The Supply and Development of Teachers by Public Higher Education Institutions in South Africa

[Prepared by Chief Directorate: Teacher Education, Universities Branch, Department of Higher Education and Training: July 2010]

1. Introduction

It is now generally accepted that South Africa needs to train a greater number of teachers, but in the absence of detailed research, the magnitude of the need for more teachers was unclear. This survey, conducted in late 2009 and early 2010, sheds further light on the profile of the new teachers currently being produced by public Higher Education institutions (HEIs) in South Africa and gives an insight into the number of teachers improving their qualifications by registering in formal professional development programmes at these institutions.

For the first time, this study gives some details of undergraduate teaching specialisations, the phase specialisation and the learning areas in which newly qualified teachers are qualified to teach. It also offers estimates of the number of teachers that are needed to replace the teachers leaving the system annually due to resignations, death or retirement. The actual data which underpins the discussion is contained in Appendix A and Appendix B.

2. Methodology

Data was collected using two instruments sent separately to Education Faculties, and to HEMIS officers, at each public HEI. The data received was checked, discrepancies were queried, and the HEIs were asked to verify the captured data – 16 of the 22 HEIs completed the verification process. Nevertheless, this data and the findings drawn from it must be considered to be preliminary and there is a need for a further refinement of the instruments used to gather the data. It is intended that this survey will now take place annually, and the next version of the instruments will be improved as a result of learning from the 2009/10 experience.

3. Initial Teacher Education Graduates, 2007 and 2008

In 2007, 5 716 teachers graduated from B.Ed and PGCE programmes, while 5 942 graduated in 2008. Table 1 gives details of the number graduating at each of the universities.

Table 1: B.Ed and PGCE Graduates, by Institution, in 2007 and 2008

Institution	B.Ed and PGCE Graduates	
	2007	2008
CPUT	435	434
CUT	144	154
DUT	100	128
NMMU	115	129

NWU	660	669
RU	88	74
TUT	55	125
UCT	74	66
UFH	350	99
UFS	260	230
UJ	159	198
UKZN	499	524
UL	373	241
UNISA*	924	1139
UNIVEN	30	39
UP	439	445
US	207	209
UWC	67	154
UZ	403	459
Wits	190	164
WSU	145	262
Total	**5716**	**5942**

Note: * Figures for UNISA exclude 6% of the graduates who are foreigners but includes 344 of the 2007 graduates and 447 of the 2008 graduates who were in teaching posts. In any supply and demand analysis these graduates would need to be excluded.

If one groups the higher education institutions into geographic regions – i.e., Northern (including NIHE-MP), Central (including NIHE-NC), KwaZulu, Eastern Cape and Western Cape geographic regions – then, in 2007 and in 2008, 42% of teachers graduated from universities in the Northern geographic region.

Table 2: Total Number of Graduates by Region, in 2007 and 2008

Region	2007	2008
Central	452	621
Eastern Cape	766	428
Northern	2362	2477
KwaZulu	1250	1415
Western Cape	886	1001
Total	5716	5942

4. Profile of the 2009 Graduates

(a) Foundation Phase

There are 13 institutions that currently offer initial training in the Foundation Phase (FP) undergraduate programmes. At these institutions, 1 275 FP teachers were expected to graduate at the end of 2009. Foundation Phase instruction takes place in the home language of the learners and therefore it is important that the teachers trained for this phase should be able to teach through the medium of instruction. Thus the mother-tongue of the students qualifying for this phase is an important consideration: 558 of these graduates were Afrikaans mother-tongue speakers, 549 were English mother-tongue speakers and 168 were African mother-tongue speakers.

Table 3: Foundation Phase Student-teachers expected to have graduated at the end of 2009, by Institution, Geographic Region and Mother-tongue

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

Notes: UNISA figures are an estimate based on 2008 Foundation Phase graduates; linear regression analysis was applied to the 2005-2008 number of graduates to estimate 2009 graduates. UNISA mother-tongue profile is based on the language profile of the 2008 graduates. 29.1% of the qualifying graduates from UNISA are already employed in teaching posts. Figures exclude foreign students.

Table 3 indicates that there is a serious shortage in the number of FP teachers that are being trained. Furthermore, the number of teachers who are African mother-tongue speakers, and thus able to best teach using an African language, is very small and is cause for serious concern.

Breaking these numbers down further, according to geographic regions, most Afrikaans mother-tongue FP graduates were produced in the Northern, Western Cape and Central geographic regions (301, 144 and 66, respectively), most English mother-tongue FP graduates were produced in the Northern, KwaZulu and Western Cape geographic regions (216, 139 and 135, respectively), and most African mother-tongue FP graduates were produced in the KwaZulu, Northern and Western Cape geographic regions (124, 30 and 9, respectively).

It is of concern that for a region as large as the Eastern Cape, there were only 4 African mother-tongue FP graduates to serve a geographic region that has a very significant number of African FP learners. In the Central region there were no African mother-tongue teachers who were expected to qualify at the end of 2009. The important issue of whether the number of FP teachers in any way begins to address the need will be explored in detail in Section 6 of this document.

