TOWARDS WIDENING ACCESS TO UNDER-REPRESENTED GROUPS IN THE BIOLOGICAL SCIENCES: A CASE STUDY OF THE UNIVERSITY OF PRETORIA

by

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In memory of George Lekwapa Mathekga

1935 - 2011
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- My participants – this study will not have been possible without you.
DECLARATION

I, Abbey Mokwape Mathekga, the undersigned, hereby declare that the thesis for the Doctor of Philosophy degree in the study field of Education Management and Policy Studies or any version of it was not previously submitted for assessment to the University of Pretoria or any other university or institution of higher education. I declare that this is my own work and all sources have been properly acknowledged and referenced.

Signature: ________________________________

Date: ________________________________
ETHICAL CLEARANCE CERTIFICATE

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE

DEGREE AND PROJECT
PhD
Towards widening access to underrepresented groups in Biological Sciences: A case of the University of Pretoria

INVESTIGATOR(S)
Abbey Mokwape Mathkgga

DEPARTMENT
Education Management and Policy Studies

DATE CONSIDERED
22 June 2012

DECISION OF THE COMMITTEE
APPROVED

Please note:
For Masters applications, ethical clearance is valid for 2 years
For PhD applications, ethical clearance is valid for 3 years.

CHAIRPERSON OF ETHICS COMMITTEE
Prof L Ebersohn

DATE
22 June 2012

CC
Jeannie Beukes
Chaya Herman

This ethical clearance certificate is issued subject to the following conditions:
1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application for ethical clearance must be submitted
3. It remains the students' responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.
John Kench
Editor, proofreader and overwriter

LETTER OF CONFIRMATION

26 November 2012

To whom it may concern,

This is to confirm that I have edited Abbey Mathekga’s doctoral dissertation, ‘Towards widening access to under-represented groups in the Biological Sciences: A case study of the University of Pretoria’.

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ABSTRACT

Since the dawn of democracy in South Africa, significant progress has been made with regards to access to higher education. However, widening participation to under-represented groups in science and technology fields, with special reference to Biological Sciences, still remains a challenge. Despite the growing number of black students in this programme, there is still a substantial gap in terms of the enrolment numbers of student from this racial group in the Biological Sciences.

This research is a case study carried out in the faculty of Natural and Agricultural Sciences at the University of Pretoria, which is a historically white institution with a strong Afrikaans culture. The study used Osborne and Gallacher’s (2004) framework of getting in and getting through to explore access policy at this institution in relation to widening participation in Biological Sciences.

The findings showed that, while there has been progress with regards to physical and epistemological access, getting in to Biological Sciences still proves difficult to attain, especially for black male students from under-represented groups, including those from township and rural areas. The challenges related to getting in are compounded by various factors. These include inadequate preparation of learners for university studies such as limited preparation for natural science studies, limited exposure to science laboratories, inadequate career guidance resulting in wrong subject mix, late submission of application forms and the ‘walk–in’ phenomenon.

Funding is crucial for facilitating access to Biological Sciences but it is hard to come by and insufficient for students from low socioeconomic groups. The government initiated funding have potential to help needy students with talent but it is not sufficient to cover both tuition and residence fees. In addition to the financial assistance that the university offers, it also provides a strong academic and psychosocial support to students, particularly in first year in Biological Sciences. Both academic and psychosocial support are factors enabling access and widening participation in Biological Sciences. They also underpin getting through. However, students in residences tend to benefit more from these support initiatives.

Key words: Access, Biological Sciences, higher education, under-represented groups, widening participation
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedication</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>ii</td>
</tr>
<tr>
<td>Declaration</td>
<td>iii</td>
</tr>
<tr>
<td>Ethical clearance certificate</td>
<td>iv</td>
</tr>
<tr>
<td>Editor’s confirmation letter</td>
<td>v</td>
</tr>
<tr>
<td>Abstract</td>
<td>vi</td>
</tr>
<tr>
<td>Abbreviations and acronyms</td>
<td>xi</td>
</tr>
<tr>
<td>List of figures</td>
<td>xiii</td>
</tr>
<tr>
<td>List of tables</td>
<td>xiii</td>
</tr>
<tr>
<td>List of appendices</td>
<td>xiv</td>
</tr>
</tbody>
</table>

## CHAPTER 1

### RESEARCH PARAMETERS

1.1. Background of the study  1
1.2. Rationale of the study     6
1.3. The notion of access       8
1.4. Conceptualising access    10
   1.4.1 Getting in             11
   1.4.2 Getting through       11
   1.4.3 Getting on            14
1.5. Research design            14
1.6. Significance of the study  15
1.7. Limitations of the study   16
1.8. Organisation and layout of the study  17
CHAPTER 2
LITERATURE REVIEW

2.1. Introduction 19
2.2. Inherited merit 20
2.3. Equality of rights 25
2.4. Equality of opportunities 37
2.5. Access and higher education in Brazil 39
2.6. Access and higher education in Tanzania 42
2.7. Historical background of access in South Africa 44
   2.7.1. Prior apartheid era 44
   2.7.2. The apartheid era 46
   2.7.3. The democratic era 49
2.8. Researching access in South Africa 51
2.9. Conclusion 62

CHAPTER 3
CONCEPTUAL FRAMEWORK

3.1. Introduction 63
3.2. Getting in 64
   3.2.1. Student recruitment 64
   3.2.2. Student readiness 66
   3.2.3. Admission process 68
   3.2.4. Student funding 70
3.3. Getting through 75
   3.3.1. Orientation period 76
   3.3.2. Student support (academic and psychosocial) 77
   3.3.3. Institutional culture 79
3.5. Conclusion 82
CHAPTER 4
RESEARCH DESIGN AND METHODOLOGY

