring.

29. The FLIMS does not allow the monitoring or tracking of students across the various business processes of the FLBP, including, for example, subjects or phases studied by FLBP recipients and placement; it is not possible to calculate failure, dropout and throughput rates. While the FLBP has successfully funded growing numbers of students, cohort data are not adequate to determine completion rates and compare these with overall university completion rates. Many of the key FLBP business processes could be automated to allow for online exchange of data, with adequate approval and control mechanisms built in. The investment of funds in a new system is an urgent Programme requirement. *The DBE and SITA should develop a new application service specification setting out the software and hardware requirements for a management information system that can support all FLBP business processes for effective planning and decision making, make administrative systems less onerous and enhance Programme sustainability. A critical aspect of the design work for a new system will also be its inter-operability with other business intelligence systems, particularly PERSAL, and the new information system should be attuned to any changes in overall FLBP systems effected as a result of this evaluation. The findings of this evaluation will need to be taken into account when developing a new information system.*

6.3.11 Findings related to the cost effectiveness of the FLBP

Using survey data, it has been possible to do a limited assessment of the cost effectiveness of the FLBP during the period 2007 to 2012. Data limitations, however, have prevented a full economic analysis being conducted. We have identified the direct and indirect costs associated with the FLBP bursary; indirect costs include opportunity costs in administration of the bursaries for the DBE and the universities. We have noted certain difficulties, such as the cost of late disbursement (which is not possible to quantify) and the cost of staff time (which can be estimated). Benefits, including individual and societal benefits, are very difficult to estimate, so a cost effectiveness analysis has been presented rather than a cost benefit analysis, using two primary units of measurement: the number of successfully placed graduates and the completion rate of graduates in the minimum time.

An amount of just over one year's bursary (R73 620) was spent for every PGCE holder in the period 2007 to 2012. Nearly twice that amount was spent for every B.Ed. degree holder. This higher cost, however, brings a proportionally greater service obligation for students because of the longer duration of the B.Ed.

The minimum time to graduation for the PGCE is one academic year; the minimum duration for the B.Ed. programme is four academic years. There appears to be a significant saving with PGCE students who complete their studies in the minimum time, as the expenditure for students who finished the programme in more than one year is nearly double that of those finishing in one year. There is also a saving (but on a smaller scale) with students who finish the B.Ed. in the minimum time. As noted above, FLBP students completing in the minimum time are doing so at a much higher rate than the average in the higher education and training system. This would suggest that the Programme is relatively cost effective and efficient.

The proportion of FLBP graduates working as teachers in public schools (thereby fulfilling their service obligation) is high and is another indication that the FLBP is cost effective, although the absence of an effective monitoring system that determines the extent of student pay-back in

relation to the number of years worked for the number of years funded means that this is at best a tentative assessment.

6.3.12. Recommendation related to the cost effectiveness of the FLBP

30. In the absence of effective monitoring of graduates' service obligations, our tentative assessment is that the FLBP is cost effective; for example, the proportion of FLBP graduates working as teachers in public schools (thereby potentially fulfilling their service obligation) is high. Data limitations have prevented a full cost benefit analysis of the Programme. *The DBE should ensure that appropriate data on net benefits and net costs are available in the future to support a cost benefit analysis rather than a cost effectiveness analysis.*

6.4 Programme sustainability

6.4.1. Findings related to the sustainability of the FLBP

The above recommendations take into account the various elements that need to be in place to improve the operations of the FLBP, and thereby enhance sustainability for the future. These cover a wide range of suggested improvements for the Programme, many of which are critical for Programme sustainability. These include adequate funding and personnel to effectively implement the Programme across the range of stakeholders. Significant improvements to the Programme, in particular the streamlining and alignment of different business processes to enhance efficiency, will require greater and more stable numbers of personnel, and may require targeted funding, appropriate for the level of human input required. The FLBP in its current form is labour intensive, and methods will need to be identified to both ensure adequate staffing, and reduce the labour intensive nature of the Programme. While a proposal has been made to utilise a proportion of bursary funding for administrative purposes, this has not yet been approved and should be re-visited.