(b) Intermediate Phase Learning Area Registrations

From the information provided by the HEIs it is possible to determine whether there is an equitable spread across all the IP learning areas or not. Ideally one would expect

there to be an equal spread across the eight learning areas but because learners take two languages, there should be approximately double the number of registrations in the language area. Interpretation of this data is further complicated because HEIs vary according to whether they require students to complete all or only some of the learning area specialisations, and there is no consistency in which year of study the students complete the learning area specialisation.

Table 4 indicates the percentage of the 2009 graduates who have specialised in the various learning areas and it also gives a breakdown by region. Of the 2 524 Intermediate Phase learning area specialisation registrations at all HEIs apart from UNISA in 2009, 16.7% of students specialised in the Natural Sciences, 15.7% in Languages and 13.4% in Mathematics, with the two smallest single proportions specialising in Technology (9.6%) and Social Sciences (8.3%). Of these specialisations, most (824) were in the Western Cape region, and the least (269) were in the Eastern Cape region.

Table 4: Intermediate Phase Learning Area Specialisations, at all HEIs except UNISA, by Geographic Region in 2009

Intermediate Phase Learning Area	Geographic Region					
	Central	Eastern Cape	KwaZulu	Northern	Western Cape	Total
Arts and Culture	38	16	126	18	115	12.4%
Economic & Management Sciences	38	16	133	25	62	10.9%
Languages	38	45	81	110	122	15.7%
Life Orientation	38	16	99	72	105	13.1%
Mathematics	38	65	54	49	132	13.4%
Natural Sciences	38	64	191	24	104	16.7%
Social Sciences	38	24	33	49	65	8.3%
Technology	38	23	34	29	119	9.6%
Total IP Learning Area Registrations	**304**	**269**	**751**	**376**	**824**	**2524**

Of the 5 879 IP learning area specialisation registrations at UNISA in 2009, 27.9% of students specialised in Languages, 17.5% in Social Sciences, and 14.9% in Life Orientation, with the two smallest single proportions specialising in Arts and Culture (6.7%) and Economic and Management Sciences (0%). Of these specialisations, most (2 604) were in the KwaZulu region, and the least (209) were in the Eastern Cape region.

Table 5: Intermediate Phase Learning Area Specialisations, at UNISA, by Geographic Region in 2009

Intermediate Phase Learning Area	Geographic Region					
	Central	Eastern Cape	KwaZulu	Northern	Western Cape	Total
Arts and Culture	15	14	173	157	32	6.7%
Economic & Management Sciences	0	0	0	0	0	0
Languages	62	58	727	661	134	27.9%
Life Orientation	33	31	388	352	71	14.9%
Mathematics	25	24	299	272	55	11.5%
Natural Sciences	20	19	241	219	44	9.3%

Social Sciences	39	37	456	414	84	17.5%
Technology	27	26	320	291	59	12.3%
Total IP Learning Area Registrations	**220**	**209**	**2604**	**2367**	**479**	**5879**

(c) Senior Phase Learning Area Registrations

As was the case with the Intermediate Phase, the information provided by the HEIs made it possible to determine whether there is an equitable spread across the learning area specialisations.

Of the 2 650 Senior Phase learning area specialisation registrations at all HEIs apart from UNISA in 2009, 19.4% specialised in Languages, 17.9% in Life Orientation and 13.1% in Mathematics, with the two smallest single proportions specialising in Social Sciences (9.4%) and Arts and Culture (7%).

Table 6 gives a breakdown by geographic region and there is a noticeable shortage in the Senior Phase learning area specialisations for both the Central region and the Eastern Cape.

Table 6: Senior Phase Learning Area Specialisations, at all HEIs except UNISA, by Geographic Region in 2009

Senior Phase Learning Area	Geographic Region					
	Central	**Eastern Cape**	**KwaZulu**	**Northern**	**Western Cape**	**Grand Total**
Arts and Culture	0	5	50	16	115	7.0%
Economic & Management Sciences	0	3	169	31	69	10.3%
Languages	0	1	270	96	147	19.4%
Life Orientation	0	0	222	117	136	17.9%
Mathematics	0	0	107	102	138	13.1%
Natural Sciences	0	8	138	51	110	11.6%
Social Sciences	0	0	132	42	76	9.4%
Technology	0	0	142	38	119	11.3%
Total SP Learning Area Registrations	**0**	**17**	**1230**	**493**	**910**	**2650**

Of the 2 894 SP learning area specialisation registrations at UNISA in 2009, 35.6% specialised in Social Sciences, 25% in Technology, and 13.5% in Arts and Culture, with the two smallest single proportions specialising in Languages (3.1%) and Economic and Management Sciences (0%). Of these specialisations, most (1 589) were in the Northern region, and the least (125) were in the Eastern Cape region.