4.1. Introduction
4.2. Research methodology
4.3. The scope of research
4.4 Sampling
4.5. Data collection techniques
   4.5.1. Interviews
      4.5.1.1. Face-to-face interviews
      4.5.1.2. Focus group interviews
   4.5.2. Document analysis
4.6. Data analysis
4.7. Ensuring validity
4.8. Ethical considerations
4.9. Reflection and concluding comments

CHAPTER 5
RESEARCH FINDINGS

5.1. Introduction
5.2. Biological Sciences programme and sample description
5.3. Getting in
   5.3.1. Widening participation through student recruitment
   5.3.2. Student readiness and widening participation
   5.3.3. Admission process and widening participation
   5.3.4. Student funding and widening participation
5.4. Getting through
   5.4.1. Orientation period and widening participation
   5.4.2. Widening participation through academic support
   5.4.3. Widening participation through psychosocial student support
   5.4.4. Institutional culture and widening participation
5.5. Conclusion
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANA</td>
<td>Annual National Assessments</td>
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<tr>
<td>ASSAf</td>
<td>Academy of Science of South Africa</td>
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<tr>
<td>APS</td>
<td>Admission Point Score</td>
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<tr>
<td>BS</td>
<td>Biological Sciences</td>
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<tr>
<td>BSc</td>
<td>Bachelor of Science</td>
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<tr>
<td>CHE</td>
<td>Council on Higher Education</td>
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<td>CSC</td>
<td>Client Service Centre</td>
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<td>DBE</td>
<td>Department of Basic Education</td>
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<td>Department of Education and Skills</td>
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<td>DHET</td>
<td>Department of Higher Education and Training</td>
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<td>DoE</td>
<td>Department of Education</td>
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<tr>
<td>FET</td>
<td>Further Education and Training</td>
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<tr>
<td>FTE</td>
<td>Full Time Equivalent</td>
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<tr>
<td>HAI</td>
<td>Historically Advantaged Institution</td>
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<tr>
<td>HDI</td>
<td>Historically Disadvantaged Institution</td>
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<tr>
<td>HE</td>
<td>Higher Education</td>
</tr>
<tr>
<td>HEI</td>
<td>Higher Education Institution</td>
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<td>HEMIS</td>
<td>Higher Education Management Information System</td>
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<td>Higher Education South Africa</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>OBE</td>
<td>Outcomes Based Education</td>
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<td>MEDUNSA</td>
<td>Medical University of Southern Africa</td>
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<td>MoE</td>
<td>Ministry of Education</td>
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<td>NBT</td>
<td>National Benchmark Tests</td>
</tr>
<tr>
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<td>National Funding Framework</td>
</tr>
<tr>
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<td>National Senior Certificate</td>
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<td>National Student Financial Aid Scheme</td>
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<td>National Plan for Higher Education</td>
</tr>
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<td>PIRLS</td>
<td>Progress in International Reading and Literacy Study</td>
</tr>
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<td>QL</td>
<td>Qualitative Literacy</td>
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<tr>
<td>SAT</td>
<td>Scholastic Aptitude Test</td>
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<tr>
<td>SET</td>
<td>Science, Engineering and Technology</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<td>TIMMS</td>
<td>Trends in International Mathematics and Science Study</td>
</tr>
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<td>UCT</td>
<td>University of Cape Town</td>
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<tr>
<td>UK</td>
<td>United Kingdom</td>
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<td>UNISA</td>
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<td>UoT</td>
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</tr>
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</tr>
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<td>University of Western Cape</td>
</tr>
<tr>
<td>Wits</td>
<td>University of the Witwatersrand</td>
</tr>
<tr>
<td>WP</td>
<td>Widening participation</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1.1 Enrolment statistics in BSc Biological Sciences undergraduate degree programme 3
Figure 1.2 Graduation statistics for BSc in Biological Sciences at University of Pretoria 4
Figure 3.1 A framework of access to Higher Education 63
Figure 4.1 Family – support 97
Figure 4.2 Categories and emerging themes 98
Figure 5.1 Students’ medium of knowing about University of Pretoria 108
Figure 5.2 Students’ home area 109
Figure 5.3 Students’ location of secondary school attended 110
Figure 5.4 Students’ reasons for choosing Biological Sciences 115
Figure 5.5 Students’ reasons for choosing Biological Sciences by home area 116
Figure 5.6 Student support received from University of Pretoria 127
Figure 5.7 Students’ perception of their level of preparedness for university studies 135
Figure 5.8 Educational qualification level of students’ mothers 137
Figure 5.9 Educational qualification level of students’ fathers 138
Figure 5.10 Students’ best university experience 144
Figure 5.11 Students’ worst university experience 145
Figure 5.12 Students’ experiences in Biological Sciences 146
Figure 6.1 The process of ‘getting in’ and ‘getting through’ 151

LIST OF TABLES

Table 2.1 The pros and cons of living on campus 61
Table 4.1 Focus group participant schedule 93
Table 4.2 Text analysis 96
Table 5.1 Enrolment figures and gender distribution for 1st year Biological Sciences for 2011 academic year 104
Table 5.2 Race and gender distribution of the respondents from 1st year second semester students in Biological Sciences in 2011 104
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix 1</td>
<td>Approval letter to access the research site</td>
<td>167</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>Letter to participants requesting interview</td>
<td>183</td>
</tr>
<tr>
<td>Appendix 3</td>
<td>Interview consent form</td>
<td>184</td>
</tr>
<tr>
<td>Appendix 4</td>
<td>Interview schedule</td>
<td>185</td>
</tr>
<tr>
<td>Appendix 5</td>
<td>Questionnaire</td>
<td>186</td>
</tr>
</tbody>
</table>