Adequate funds that can be well accounted for are critical for sustainability. There is some indication that, given the current socio-political context, although the Programme will continue to be funded, the pool of funds available may not grow as fast as it has in the past. Given the growing costs of higher education study, this may mean that, should the bursary remain full cost, as this report advises that it should, the numbers of students funded may decrease over time. If the Programme is to continue receiving political and fiscal support going forward it is necessary to consider its responsiveness to the current socio-political and economic context in higher education.

Collecting data on the proportion of FLBP students in financial need was beyond the scope of this evaluation. In the absence of a means test for applicants, there is no accurate way to determine this. JET recommends that the DBE consider introducing a mechanism for determining relative financial need of FLBP applicants. Financial need should be defined more broadly than it is currently by NSFAS, to include the group whose family income sits above the maximum required to qualify for NSFAS, yet who still cannot afford higher education and struggle to obtain commercial bank loans. This is the group referred to as the "missing middle" in student financing policy discussions and most likely reflects the majority of students accessing higher education.

It is for these reasons that the evaluators urge that the DBE consider these issues. Means testing would add another layer of administration to the FLBP, but it may be the only way to ensure confidence that the right students in terms of financial need are being targeted by the Programme.

Reviewing selection criteria and procedures may also involve examining the methods used to determine whether a student is interested in teaching or not. Though there again is little evidence to suggest that students are not motivated to go into teaching, many specialised high skill bursaries do develop testing to measure attitudes and motivation. One thing is certain: merit and addressing financial need can both be addressed, and are not mutually exclusive, as some seem to imply.

A critical element of a sustainable FLBP is addressing the major challenges of data exchange and management, information systems infrastructure and staffing, and the serious lack of effective tracking and monitoring systems. Without significant changes in this area, Programme accountability will continue to be compromised, capacity challenges will continue to grow, and future evaluation work will be very difficult to conduct.

The FLBP will continue to be dependent on other functions of the DBE, DHET and other stakeholders, such as the universities and NSFAS for its sustainability. This is particularly the case in two areas - the ongoing discussions about the quality of ITE, and the various systems for the placement of new teachers in public school teaching posts. The FLBP does not have direct control of either of these areas of work, but both are critical for its success and perceptions of its success. The extent to which broader changes in these areas can be influenced by the FLBP is a necessary ongoing discussion. Wherever possible, partnerships and collaboration should be strengthened to improve in these critical areas.

6.4.2. Recommendations related to the sustainability of the FLBP

31. The FLBP is largely effective in achieving its objectives – for example, a high percentage of FLBP students graduate in the minimum timeframe, a very low percentage of FLBP students drop out of their programmes, and the majority graduate; the FLBP has made an important contribution to the very substantial increase in enrolment in ITE over the period under evaluation. *The Programme is effective and should be sustained by government, with the improvements recommended in this report.*

32. Programme planning is only weakly embedded in the work of the ITE directorate and across stakeholders. *The DBE, with the support of other Programme stakeholders, should develop an effective FLBP planning system, which must be linked to and aligned with the overall planning of government in areas such as teacher supply and demand and teacher employment. Effective planning is also necessary to ensure alignment between government funding and planning cycles and those of relevant stakeholders, including universities and NSFAS; the DBE should ensure that measures already in place to bridge the gap between the academic year and the government financial year (such as universities' support for needy students) are encouraged.*

33. The various FLBP marketing strategies are achieving visibility for the Programme; however, 42.3% of B.Ed. students surveyed and 36.6% of PGCE students did not apply in a particular year or years because they did not know about the bursary. The absence of specific funding for the management and administration of the Programme constrains marketing campaigns

for recruitment. Substantial numbers of students in the period 2007-2012 obtained FLBP bursaries during their studies, rather than at the onset of their degrees. *The DBE should develop measures to ensure that marketing is effective, that responses to applications are as speedy as possible and that measures already in place to bridge the gap between the academic year and the government financial year (such as universities' support for needy students) are encouraged.*