Table 7: Senior Phase Learning Area Specialisations, at UNISA, by Geographic Region in 2009

Senior Phase Learning Area	Geographic Region					
	Central	**Eastern Cape**	**KwaZulu**	**Northern**	**Western Cape**	**Grand Total**
Arts and Culture	23	17	95	215	42	13.5%
Economic &	0	0	0	0	0	0.0%

Management Sciences						
Languages	5	4	22	49	10	3.1%
Life Orientation	10	7	41	92	18	5.8%
Mathematics	13	10	55	124	24	7.8%
Natural Sciences	16	12	65	147	28	9.2%
Social Sciences	61	44	250	565	109	35.6%
Technology	43	31	176	397	77	25.0%
Total SP Learning Area Registrations	**170**	**125**	**704**	**1589**	**306**	**2894**

(d) FET Phase Subject Registrations

It is possible to estimate how many teachers graduated with an FET phase specialisation in 2009. Since there were 5 899 FET subject registrations in total, and since most (though not all) graduates will have qualified to teach two FET subjects, it can be estimated that approximately 2 949 new FET Phase teachers graduated from all HEIs and, of this number, 14.6% specialised in Languages, 14.4% in Business Studies and 12.1% in Mathematics, with the three smallest single proportions specialising in Agricultural Technology, Technical Drawing and Agricultural Sciences. Of these graduates, most (approximately 955) were in the Northern region, and the least (approximately 411) were in the Central region.

Table 8: FET Phase Subject Specialisations at all HEIs by Geographic Region in 2009

FET Phase Subject Specialisation	Geographic Region					Total	Percentage
	Central	Eastern Cape	KwaZulu	Northern	Western Cape		
Accounting	102	91	148	155	46	542	9.2%
Agricultural Management Practices	0	0	9	0	0	9	0.2%
Agricultural Sciences	0	6	0	1	0	7	0.1%
Agricultural Technology	0	2	0	0	0	2	0.0%
Business studies	131	163	215	158	177	843	14.4%
Civil Technology	7	17	0	31	0	55	0.9%
Computer Applications Technology	33	37	68	127	22	287	4.9%
Consumer Studies	14	28	10	43	5	100	1.7%
Dance Studies	0	27	0	0	0	27	0.5%
Design	0	8	28	31	7	74	1.3%
Design (Technical Drawing)	0	0	1	0	0	1	0.0%
Economics	36	130	0	0	15	181	3.1%
Geography	17	37	47	88	25	214	3.6%
History	8	48	53	79	54	242	4.1%
Hospitality Studies	5	18	0	0	0	23	0.4%
Information Technology	12	3	17	22	8	63	1.1%
Languages	88	107	255	272	135	857	14.6%
Life Orientation	87	42	23	145	111	408	6.9%
Life Sciences	64	40	92	185	85	466	7.9%
Mathematical Literacy	24	20	78	27	30	179	3.0%
Mathematics	100	63	152	323	76	713	12.1%
Mechanical & Electrical Technology	0	0	11	4	0	15	0.3%
Mechanical Technology	15	0	0	7	0	22	0.4%

Music	0	15	13	2	0	30	0.5%
PGCE (All specialisations)	0	28	0	0	0	28	
Physical Sciences	63	40	82	147	51	383	6.5%
Religion Studies	2	2	8	22	5	38	0.6%
Tourism	12	2	27	20	0	61	1.0%
Visual Arts	1	4	2	21	1	29	0.5%
Total FET Phase Subject Registrations	**822**	**978**	**1338**	**1909**	**852**	**5899**	

In an attempt to try to gain a picture of how teacher supply (graduate output) matches the need for teachers, and in the absence of accurate data on teacher demand, particularly in relation to specific subject areas, the following approach was adopted:

- The percentages in the final row in Table 8 above are the registrations in a particular teaching specialisation, expressed as a percentage of the total registrations. These percentages have been taken as proxies for the graduate output in specific subject specialisations.

- It has been assumed that the greater the numbers of learners taking a specific subject in the NSC examination the greater the need for teachers in that subject. This has therefore been used as a proxy for the need for teachers in the subject. For selected NSC subjects this proxy has been calculated by expressing the number of learners registered for a particular subject as a percentage of the total number of learners registered for the examinations.

- A ratio of % learners registered for the subject (proxy for need) to % registrations in that subject in the 2009 teacher education graduate cohort (proxy for output/supply) was determined.

The two proxies and the ratio are shown in table 9.

If we compare these two proxies for a particular subject in ratio form i.e. need proxy: output proxy, this provides a rough indication, comparatively speaking, of the extent to which teacher production is meeting the need in that subject. The ratio derives its meaning from comparison with the other subjects need to output ratios e.g. in comparison to a subject like CAT where the ratio is 1.7, the system is doing better at responding to needs in CAT then it is doing in responding to needs in Agricultural sciences, where the figure is 150.

It is important to note that we are not identifying absolute need here, rather determining a very rough idea of where the challenges relating to teacher output are greater. The higher the ratio, the greater is the challenge facing teacher production in that subject.

This exercise has been carried out for selected FET subjects, and the results shown in Table 9 below.

Table 9: Graduate output compared to estimated need for selected FET subjects based on proxy indicators

FET Phase Subject Specialisation	% of registrations in NSC (Proxy for the Need)	% of subject registrations in 2009 graduate teacher output (Proxy for the Output)	Ratio of Need to Output
Computer Applications Technology	8%	4.9%	1.6
Business Studies	34%	14.4%	2.4
Consumer Studies	5%	1.7%	2.9
Design	4%	1.3%	3
Accounting	29%	9.2%	3.1
History	15%	4.1%	3.6
Mathematics	48%	12.1%	4
Physical Sciences	36%	6.5%	5.6
Life Sciences	49%	7.9%	6.2
Economics	25%	3.1%	8
Geography	35%	3.6%	9.7
Tourism	12%	1.0%	11.9
Life Orientation	94%	6.9%	13.6
Mathematical Literacy	46%	3.0%	15.3
Agricultural Sciences	15%	0.1%	150

Note: The proxy for the need is based on the number of school-leaving (Grade 12) learners taking that subject in 2009.

Using Business Studies as an illustrative example, Table 9 indicates that 34% of learners were registered for the Business Studies examination in 2009, and that 14.4% of the newly qualified FET teachers in 2009 registered for a specialisation in Business Studies. The calculated ratio of these two proxies is 2.4. By contrast, the proxy for the for the need for Economics teachers compared to the output of Economics teachers proxy produces a ratio of 8, suggesting that the system is meeting the challenge of producing Business Studies teachers better that it is meeting the challenge of producing economics teachers. Note that this does not mean that the system is supplying sufficient Business Studies teachers.

On Table 9 above, for a particular subject, the teacher output challenge is greater than subjects which appear above it. In this analysis, teacher output in Agricultural sciences is identified as being particularly challenging.

It is not possible, on the basis of this data, to portray the situation regarding language teacher output because the information obtained from the HEIs does not distinguish between the outputs for each of the 11 official languages, let alone in foreign languages such as Spanish or Chinese. This deficiency, in the available data, indicates the need for a further refinement in the instruments used because it is important to know in which of the languages the newly qualifying teachers are specialising (or,

indeed, not specialising), so that these outputs may be compared to the need for teachers of each of the languages currently taught in schools.

5. Growth in Initial Teacher Education Programmes 2008-2009

Any analysis of the supply of trained teachers must consider whether the number of qualifying teachers is increasing or decreasing, and any conclusion that is drawn needs to be informed by the increase or decrease in the number entering the initial training programmes for the first time. Ideally one would like to do this over an extended period of time, but this investigation only gathered detailed HEMIS information for 2008 and 2009.

All HEIs are required to keep accurate details of the number of Full-time Teaching Equivalents (FTEs) for all of their programmes. This information is the most accurate information available and is subject to audit at each institution. For all practical purposes, the number of FTEs is a more reliable indicator than the available information on total headcounts.

The number of FTEs for B.Ed and PGCE programmes for all phases at HEIs offering these qualifications grew by 25% from 2008 to 2009, i.e. from 27 747 FTEs to 34 675 FTEs, with the greatest growth in the Central region (48.4%) and the smallest growth was in the Western Cape region (14.7%).

Table 10: Full-Time Equivalents (FTEs) for B.Ed and PGCE Initial Teacher Education Programmes, 2008-2009

Institution	Full-Time Equivalents		% Growth
	2008	2009	
CPUT	2496	2654	6.3%
CUT	793	1337	68.6%
DUT	275	293	6.7%
NMMU	420	788	87.5%
NWU	2945	3453	17.3%
RU	74	138	86.5%
TUT	2086	2389	14.5%
UCT	76	75	-1.8%
UFH	745	892	19.7%
UFS	623	778	24.9%
UJ	438	799	82.3%
UKZN	2011	2308	14.8%
UL	757	740	-2.3%
UNIVEN	*	*	*
UP	2203	2333	5.9%
US	589	680	15.5%
UWC	880	1017	15.6%
UNISA**	6108	8709	42.6%
UZ	884	1364	54.4%
Wits	1047	1286	22.8%
WSU	2298	2645	15.1%
Total	**27747**	**34675**	**25.0%**

Notes: * Data not provided.
** Figures for UNISA include approximately 6% foreign students.

Between 2008 and 2009, first-time enrolments in all Initial Teacher Education programmes for all phases increased by 37.1%, from 11 855 enrolees to 16 257 enrolees, with the greatest growth in first-time enrolments in the Central region (70.2%) and the smallest growth was in the Western Cape region (14.1%).