34. The lack of human resource capacity in the ITE Directorate of the DBE and the reliance on the administrative capacity of stakeholders are major factors affecting efficiency in the selection process; this is likely to be compounded if there is a future emphasis in selection on aspects such as students' motivation to become teachers. From the comments of stakeholders it appears that the lack of funding for administration of the FLBP may affect Programme sustainability, particularly as stakeholder workloads are increasing. *Given the scale of the Programme and the large amounts of funds available, the DBE should allocate adequate staff and resources to administer the Programme. The DBE should consider the establishment of a dedicated unit within or outside of the ITE Directorate to manage the FLBP.*

6.5 Future evaluation work

6.5.1 The need to address data limitations

The sections in the evaluation report on data limitations and monitoring, tracking and data/information management have highlighted areas in which FLBP data management needs to be strengthened. If recommendations in these areas are taken forward, information gaps are filled and processes strengthened, then tracking and monitoring will be improved for Programme management purposes *and* administrative data can be of more use in monitoring progress and made available for future evaluations. The recommended scoping of data management requirements for the FLBP should encompass the indicators specified in the FLBP logframe and take cognisance of the known data limitations discussed in this report. Without significant improvements in this area, future evaluation work will remain difficult to conduct.

6.5.2. Impact Evaluation

An impact evaluation usually seeks to measure the intervention effect and establish whether this can be attributed to a specific intervention. The benefits of evaluating the impact of the FLBP would include understanding whether the Programme is being successful in contributing to enhanced teacher supply (in specific areas) and whether receiving the FLBP bursary means that a student is more likely to: commence teacher education studies, study priority subjects, complete teacher education studies, complete teacher education studies in the prescribed period of time, be placed and teach in a poor/rural school, and remain in the education system. If changes are proposed to the FLBP design then an impact evaluation could be used to measure the effect of different variations of the Programme (for example, varying the bursary amount or selection criteria).

Impact assessment usually involves comparing what happened with the intervention with what would have happened without by estimating the programme effect (Rossi, Lipsey and Freeman, 2004: 237)[93]. A randomised control trial (RCT) – whereby eligible participants are randomly organised into groups which will receive and not receive the intervention - is usually considered the "gold standard" for a rigourous impact assessment. An RCT is an option worth considering which would likely provide the strongest evidence of programme effect, however, given the growing complexity and tensions which have been discussed in this report around selection, it may not be acceptable or viable.

An alternative worth considering is a regression discontinuity design which is a quasi-experimental impact assessment. Regression discontinuity designs take advantage of programme-imposed cut-offs that determine who benefits. In the case of the FLBP there are more eligible applicants each year than can receive a bursary and decisions are made about which new applicants will receive the bursary, a cut-off (in terms of the FLBP selection criteria) is imposed by each HEI. In this way, students who receive the bursary could be compared (in terms of characteristics and outcomes) to students who apply and are close to being eligible but do not receive the bursary. Both cohorts should be tracked over time, to ascertain how they fare with respect to key indicators (enrolment, pass and completion rates etc) and therefore whether there are differences as a result of receiving the bursary. Data gathered rigorously in this way can provide the evidence-basis for decisions about whether to expand and scale-up a programme which appears to be beneficial.

6.5.3. Cost benefit and cost effectiveness analysis

As true cost benefit and cost effectiveness analyses were not possible for this study, some thoughts have been included below about future considerations for cost-related analyses of the FLBP.

The most common methods of assessing the economic value of a programme or project are cost effectiveness analysis (CEA) and cost benefit analysis (CBA). Another less used method is the cost utility analysis (CUA).