Table 11: First-time Enrolments for B.Ed and PGCE Initial Teacher Education Programmes, 2008-2009

Institution	First-time Enrolments		% Growth
	2008	2009	
CPUT	802	773	-3.6%
CUT	877	1594	81.8%
DUT	103	199	93.2%
NMMU	197	350	77.7%
NWU	790	1021	29.2%
RU	69	172	149.3%
TUT	673	494	-26.6%
UCT	74	75	1.4%
UFH	230	287	24.8%
UFS	327	477	45.9%
UJ	840	1044	24.3%
UKZN	655	872	33.1%
UL	192	349	81.8%
UNIVEN	178	260	46.1%
UP	632	727	15.0%
US	270	344	27.4%
UWC	283	340	20.1%
UNISA*	2469	3633	47.1%
UZ	963	1474	53.1%
Wits	399	755	89.2%
WSU	832	1017	22.2%
Total	**11855**	**16257**	**37.1%**

Note: * Figures for UNISA include approximately 1% foreign students.

The growth from 2008 to 2009 was substantial and has taken place across all geographic regions of the country. This growth is reflected in the number of first-time entrants and in the total number of FTEs.

There was a slight growth in the number of graduates from 2007 to 2008 but given the increase in the number of FTEs and in the increase in the number of first-time entrants, there is every indication that the number of graduates will show a steady increase over the next three to four years.

As noted earlier, the number of qualifying Foundation Phase teachers is of considerable concern and therefore particular attention was paid to the growth, or otherwise, for this important phase.

The number of Foundation Phase FTEs for B.Ed and PGCE programmes at the 13 HEIs offering these qualifications grew by 24.9% from 2008 to 2009, i.e. from 5 416

FTEs to 6 764 FTEs, with the greatest growth in KwaZulu (76.3%) and the smallest growth in the Central region (11.4%).

Table 12: Growth in Foundation Phase FTEs for the B.Ed and PGCE Programmes, 2008-2009

Institution	Full-Time Equivalents		% Growth
	2008	2009	
CPUT	653	683	4.6%
NMMU	115	179	55.1%
NWU	749	874	16.7%
RU		28	
UFH	15	31	106.7%
UFS	210	225	7.3%
UKZN	107	212	98.6%
UNIVEN	*	*	
UP	658	600	-8.8%
US	255	283	10.9%
UZ	155	511	230.1%
Wits	301	332	10.3%
UNISA**	2199	2806	27.6%
Total	**5416**	**6764**	**24.9%**

Notes: Figures for UFH are an estimate based on FP/IP FTEs.
* Data not provided. ** Figures for UNISA include approximately 6% foreign students.

Over the same period, first-time enrolments in these FP programmes increased by 52.2%, from 1 975 enrolees to 3 006 enrolees. The greatest growth was in the KwaZulu region (115.7%) and the smallest growth was in the Western Cape region (17.9%).

Table 13: Growth in Foundation Phase First-time Enrolments for the B.Ed and PGCE Programmes, 2008-2009

Institution	First-time Enrolments		% Growth
	2008	2009	
CPUT	201	212	5.5%
NMMU	43	60	39.5%
NWU	208	286	37.5%
RU		31	
UFH*	15	31	106.7%
UFS	73	85	16.4%
UKZN	49	87	77.6%
UNIVEN	37	52	40.5%
UP	154	162	5.2%
US	102	131	28.4%
UZ	166	555	234.3%
Wits	95	248	161.1%
UNISA	832	1066	28.1%
Total	**1975**	**3006**	**52.2%**

Note: Figures for UFH are an estimate based on FP/IP FTEs.

Given the particular shortage in the number of qualifying FP teachers discussed in Section 4a, it is encouraging to note that there has been a substantial growth both in the total number of Foundation Phase FTEs (24.9%) and an even greater growth in the number of first-time enrolments (52.2%).

6. Supply and Demand

Supply and demand modelling is complex and a number of assumptions are made regarding the number of teachers that need to be replaced on an annual basis. There is no certainty regarding the exact number of teachers leaving the profession annually and estimates range from the most conservative estimate of 3.8% to 6%. Because of this uncertainty, it was decided to use three different attrition rates 4%, 4.5% and 5%, and to compare the number of qualifying teachers with estimates based on these attrition rates.

The estimated number of teachers that need to be replaced has been based on the attrition rate multiplied by the total number of teachers in the profession – for the purpose of this exercise, the total number of provincial-employed teachers, SGB-employed teachers and independent school-employed teachers has been taken as slightly more than 400 000.

Table 14 considers all phases and gives an estimate of the total number of teachers that need to be replaced in each of the geographic regions. The output is based on the number of graduates available for employment at the beginning of 2009 and the shortfall is calculated for attrition rates of 4%, 4.5% and 5%.

Table 14: Estimated Number of Qualified Teachers Required to Replace Resignations, Deaths or Retirements, Based on Attrition Rates of 4%, 4.5% and 5%

Region	Output	4% attrition	Shortfall	4.5% attrition	Shortfall	5% attrition	Shortfall
Central	428	1325	897	1491	1063	1657	1229
E Cape	621	2661	2040	2994	2373	3327	2706
KwaZulu	1415	3479	2064	3914	2499	4349	2934
Northern	2477	7266	4789	8174	5697	9083	6606
W Cape	1001	1335	334	1502	501	1669	668
National	**5942**	**16067**	**10125**	**18076**	**12134**	**20084**	**14142**

Note: The National total is inflated by 447 – the number of currently employed teachers completing the UNISA qualification. The regional distribution of these teachers is not available and hence it was not possible to make the appropriate adjustment to the regional output totals.

Table 14 highlights the large gap between the number of qualified teachers that are being produced and the number of existing teachers who, due to resignations, death or retirement, need to be replaced every year. With an annual output of just under 6 000 teachers and with an estimated annual need of between 16 067 and 20 084, depending on the attrition rate, this results in a considerable annual shortfall of between 10125 and 14142 (see the note under Table 12 above).

The HEIs provided sufficient detailed information on the number of Foundation Phase graduates expected to qualify in 2009 for a comparison to be made on the supply of Foundation Phase teachers with the need to replace the number of teachers who leave

the profession due to retirement, resignation or death. Because of the importance of mother-tongue instruction in Foundation Phase, estimates have been made in terms of the number of newly qualified graduates having an African language, Afrikaans and English as their mother-tongue. The required number of teachers required to meet the various attrition rates takes the language of instruction into account

Table 15: Number of Foundation Phase Teachers Qualifying in 2009, by Geographic Region and Mother-tongue, Compared with the Need Based on 4%, 4.5% and 5% Attrition Rates

Geographic Region	African mother-tongue				Afrikaans mother-tongue				English mother-tongue			
	Output	Required to meet:			Output	Required to meet:			Output	Required to meet:		
		4% attrition	4.5% attrition	5% attrition		4% attrition	4.5% attrition	5% attrition		4% attrition	4.5% attrition	5% attrition
Central	0	236	265	295	66	113	127	141	14	6	7	7
Eastern Cape	4	710	799	888	19	79	89	98	45	30	34	38
KwaZulu	124	785	883	981	38	15	17	19	139	150	169	188
Northern	30	1608	1809	2010	301	178	200	223	216	101	114	126
Western Cape	9	75	85	94	144	219	246	274	135	75	84	94
Total	**168**	**3415**	**3841**	**4268**	**567**	**604**	**679**	**755**	**549**	**363**	**408**	**453**

If one assumes a conservative 4% attrition rate, this analysis indicates that there is a shortfall of (or, differently put, a need for an additional) 3 415 African mother-tongue FP teachers (1 608 of which are needed in the Northern region), 604 Afrikaans mother-tongue FP teachers (219 of which are needed in the Western Cape region) and 363 English mother-tongue FP teachers (150 of which are needed in the KwaZulu region).

The data suggests that there is an oversupply of both English and Afrikaans speaking FP teachers in the Northern region as well as an oversupply of English speaking FP teachers in the Western Cape. However, there is a very large shortfall in the number of African mother-tongue FP teachers in every region of the country.

7. Continuing Professional Teacher Education Programmes 2008-2009

(a) Advanced Certificate in Education Programmes

The Advanced Certificate in Education (ACE) is a 120 NQF credit, Level 6 qualification introduced in February 2000 as a replacement for the Further Diploma in Education. The ACE was intended to develop further specialised subject/learning area/discipline/phase competence, or develop new subject specialisation competence. It was intended to 'cap' an initial teaching qualification and an ACE does not qualify candidates as professional educators: an admission to the programme requires a professional qualification.[1]

The ACE programmes are an important component in the strategy to up-skill and to re-skill educators and considerable effort and resources have gone into these

[1] Report of the Standards Generating Body for Educators in Schooling, October 2001; see http://www.che.ac.za/documents/d000166/.

programmes. HEIs have devised a large number of ACE programmes and this section provides an analysis thereof.

The enrolment in the ACE programmes has shown considerable growth and the number of FTEs grew by 15.3% from 2008 to 2009, i.e. from 26 111 FTEs to 30 118 FTEs. The greatest growth was in the Western Cape region (23.3%), while there was negative growth both in the Central region (-15.7%) and in the KwaZulu region (-11.6%).

Table 16: Full-Time Equivalents (FTEs) for ACE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	Full-Time Equivalents		% Growth
	2008	2009	
CPUT	248	296	19.5%
CUT	169	96	-43.2%
NMMU	401	883	120.4%
NWU	6731	10574	57.1%
RU	170	113	-33.4%
TUT	398	298	-25.1%
UCT	647	850	31.4%
UFH	132	121	-8.7%
UFS	839	703	-16.2%
UJ	1679	1767	5.2%
UKZN	1112	853	-23.3%
UL	287	284	-1.3%
UNIVEN	*	*	*
UP	3928	3986	1.5%
US	73	149	103.6%
UWC	134	87	-35.2%
UZ	127	34	-73.3%
UNISA	7868	7720	-1.9%
VUT	64	91	42.2%
Wits	473	588	24.3%
WSU	632	625	-1.1%
Total	**26111**	**30118**	**15.3%**

Note: * Data not provided

Over the same period, first-time enrolments in ACE programmes increased by 14.4%, from 24 854 enrolees to 28 433 enrolees. The greatest growth was in the Eastern Cape region (35.2%), while the greatest negative growth was in the Central region (-66.4%).