6.5.3.1 Cost effectiveness analysis

This method compares the **costs** of an intervention programme to its key **outcomes** or **benefits**. It seeks to identify and place the **Rand amount** on the costs of a programme. It then relates these **costs** to specific measures of **programme effectiveness**.   Once these are established, the programme's cost effectiveness (CE) ratio can be calculated by dividing the costs by the units of effectiveness as follows:

Cost effectiveness Ratio =Total Cost/Units of Effectiveness

Units of effectiveness refer to any quantifiable outcome **central** to the objectives of the program. For example, the FLBP might have as its central outcome the number of graduates produced over the period 2007 to 2012. Thus, the cost effectiveness ratio could be interpreted as "Rands per successful graduates produced".

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[93] *Rossi, P.H., Lipsey, M.W. & Freeman, H.E. 2004. Evaluation: a systematic approach. 7th edition. Thousand Oaks, CA: Sage.*

6.5.3.2. Cost benefit analysis

The method compares the **Rand values** of the **costs** of an intervention programme against the **Rand values** of the intervention **benefits** of the programme. The difference between the total benefits and total costs of an intervention programme are called **net benefits** or **net costs**, i.e. if it is positive or negative respectively. An intervention programme is considered to be worthwhile if the benefits exceed the costs or at least if it breaks even.

6.5.3.3. Future considerations

Financial need and affordability of higher education are likely to continue be points of national political focus and government-funded initiatives are likely to be under significant scrutiny in the future for their relevance in addressing issues of financial need and access to higher education for those in need. At the time of the next FLBP evaluation, questions are likely to be asked about whether funds have been used optimally in times of constraint and greater emphasis placed on considerations of cost effectiveness and value for money.

For cost benefit analysis (CBA) to be implemented, costs and benefits need to be measured and expressed in monetary terms. They are then adjusted for the time value of money so that all flows of benefits and project costs are expressed on a common basis in terms of their net present value. The earlier section on cost effectiveness showed that the evaluation could not do a CBA due to lack of adequate information. For the future, it would be necessary for the FLBP to keep a detailed record of all monetary costs and benefits (be it tangible or intangible) incurred throughout the life of the project. A detailed management information system that includes financial data will assist in the future calculation of the cost benefit ratios. There is also need for FLBP to quantify their set targets per year and these targets need to be applied consistently. This helps to compare actual results versus the targeted results.

For cost effectiveness analysis (CEA) to be implemented for the future, there is need for an objective measure of effectiveness. In most cases, the measure of effectiveness is usually a measure of impact. An impact evaluation of the project would address the unit of effectiveness in its design.

6.5.4. Recommendation for future evaluation work

35. This evaluation was theory based. Programme theory and a logframe were developed for the FLBP to provide a framework for the evaluation and assess whether the Programme is being implemented as planned and is successful in attaining its goal and objectives, and to measure changes in outcomes linked to the objectives of the FLBP. *The FLBP should commence planning and lay the groundwork now to evaluate the FLBP again in future, including the cost effectiveness and impact of the Programme; future evaluation work should be based on improved and much more comprehensive Programme data.*

6.6 Overall conclusions

This implementation evaluation set out to evaluate the implementation of the FLBP by examining the appropriateness of Programme design, the effectiveness of Programme delivery in relation to key intended results, the efficiency of Programme implementation and the extent to which the

Programme is being implemented sustainably. Brief answers to the key evaluation questions are summarised below.

6.6.1 Programme design

*Is the **design** of the FLBP appropriate, and to what extent is the intervention design consistent with education sector priorities, policies and partnerships with all key stakeholders?*

The FLBP is relevant and appropriate in terms of national priorities and policy in the context of South African education, as well qualified and competent teachers are key to the improvement of learning outcomes. The quality of teacher education is a government policy priority – young, well trained and academically talented teachers are needed in priority phases and subjects, particularly in under-resourced schools in the poorer quintiles. The FLBP was designed to attract candidates of this calibre to ITE programmes (targeting scarce skills in specific subjects, phases and geographical – or, perhaps more appropriately, geopolitical – areas of need) and raise the profile of teaching as an attractive profession. In a context of limited funding for higher education, the Programme has addressed a difficult phase in the post-apartheid transition, in which fees for ITE programmes rose and the number of Black students dropped, despite growing challenges in terms of the supply of teachers.