There is evidence from 15 of the institutions offering ACE programmes that there is a decrease in the number of first-time ACE registrations and this trend is likely to continue, particularly in certain provinces.

Table 17: First-time Enrolments for ACE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	First-time Enrolments		% Growth
	2008	2009	
CPUT	285	342	20.0%

CUT	279	200	-28.3%
NMMU	341	1444	323.5%
NWU*	8750	13746	57.1%
RU	213	88	-58.7%
TUT	324	24	-92.6%
UCT	273	239	-12.5%
UFH	124	26	-79.0%
UFS	911	246	-73.0%
UJ	3130	3511	12.2%
UKZN	971	456	-53.0%
UL	449	128	-71.5%
UNIVEN	97	38	-60.8%
UP*	5106	5182	1.5%
US	201	157	-21.9%
UWC	282	169	-40.1%
UZ	252	81	-67.9%
UNISA	1378	724	-47.5%
VUT	147	0	-100.0%
Wits	939	1520	61.9%
WSU	402	112	-72.1%
Total	**24854**	**28433**	**14.4%**

Note: Figures for NWU and UP are estimates based on FTE data.

Total enrolments in ACE programmes increased by 20%, from 36 022 total enrolees to 43 218 total enrolees, with the Eastern Cape region showing the greatest regional growth (33.6%) and KwaZulu region the smallest (-23.4%).[2]

Table 18: Total Enrolments in ACE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	Total enrolments		% Growth
	2008	**2009**	
CPUT	450	597	32.7%
CUT	309	200	-35.3%
NMMU	868	1804	107.8%
NWU	12978	19731	52.0%
RU	323	260	-19.5%
TUT	992	529	-46.7%
UCT	391	582	48.8%
UFH	221	172	-22.2%
UFS	1906	1635	-14.2%
UJ	3130	3511	12.2%
UKZN	2578	2088	-19.0%
UL	571	584	2.3%
UNIVEN	97	38	-60.8%
UP	8323	8440	1.4%
US	201	336	67.2%
UNISA*	11898		
UWC	282	226	-19.9%
UZ	252	81	-67.9%

[2] For more details on total enrolments in ACE programmes, see the Appendix to this document, below.

VUT	147	0	-100.0%
Wits	1234	1727	40.0%
WSU	769	677	-12.0%
Total	**36022**	**43218**	**20.0%**

Note: * 2009 data not provided. UNISA 2008 enrolments are not included in the 2008 Total.

(b) National Professional Diploma in Education Programmes

The National Professional Diploma in Education (NPDE) was originally a 240 NQF credit, Level 5 qualification and was registered by SAQA in October 2000. It was intended as an interim qualification which had as its purpose the upgrading of under-qualified (REQV 12 or lower) school educators, thus giving these educators the opportunity of becoming fully qualified (REQV 13). Originally the NPDE was intend for schoolteachers classified as REQV 11 and 12 but it was revised in 2004 to accommodate currently serving teachers classified as REQV 10. The NPDE is available only to educators who are already in possession of a recognised educator qualification that places them below REQV 12. It is not an alternative form of initial teacher education.

Although the NPDE was intended as an interim measure introduced a number of years ago, there are still a very considerable number of teachers who are currently registered for the NPDE to upgrade their qualification. There are 13 HEIs offering NPDE programmes and the number of FTEs grew by 14.1% from 2008 to 2009, i.e. from 7 385 FTEs to 8 429 FTEs. The greatest growth was in the Central region (57.6%), while the smallest growth was in the KwaZulu region (-18.4%).

Table 19: Full-Time Equivalents (FTEs) for NPDE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	Full-Time Equivalents		% Growth
	2008	**2009**	
CPUT	212	225	6.0%
NMMU	424	519	22.3%
NWU	1537	2630	71.1%
TUT	38	52	38.1%
UFH	121	132	9.2%
UFS	494	781	58.2%
UKZN	996	1126	13.0%
UL	639	615	-3.7%
UNIVEN	*	*	*
UWC	96	98	1.5%
UNISA	694**	382	-45.0%
UZ	339	14	-95.8%
WSU	1795	1854	3.3%
Total	**7385**	**8429**	**14.1%**

Notes: * Data unavailable. ** 32% of UNISA's NPDE enrolments in 2008 were foreign students.

Although the number of FTEs increased over the period 2008 to 2009, the first-time enrolments in NPDE programmes declined by 31.1%, from 3 732 enrolees to 2 573 enrolees. The greatest decline was in the Northern region (-79.8%).