6.6.2 Programme effectiveness

*What are the **measurable results** of the FLBP, specifically with regard to supply and placement of FLBP-sponsored teachers? To what extent has the FLBP been effective in achieving its major goals, objectives and intended outcomes? Have recruitment strategies been effective?*

The FLBP has been largely effective. There has been a very substantial increase in enrolment in ITE over the period under evaluation. While this increase cannot be attributed to the FLBP, it likely that the Programme has made an important contribution; most students (78.9%) would have chosen teaching as a profession without the bursary, which is an indication that by and large the Programme is attracting appropriate candidates and has achieved its goal of attracting quality students to become teachers. We note, however, that 'quality' was measured exclusively in terms of NSC results (for first-time applicants) and academic performance in their studies at universities, and that other characteristics of ideal candidates (such as having a passion for teaching and the ability and desire to teach as per the programme theory documented for this evaluation) had not been taken into account in the selection process in the period under review. FLBP students graduate more quickly than is typically the case and very few drop out of their programmes. Relatively high numbers of FLBP students are teaching in public schools, thus potentially fulfilling their service obligation, and most are teaching in schools in the three poorest quintiles; however, large numbers of FLBP graduates are not teaching in the subject of their specialisation.

6.6.3 Programme efficiency

*To what extent has the FLBP been **efficient** in its implementation, with specific reference to administration and management arrangements?*

There are important inefficiencies in all four key business processes of the FLBP: recruitment and application; selection; disbursement; and placement. A very important inefficiency is that the FLIMS is an information system but not a management information system – for example, the system does not allow the monitoring or tracking of students across the various business processes of the FLBP, including, for example, subjects or phases studied by FLBP recipients and placement. It is not possible to calculate failure, dropout and throughput rates. Another important inefficiency is the lack of human and financial resources for efficient administration of the Programme. A further inefficiency, beyond the control of the Programme, resides in the misalignment between the commencement of the academic year and the FLBP selection cycles; disbursement, although slow, is efficiently governed by the FLBP steering committee. Currently, an important inefficiency is that many FLBP graduates are not teaching the subjects in which they specialised during their studies; appropriate placement of graduates in areas of need is likely to improve with the district-based recruitment strategy, introduced in 2012. Despite key data limitations, the FLBP has been assessed as cost-effective.

6.6.4 Programme sustainability

*How **sustainable** is the FLBP? What key insights, lessons and recommendations are offered, with a view on the possible scaling up of the FLBP?*

The Programme is largely effective in contributing to the challenges of teacher supply and demand and should be maintained; noting that over the coming years it is likely that the number of new teachers needed will not grow at the same rate as in recent years. Programme sustainability is dependent on the recommendations of this evaluation related to Programme design, effectiveness and efficiency being implemented. In particular:

- Adequate human and financial resources are needed to strengthen the management and administration of the FLBP.
- An effective management information system is needed to support all business processes and eliminate the potential for error at multiple points in the data capturing process.
- An effective planning system is needed, for example in the areas of teacher supply and demand and teacher employment.
- Alignment is needed between government funding cycles and those of relevant stakeholders, including universities and NSFAS – the financial year of government differs from the academic year, and consideration needs to be given to how the resulting funding gap can be addressed.

Funding is likely to be sustained, as FLBP is a key means for the DBE to achieve its strategic goal of improved quality of teaching and learning through development, supply and effective utilisation of teachers (DBE, 2011a). However, if the Programme is to continue receiving political and fiscal support, it must respond to the current socio-political and economic context in higher education. Any significant government investment should take financial need (defined broadly) into consideration. This underscores the importance of considering a mechanism for determining relative financial need and targeting needy students. It is likely that in future, government-funded initiatives will be under scrutiny for their relevance in addressing access to higher education for those in need. At the time of the next evaluation, questions are likely to be asked about whether funds have been

used optimally in times of constraint, related to considerations of cost-effectiveness and value for money.

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