Table 20: First-time Enrolments for NPDE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	First-time Enrolments		% Growth
	2008	2009	
CPUT	89	86	-3.4%
NMMU	334	376	12.6%
NWU	82	111	35.4%
TUT	18	27	50.0%
UFH	22	39	77.3%
UFS	438	259	-40.9%
UKZN	94	822	774.5%
UL	1310	97	-92.6%
UNIVEN	65	63	-3.1%
UWC	191	214	12.0%
UNISA	0	0	0.0%
UZ	503	20	-96.0%
WSU	586	459	-21.7%
Total	**3732**	**2573**	**-31.1%**

Total enrolments in NPDE programmes increased by 17.6%, from 11 085 total enrolees to 13 035 total enrolees, with the Eastern Cape region showing the greatest regional growth (34.7%) and the Central region the least (-10.5%).[3]

Table 21: Total Enrolments in NPDE Continuing Professional Teacher Education Programmes, 2008-2009

Institution	Total enrolments		% Growth
	2008	2009	
CPUT	240	256	6.7%
NMMU	852	1199	40.7%
NWU	3745	6401	70.9%
TUT	42	56	33.3%
UFH	122	132	8.2%
UFS	1100	984	-10.5%
UKZN	1882	2145	14.0%
UL	1310	192	-85.3%
UNIVEN	65	63	-3.1%
UNISA	1334	*	
UWC	191	214	12.0%
UZ	503	20	-96.0%
WSU	1033	1373	32.9%
Total	**11085**	**13035**	17.6%

Note: * 2009 data unavailable.

8. Conclusion and Recommendations

Currently there are 23 HEIs offering initial teacher education programmes, including the B.Ed and the PGCE qualifications. This investigation has confirmed that an insufficient number of newly qualified teachers are being produced.

[3] For more details on total enrolments in NPDE programmes, see the Appendix to this document, below.

The total number of newly qualified teachers for all phases in 2007 and 2008 was 5 716 and 5 942, respectively. The distribution of graduates by geographic region is uneven.

There is encouraging evidence that indicates a significant increase in the number of new first-time entrants into initial teacher training programmes. The number of first-time enrolments grew by 37.1% from 2008 to 2009 (i.e. from 11 855 to 16 257). There is also evidence to suggest that this upward trend continued from 2009 into 2010.

This investigation highlights the large gap between the number of new teachers being produced by public Higher Education institutions and the number of existing teachers who, due to resignations, death or retirement, need to be replaced every year.

There is an imbalance between the current registration profile (based on FTEs in all years of study) and the need profile (based on the number of learners by phase) – for the Foundation Phase in 2009, the registration profile was 17% and the need profile was 31%; for the Intermediate and Senior Phase the registration profile was 26% while the need profile was 49%; and for the FET phase, the registration profile was 56% while the need profile was 21%. Clearly, there needs to be a significant increase in the number of teachers that are being produced for the Foundation, Intermediate and Senior phases.

To achieve this, however, much more attention and resources need to be directed at teacher education, the capacity of many if not all institutional providers needs to be expanded, and more detailed research needs to be undertaken to ensure that particular categories of teachers most in demand by the system, according to phase, learning areas, subjects, programmes and qualifications, are produced in the requisite numbers.

The urgent need for more African mother-tongue Foundation Phase teachers is highlighted by the fact that only 13% (168) of all the Foundation Phase teachers produced in 2009 were African mother-tongue speakers, and around three-quarters of these were trained in just one region, namely KwaZulu. The marked growth in FTEs and first-time enrolments in Foundation Phase programmes bodes well for the future – though again this growth is particularly prominent in KwaZulu regional institutions.

Another overall conclusion from the research is that there are significant regional variations in the supply and development of teachers. If one assumes that many new teachers are likely to teach in the same region in which they studied, and that most practising teachers need access to institutions offering continuing professional development programmes in the region in which they teach, then regional variations in the number of new teachers enrolling and graduating, and in the number of practising teachers being developed, are cause for concern. The Eastern Cape region, in particular, stands out as producing the least numbers of new teachers in the IP and SP phases.

The data indicates a general need to increase the output of Intermediate Phase Arts and Culture, Economic and Management Sciences and Technology teachers, and of

FET level Economics, Mathematical Literacy and Geography teachers, and there are many others.

Finally, the under-supply of new teachers vis-à-vis demand is accentuated when one considers that many more practising teachers than aspirant teachers are being enrolled in Higher Education institutions. The fact that 16 257 first-time students, aspirant teachers, enrolled in B.Ed and PGCE initial teacher education programmes in 2009, compared to 28 433 first-time students, all practising teachers, enrolling in ACE programmes, suggests that institutional capacity and resources are far more focused on the latter. The similar numbers of full-time equivalents in initial education and continuing professional education programmes gives the same impression. Given that national demand for new teachers is at least as great as the demand for teachers to improve their qualifications, consideration must be given to how initial teacher education programmes could be given higher priority than they appear to be receiving at present.